

RESEARCH ARTICLE

COMPARING HABITATS

A Mirror Effect. Recomposition of the Industrial Valleys, Brussels and Montreal

AUTHORS Marine Declève ¹²

AFFILIATIONS

¹ Laboratoire of Urbanism LABU. Institute of Architecture, EPFL, 1015
Lausanne, Switzerland

² Metrolab Brussels. UCLouvain, Brussels, Belgium

CONTACT

marine.decleve@epfl.ch

m.deceve@metrolab.brussels

marine.decleve@uclouvain.be

Abstract

This paper relates a comparative approach to the urbanisation processes of the valleys in Brussels and Montreal by the students of the *atelier d'urbanisme opérationnel* from the graduate master program in urbanism and spatial planning at UCLouvain (Belgium). During the *atelier* students have been working on a historical and prospective reading of the industrial valleys within the Brussels and Montreal metropolitan areas, subject in both cases to a strong real estate pressure. The purpose of the atelier was to investigate on the urbanisation processes with a special focus on mixed uses produced inside the valley by the proximity of residential and industrial spaces. The comparison between the images of the students' projects, historical images and images of ongoing development projects have been envisioned for the subsequent research as a tool to understand how the student's projects addressed the local and historical contexts. The work aims to contribute to the ongoing planning debate in Brussels, searching for the potentials of building resilience as well as maintaining productive activities inside the valley.

Academic and Pedagogical Context

The *atelier d'urbanisme opérationnel* is part of the graduate master program in urbanism and spatial planning at UCLouvain (Belgium)¹. With a view to linking research questions to teaching, four students of the master (Axel Hidalgo Mujica, Stéphanie Marques dos Santos, Arthur Nihoul, Bertrand Plewinski) and three researchers from Metrolab Brussels (Marine Declève, Anna Ternon, Barbara Le Fort) went to Montreal from February 10-19, 2017 for a field trip and a research seminar.

During the atelier, students have been working on a historical and prospective reading of the old industrial *valleys* within Brussels and Montreal metropolitan areas. For each field, students benefitted from the support of researchers engaged on the topic. The purpose of the atelier as a frame of a comparative approach, was to investigate together on the urbanisation processes with a special focus on mixed uses produced inside the valleys by the proximity of residential and industrial spaces. The work aimed to contribute to the ongoing planning debate in Brussels searching for the potentials of building resilience inside the valley.

Good coordination between the four groups in the workshop allowed the group to have a common analysis grid and to unify the corpus of analysis and proposal data. This not only gave each subgroup a complementary opportunity to better understand the specific conditions of the territorial ecosystem it had to study; but it has also created a common basis for comparison across the three contexts on the themes studied.

The investigation led the students to observe and describe a rich sample of situations and forms of articulation between productive and residential uses of a place or location. It followed four common threads: the spatial and temporal planning of *mixed uses* as a criterion for the recycling of the urban fabric; the search for clues that reveal social, economic and cultural *alternatives*; the search for ways of *resilience* challenged by the new stakes of territorial *infrastructures*; the conditions for negotiating public and private interests and the way in which they are reflected in choices of density, urban forms and quality of public spaces².

In order to make the comparison process possible, students were encouraged to frame their weekly presentations into a common template through a thematic reading: the portrayal of the field trips, description of the uses of the valley, historical evolution, the infrastructure approach, conditions of the grounds, governance models, vision associated to their first hypothesis of project and finally the production of a project that re-interpret the concept of living and working in a post-industrial metropolitan area. It provided the whole group a common analytical grid and unified the material for the analysis and proposals. It gave each sub-group a complementary opportunity to better understand the specific conditions of the territorial ecosystem it had to study and created a common basis to compare the three contexts on the themes studied. The comparative approach was used as a tool for understanding the specific conditions of the territorial ecosystems. The results of the atelier concern both the identification of these specificities and its aiming to nurture the ongoing debate in Brussels around the spatial definition or form of the *Zone d'Entreprises en Milieu Urbain (ZEMU)*.

A comparative approach

Methodology. The comparison is used as an argumentative figure. It allows a discourse or narrative to be structured by distinguishing its terms (the *comparer* and the *compared* or *signifier* and *signified*) in order to reinforce an argument. The methodology used to compare the two territorial systems follows the mirror principle and the idea of looking at Brussels in the reflection effect of Montreal. "Paralleling narratives about the situation of the two metropolises creates a mirror effect, the experience of the ones reflecting in the eyes of the others" [1]. By cross-reading the two narratives of Brussels and Montreal, it is a matter of understanding what makes ongoing densification processes at work in the two cities to be considered first as specific, before resembling or opposing each other³.

Comparison terms and scales. The terms of the comparison are the various meanings of Brussels and Montreal on different scales. The macro scales we focused on for the comparison approach correspond to the hydrographic basin of the two port cities (1/1 500 000 for the Scheldt Basin and 1/10 000 000 for the St. Lawrence River) and the two valleys that encompass the two ~14km long canals and the city centres (1/150 000). In the Brussels case the exercise was pushed in its micro aspect, by selecting two situations of density in the heart of the Senne valley (the districts of *Biestebroeck* and *Neder-over-Hembeek*, 1/50 000) and one situation in the Dyle valley (eastern periphery of Brussels)⁴. The criteria of this selection were rather the location on the edge of a river or a canal and the polarisation of industrial activity along the waterway (fig.1). Indeed, we compared the relationship to the water (the presence of which in the city is almost invisible in both Brussels and Montreal) and the infrastructure, but also the productive narratives that underlie the different spatial planning approaches (in Brussels the definition of the ZEMU; in Montreal the Downtown Strategy). At the scale of the expected projects (1/2 000), the aim is to reveal the various densities and ratios of mixed uses. Understanding the four case studies of the atelier led us to raise specific issues but also helped us to understand how they give each other another meaning. What can already be said, is that Montreal and Brussels have launched strategies for densification of the city centre by both residential production and the integration of new economic activities, likely to generate at the local scale tensions of cohabitation, conflicts of use and hopefully resilient renewal of urban practices [1].

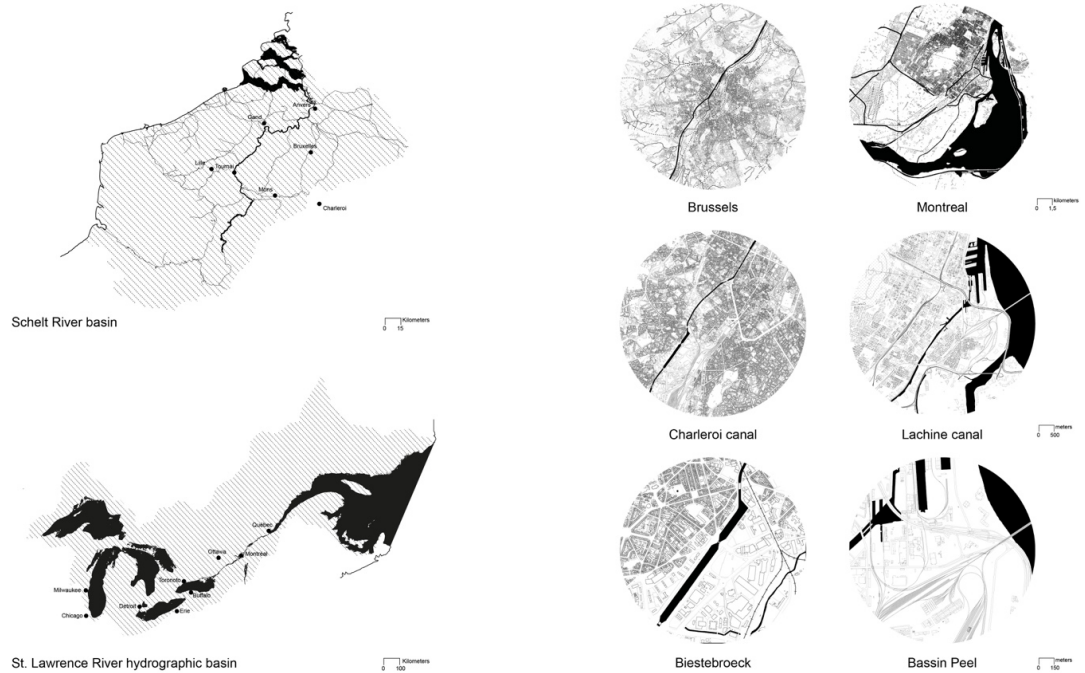


Fig 1. The four scales of the comparison process. Sources: Cadmap, Urbis, OpenStreetMap. Author: Anna Ternon, 2017

Times and spaces of the valleys. From a general point of view, valleys have always been powerful drivers of urban development. The first factories were mainly located near sources of raw materials and/or water that provided hydraulic energy and which facilitated the transport of goods and people. The low relief at the bottom of the valley provided a good basis for railways development which gave a decisive boost to the economic growth linked to industrial capitalism.

More specifically, each territorial context has been characterized by specific modalities of (infra)structuring spaces, occupying lands, and articulating the territorial balance between built and unbuilt spaces, working and living inside or outside the dense city. The process of industrialization inside the valleys did not take place everywhere in the same way depending on the size of the river or the economic interest of the canal. The structure and development of these industrial territories shaped the everyday life, as well as the use and culture of spaces.

Montreal specificities. At the mouth of the St. Lawrence River, Montreal's port is one of the gateways to North America on the trading route from Quebec and the Atlantic Ocean to the western tip of Lake Superior (crossing among others Ottawa, Toronto, Buffalo, Detroit, Chicago, Milwaukee). Communities bordering this system make up a quarter of the continent's population and account for 55 percent of its manufacturing activities. Through the Illinois and Mississippi rivers this system goes south and leads to the Gulf of Mexico. Despite its strategic position, Montreal has suffered from the competition with New-York after the construction of the Erié canal (used for the first time in 1821).

In Montreal, the urbanization process of the St. Lawrence River's valley and the Lachine canal has been driven by the heavy industry which has polarized the territorial dynamics. Indeed, the growth of Montreal has been driven by industrial development linked to hides and grain processing activities. The construction of the Lachine Canal (14km long built between 1821 and 1824) at the southwest section of the Island, to counter the rapids between Lake St. Louis and the Old Port, associated to the development of port and rail infrastructures, have favoured the establishment of cereals industries (flour mills, malting factories, distilleries, ...) and enabled a major economic expansion in the districts of Griffintown and Pointe-Saint-Charles. In the mid-20th century, the development of road infrastructures generated a spread of this economic activity. The opening of the St. Lawrence Seaway in 1959 resulted in a slowdown in economic intensity and the departure of the working-class population in the decades that followed. Nowadays, almost half of its territory consists of vacant lots, old industrial buildings and large unoccupied sites. In recent years however the area has undergone a dazzling transformation with the construction of many apartment buildings. So much so that today, Griffintown knows a high real estate pressure that did not manage to provide any urban services or activities. Today, the *Peel Basin* is one of the sectors to be consolidated in the Downtown Strategy enacted by the City of Montreal in the frame of the *Plan Métropolitain d'Aménagement et de Développement* (PMAD), which hopes to improve the mobility and accessibility of the waterfront and the redevelopment of some buildings (fig.2).

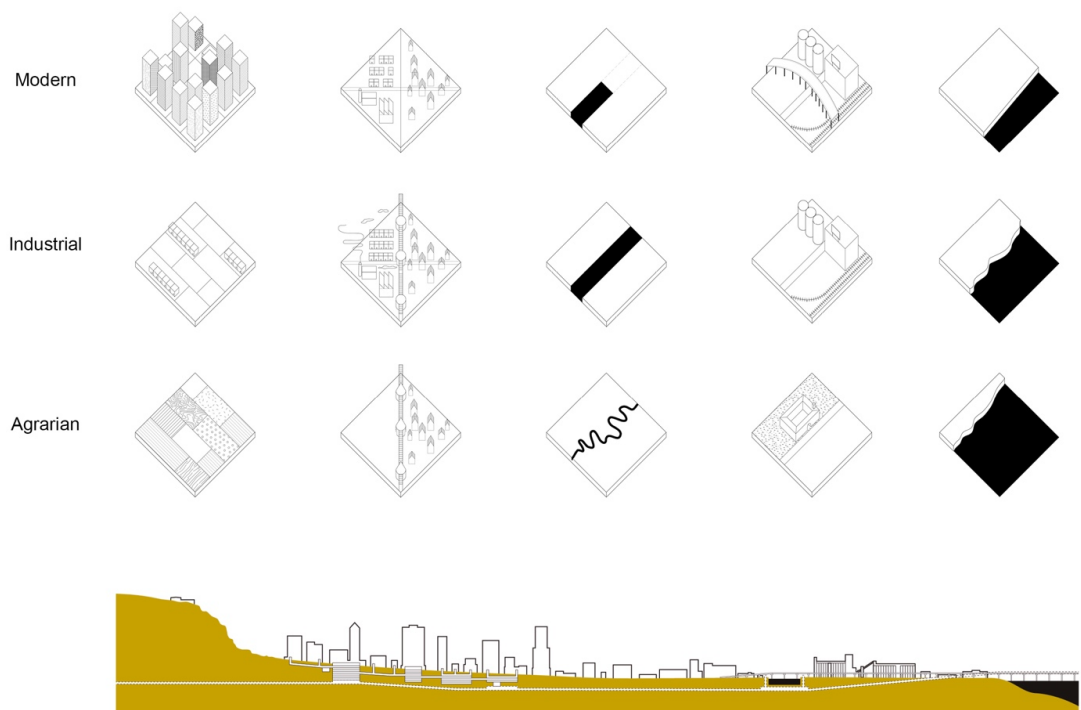


Fig 2. Historical evolution of the valleys. From bottom to top: agriculture, industrialization, modernization. Diagrams. Author: Bertrand Plewinski, 2017.

Brussels specificities. Brussels is crossed by a canal system that connects the three cities of Antwerp, Brussels and Charleroi. This canal system reaches the Mouth of the Scheldt

River and goes upstream to the Hainaut region once famous for its coal-mining area. In Brussels, this canal is nowadays the only waterway, since the Senne River was covered a first time between 1867 and 1871 (section between the North station and the South station) and a second time between 1930 and 1955 (section towards Anderlecht where it follows the canal). The construction of the canal system in itself dates back to 1550 for the northern section between Brussels and Antwerp (called *Canal Maritime de Bruxelles à l'Escaut* or *Willebroeck Canal*) and back to 1832 for the southern section between Brussels and Charleroi (called *Canal de Bruxelles-Charleroi*). Along this section, the canal became by the time a discharger for the floods of the Senne River. In Brussels, industrialization along the Senne river and the Antwerp-Brussels-Charleroi canal has been driven by the processing industry (construction, clothes, food, pharmacy ...) fitting into a mixed urban fabric. Heavy industries have thus rather been established in Wallonia, while Brussels was industrialized around the secondary sector. The growth of the city is mainly due to its demographic expansion and the dense railway network encouraged the first logic of commuting from the periphery to the city centre. Still, the specificity of Brussels has been to develop itself around mixed urban areas, employment, housing and services in a logic of proximity. Today, the port of Brussels manages a port estate of 105 hectares and hosts approximately 200 companies, active in various sectors (among others: construction, logistics, and petroleum products).

In the nineteenth century, the canal separated the bourgeois and commercial town, from the poor, industrious and rural pericentric suburbs. It was the working-class heart of the city. It became the furrow of industrial development. At the end of the nineteenth century, the major part of the city's economy was dealing with manufacturing jobs. Small and medium-sized enterprises were established among private dwellings primarily serving the local market.

Lately, the Senne valley and the Brussels-Charleroi canal axis occupy a central place in the imaginary of the Brussels' territory – as shown by recent studies such as *Brussels 2040, Metropolitan Landscapes* or the *Plan Canal* and *Plan Régional de Développement Durable* (PRDD, 2013). Looking at these plans, the Senne-Canal axis is the geographical centre of a metropolitan area extended on the scale of the three valleys irrigating Brussels and the two provinces of the former Brabant. From 2009, thanks to the further development of the metro network system (ending of the Line 2 making now a loop going to both sides of the canal), the canal became a vivid new centrality. This process redesigned and extended the figure of the centre, hitherto assimilated to the *Pentagon* shaped by the motorway belt that replaced the fortification of the medieval city. This metro loop enabled the connection to the centre of numerous strategic neighbourhoods and sites. For the public actor, the redevelopment of the canal and its edges must meet a threefold objective: to strengthen the residential function and serve public facilities; to make a better urban integration of economic activity and employment for Brussels residents living in this territory; to improve the quality of public spaces and new mobility infrastructures, by linking the neighbourhoods that the canal continues to divide.

A contribution to the planning debate in Brussels

In 2012 to face the housing shortage, the Brussels Capital Region undertook a diagnosis to identify the potential of land availability. Considering the free parcels, the capacity provided by new projects (such as Tour & Taxis, Josaphat, Tivoli), the empty offices converted into housing, this diagnosis shows that its capacity was insufficient to meet the needs generated by the population growth by 2020 [2]. The government adopted the creation of a new *Zone d'Entreprises en Milieu Urbain* (ZEMU) intended primarily for productive activities but also open to housing, shops and equipment. They embody the intention to develop mixed-use neighbourhoods that will replace a few large industrial sites (fig.3). At the same time, one of the government's decisions significantly modifies the urban planning regime.



Fig 3. Location of the ZEMU. Sources: URBIS, PRAS, VG. Author: Marine Declève, 2017.

In 1962, the Belgian State agreed on the concept of planning charges for the transformation of the Leopold district (that became the European neighborhood). While the promoters wanted to build offices inside the city, the purpose of these charges was to contribute to the urban renewal and redeployment of the urban centre. Initially, planning charges were thus adopted to strengthen the production of housing which was the low function at a time

when the developers wanted to build offices. Today this reality is reversed and housing has become a strong function, the one the promoters want to build and which raise the land value. So much so that in the long-term process housing could totally drive out the remaining industry, factories and spaces for crafts activities in the canal area (such as it happened during the 1980' in others places of the city) and impact the local work. Since 2013, a decree has submitted housing projects (>1000m²), office projects (>500m²), car parks (> 24 lots), shops (> 2000m²) and hotels (> 20 rooms) to planning charges. The motivation for housing projects is to finance the necessary local facilities (nurseries, schools) while for other projects the motivation is to compensate the additional costs generated by the mobility infrastructure. The decree grants to housing projects, the alternative to pay an amount of 50 €/m² (65 €/m² in these new zones newly allocated to housing) or to realize 15% of housing under-agreement with a selling price which is capped [2].

The municipality of Anderlecht (southern part of Brussels crossed by the canal) enacted the adoption of a *Plan Particulier d'Affectation du Sol* (PPAS) which commissioned the first ZEMU project in *Biestebroeck*. This is a momentum for Brussels urban planning, as it is the first time that the ZEMU status will address a spatial definition covered by the law. As one of the first to be defined as such, its implementation is likely to condition the status of ZEMU in the rest of the region. It is then an unfailing opportunity to experiment urban forms of interaction between housing and working as to rethink a governance models that would give space to the settlement of local crafts enterprises.

Despite the maintenance of productive activities, the PPAS specifies a ratio between housing and productive activity clearly depriving the latter. For the so-called 'Boghossian' plot, the ratio is around 60,000 m² of housing for 15,000 m² of activities and 4,300 m² for a school. If the enterprises leave the area, it could be a serious blow for local employment, particularly among the many low-skilled people in the municipality. From its side, the Port of Brussels intends to keep logistical activities in the area and plans to create an urban distribution centre. The need for such a pole in the south of Brussels is underlined by many stakeholders. More broadly, the heated debates surrounding the PPAS in Biestebroeck highlight the necessity to define a project whose ratio of housing to industry does not jeopardize the maintenance of productive activity and to question the place of an industrial and productive hub in the heart of the city.

Students' projects in Biestebroeck and Peel Basin

Four common points of comparison. The students identified four common characters with specific accents that constitute general observations allowing them to contextualize the project they proposed on a larger scale (fig.4):

1. The enclosure of the sites in a rail-water system
2. The real estate speculation and the phenomenon of *flurbanization*⁵
3. The strategic aims of the ports (willingness to maintain productive and logistical activities along the Canal, especially in places where the motorway is nearby)

4. The landscape fragmentation

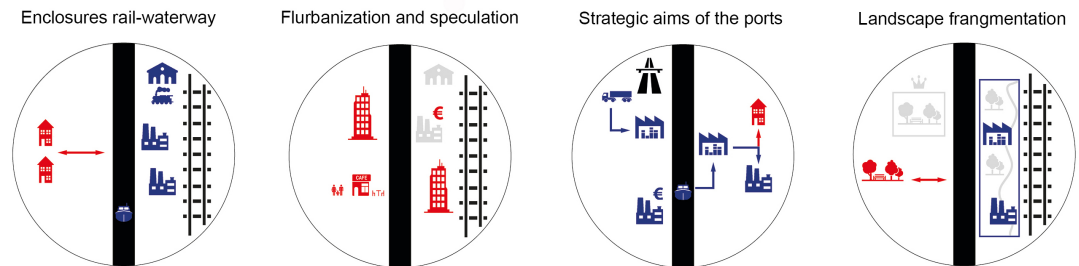


Fig 4. Tackled issues. Diagrams. Authors: Stéphanie De Meulemeester, Omnya Khamis, Quentin Letesson, H el ene Van Ngoc, 2017

*Local diagnosis in Biestebroek (Brussels)*⁶. The Biestebroek site is located in the municipality of Anderlecht, straddling the Canal. The left bank is mainly characterized by a residential tissue while the right bank was until recently mainly occupied by productive activities. Although the productive character has always existed in the vicinity of the Senne, the arrival of the railways coupled with the digging of the Canal, emphasized the bipolarisation of the banks which became very clear from the 1930s onwards. This difference between the right and left banks has also been reinforced by a disparate distribution of public transport. Indeed, the right bank appears as particularly enclosed. Like the Canal, the railway represents a significant break both in the northern and eastern parts of the area. This condition is accentuated by the large size of the industrial plots which fragment the public space. In the surroundings of Bistebroek, three bridges cross the Canal. Each of them have a specific use and two of them generate mobility problems. The site counts several brownfields nowadays highly coveted by real estate developers. The so-called 'Shell' and 'Boghossian' plots are owned by Rivand S. A. who has already requested the municipality a subdivision permit. Other brownfields are already hosting projects with a relatively close outcome (Nautilus and City Docks). Lastly, the *Soci et e du Logement de la R egion de Bruxelles-Capitale* (the Brussels regional institution in charge of social housing - SLRB) also owns the wasteland of the former AMP headquarters.

Project: Making Biestebroek circularly productive. The incremental development of circular economy initiatives occupying leftover spaces is an emerging tendency around the Canal zone. In Biestebroek the presence of Rotor (an enterprise active in the recovery of building materials) and one of a big skate park made of recycled materials figure out this process. Such alternatives to a linear economic model aims to reduce the production of waste. Their spatial implementations participate in creating new forms of articulation between living and working activities through the combination of a lifelong training centre and social and solidarity economic projects. To promote the emergence of a circular, social and cooperative economy, the students sustain the creation of the *Halles des Ateliers*, a project based on current occupants' interests as well on both local communities (mainly in terms of employment and accessible housing) and regional needs (first pole dedicated to the reuse of construction and demolition materials). In their project, the establishment of an urban distribution centre affirms the productive character of the neighborhood. It contributes to reaffirming the local anchoring of the industry in Biestebroek while equipping the south of Brussels with the major logistics hub that it is currently lacking. The reopening of an old abandoned railway station is part of the same recycling perspective

and contributes to the good accessibility of *Les Halles* and of the Distribution Center by public transports. These two projects and the dynamics that they may generate will help to redefine a new form of mix between housing and working uses, intended to be sustainable and productive at the scale of the neighborhood (fig.5).

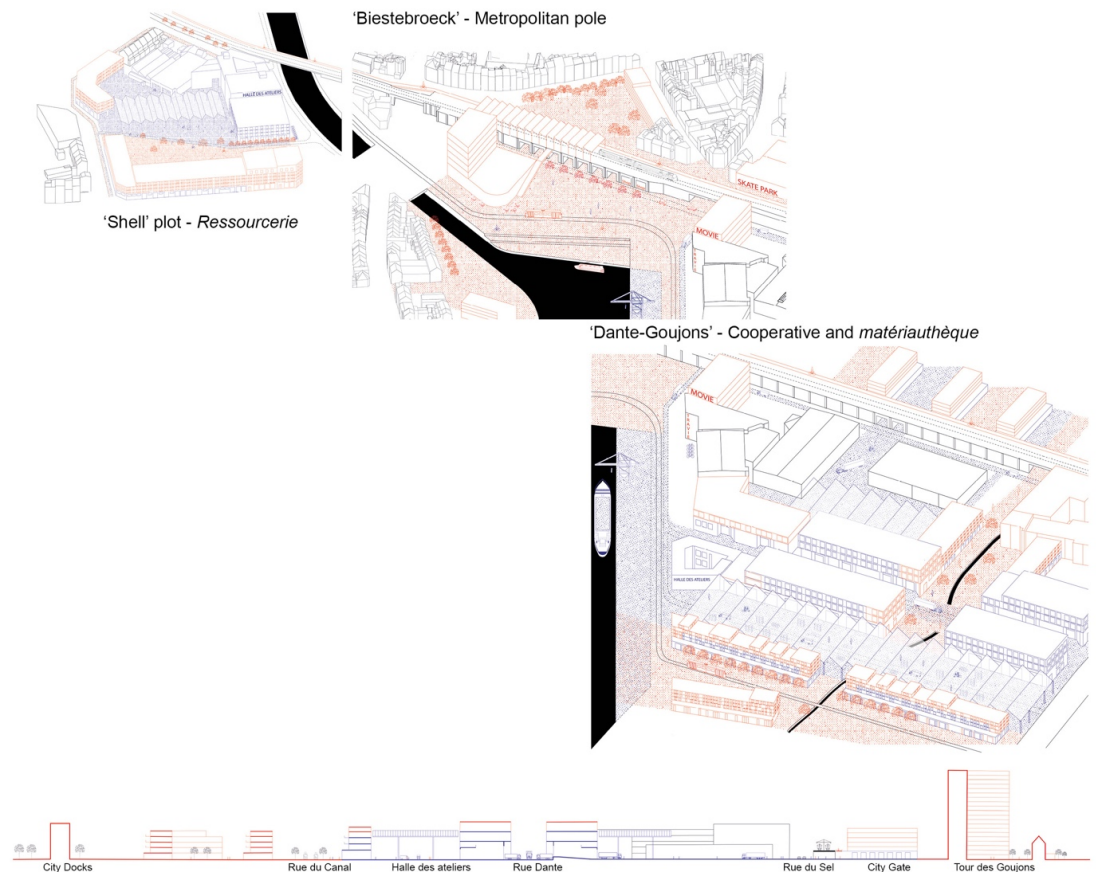


Fig 5. The three main figures of the Biesteboreck project. Authors: Stéphanie De Meulemeester, Omnya Khamis, Quentin Letesson, Hélène Van Ngoc, 2017.

*Local diagnosis at Peel Basin (Montreal)*⁷. In the Southwestern sector of the agglomeration, the *Quartier des Fabriques* is located on the site of the former *Havre de Montréal*, bordered by the Peel basin on the Lachine Canal. The industrial development of this site is due to the strategic position of the Port of Montreal on the Lachine Canal for grain transportation. Impressive silos are traces of this activity, as well as the presence of a distillery and malt factory. Two major railways – followed by a motorway reaching the city centre – support logistic activities. Today, the development of the new port to the east of the city and the decline of the industrial sector compel the industries to progressively move. In the *Plan d'Urbanisme de la Ville de Montréal* this area is listed as an employment zone, a status that is incompatible with residential uses. The proximity of the *Quartier de l'innovation* makes it a strategic location for the development of new economic models. In the vicinity, Pointe-Saint-Charles is a more residential neighborhood which has a tradition of collective dynamics and citizen mobilization, leading to social innovation projects such as *Bâtiment 7*. The neighborhood is bordered to the north by the Lachine Canal and to the south by the

St. Lawrence River. A lot of reflections and projects (both public and private) have been undertaken to develop this territory and its surroundings. Among them, the transformation of the Bonaventure motorway into a boulevard in the downtown area, the development of a metropolitan electric train network and the city's desire to extend the downtown area to the river.

Project: a landscape continuity to structure socio-productive citizens' initiatives. The students' project sets up a mode of governance that coordinate and negotiate the actions of the stakeholders on site. They identified some key issues within the strategic framework of the *Plan Métropolitain d'Aménagement et de Développement* (PMAD) for which they imagined a set of operational tools (fig.6). Their project establishes a structural continuity that links Mount Royal and the St. Lawrence River along two axes (fig.7). This landscape continuity becomes a structuring axis that allows the development of green and public spaces aiming to welcome productive and social activities. Reaching the river, this continuity aims to change its status and turn it as a landscape and recreational resource benefitting the residents. In the students' project, the *Quartier des Fabriques* assumes a metropolitan status justified by the proximity of the new stops for the *Réseau Express Métropolitain* (REM) which attracts residential and metropolitan functions (such as a specialized school and a stadium for example). By transforming the status of the Bonaventure motorway into a boulevard, the site becomes a real extension of the city centre and the adjacent neighborhoods. The project aims to densify the area by maintaining current job providers on the site as well as industrial heritage stimulated by citizen initiatives engaged in the development of new models of productive activities (circular dynamics, short circuits, resource sharing, ecosystem networks). The residential development is engaged in a negotiation process bridging public institutions, private real estate promoters and a Community Land Trust allowing mixed uses and aiming to provide local facilities. This negotiation process is led by a synthetic operator. The articulation between several types of residential developments aim to attract a diversity of inhabitants (families, students, employees, craftsmen, workers, seniors). Their project is a declination of uses, lifestyles and intensities intended to remain open to citizens' initiatives. To achieve this goal, the plan foresees an emphyteusis system so that the public authority remains the benefiter of the added land value. Their project seeks to value what they have observed on the ground in terms of the intensity with which citizens engage in projects to re-appropriate old industrial buildings (example of the collective that was formed around *Bâtiment 7*) and the diversity these commitments generate in terms of innovative solutions to meet their needs for links, meeting and sharing spaces. The project seeks to valorize a range of possibilities that emerged during the field trip from the analysis of the citizen economy. Through a scenario-based approach it engaged a process of negotiation around the necessity to argue for a strong public investment to engage the infrastructural works. The project crystallized one of the scenario which seemed to them the most favorable to the reality of the place but which represents only one of the multiple possibilities of articulations suggested by their project.

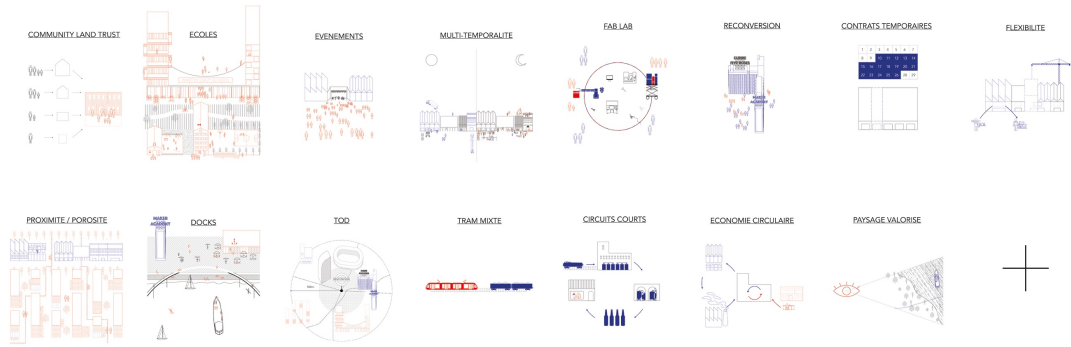


Fig 6. Set of operational tools. Diagrams. Authors: Axel Hidalgo Mujica, Stéphanie Marques dos Santos, Arthur Nihoul, Bertrand Plewinski, 2017.

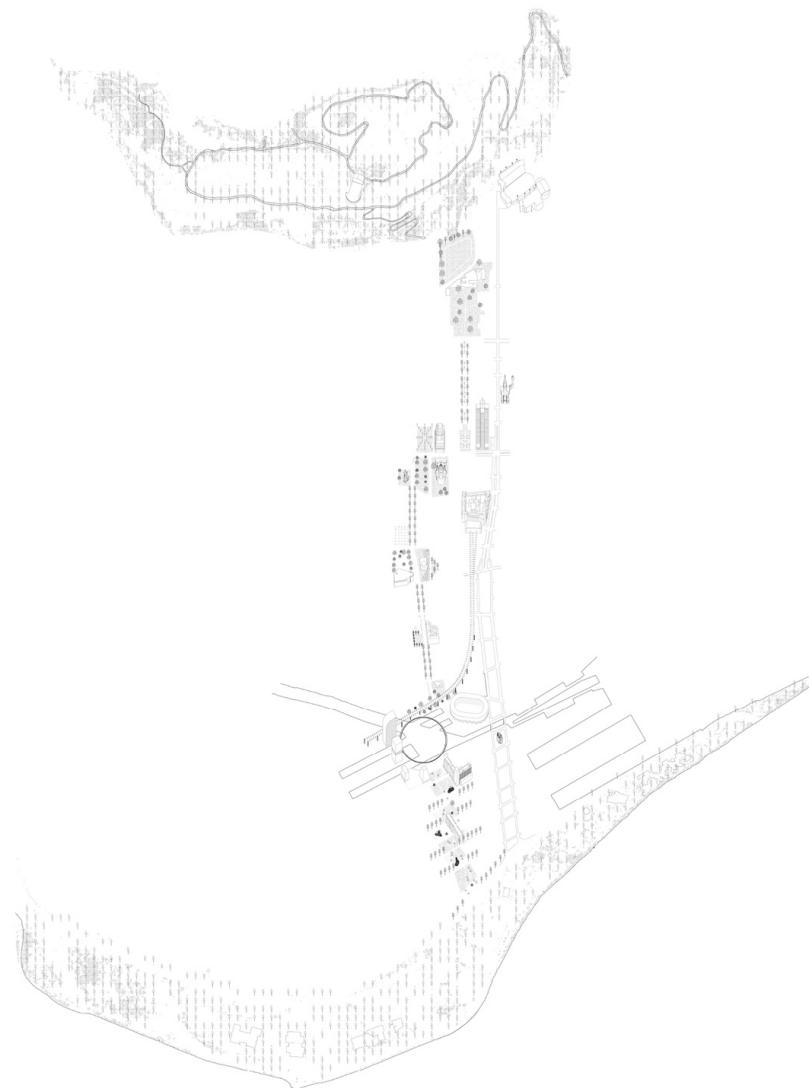


Fig 7. A landscape continuity linking Mount Royal and the St. Lawrence River. Authors: Axel Hidalgo Mujica, Stéphanie Marques dos Santos, Arthur Nihoul, Bertrand Plewinski, 2017.

Convergences. Biestebroek and Peel Basin are two areas of high real estate pressure. Both projects question the transformation of a monofunctional zone into a living area that integrates residential use to productive activities. The projects merge in three points: the necessity for the Public institution to engage in mechanisms that cap the added land value generated by public investments; the need to valorize socio-productive initiatives already active on-site to shift to circular and social economies models that engage citizens; the necessity to strengthen multi-modal nodes to ensure the compatibility between logistical hubs and residential uses.

Divergences. Valleys or canals are territorially characterized and it is therefore not surprising that regarding the relation to the waterfront, the project of Bistebroek in Brussels and Peel Basin in Montreal are very different. From one perspective, the aim is to revalorize the productive and logistic character of the canal giving access for other uses outside working times (Brussel) while in the other it is to reclaim the access to the natural landscape of the river (Montreal), the Lachine canal banks being already valorized by the *Route Verte*, a cycle path across Quebec covering more than 5300 kilometers. This also shows another point of divergence which is the necessity for the Peel Basin to be integrated in the urban tissue and therefore work on an axis perpendicular to the canal revealing the coherence of the grid system. In Biestebroek, the project points toward the productive reclaiming of the watercourse trying to integrate what is nowadays considered as a break in the urban tissue into the radioconcentric urban morphology.

Reflection on the comparison process for the subsequent research

After the atelier, a subsequent long-term research operation engages the researcher in a comparison that allows to build reflexivity (capacity of reflection). This comparison process aims to deconstruct the images of a productive narrative for Brussels. This reflection is characterized both by what is reflected (*images*), what do we reflect (thought: *lexicon*), and how we reflect (method: *timeline*) [3].

Images. The images that were produced or rediscovered during the atelier are all readings and interpretations of a place whose meaning varies from one historical context to another. These images reveal some ruptures or permanencies of urban projects, such as (for example) the one to reclaim the waterfront of the St. Lawrence river in Montreal linking it to the Mont Royal. The comparison process is based on three sets:

1 Images of projects produced by the students

2 Historical images

3 Images of ongoing urban development projects

The result of this accumulation of images on the urban project is a certain vagueness that we would like to be able to clarify regarding what is created elsewhere - insofar as this notion still makes sense in a globalized world that prompts us to repeat the same recipes. The exercise of the comparison is in some way an incentive to go out of the frame to better return to it. It is not a question of reproducing or reformulating, but of exploring the other,

the distant, to change the way we look at and perceive the realities of our everyday territory. It is an empirical approach that revitalizes a power of perception of specificities and similarities.

Lexicon. The lexicon identifies some keywords that refer to lexical groups or associations of ideas whose definition is essential to frame a further discussion: valleys, mix uses, [resilience], infrastructures, grounds, [metropolis]. At the heart of this reflection we can find the issue of the relationship between image and word – *mixed uses, valleys, alternatives, infrastructures, zoning* do not mean the same thing everywhere and for everyone – and the realities that those words represent in the imaginary of planners and inhabitants of a neighborhood. From an interdisciplinary perspective, it does not seem trivial to remind that comparison is above all a linguistic figure, in the same way as metaphor, analogy, or allegory. These types of figures abound in the urban project process probably because they create a narrative at different spatial and temporal scales and stimulate the imaginary or collective fiction surrounding the urban project [4].

Timeline. Images associated to the lexicon are integrated in a timeline whose aim is to show the occurrences of some realities in a specific or global context. Here, we make the distinction between diachronic comparisons (focus on the evolution) – a similar event happens at different times in different contexts (ex: World Expos) – and synchronic comparisons (focus on a specific moment in history) – what happens at the same time in different places. The timeline takes up the economic, social and urban development of the city as well as its politics. This timeline is used as a tool to understand the explicit or implicit interactions between the two territories over time. It also intends to show the influence of a third term: at what point is there another city that comes into the comparison and acts as an intermediary?

The temporal equivalent of this spatial notion of elsewhere to which we compare ourselves is both the past and the future, history and prospective that we do not want to dissociate from each other. From a systemic perspective, the relationship to the past is therefore not nostalgic. It is neither understood as a continent to be rediscovered to guide the modern man (Pétrarque) nor as an ideal to be imitated (Winckelman), but rather as a latent presence that resurfaces through a given historical situation and lead to see differently some images (Warburg). Such a process of comparison, both spatial and temporal, brings out occurrences and allows to enlighten what is a trend, an alternative, an innovation as well as what is lost speaking about heritage.

Conclusion

The purpose of the atelier was to investigate on the urbanisation processes focusing on mixed uses produced inside the valley by the proximity of residential and industrial spaces. The reflection engaged by the students (here summarized but brightly exposed in the booklets) contribute to the ongoing planning debate in Brussels around the spatial form of the ZEMU. The projects explored the potentials of building resilience inside the two valleys subject to strong real estate pressure. This resilience is built on several conditions among which: the necessity for the Public institution to engage in mechanisms that cap the added land value generated by public investments; the need to valorize socio-productive initiatives already active on-site to shift to circular and social economic models that engage

citizens; the diversification of governance systems for the mix of residential and industrial uses of space; the strengthening of multi-modal nodes and others facilities to ensure the compatibility between logistical hubs and residential uses. As a fifth condition, the relationship to the waterfront is built depending on the territorial use of waterways.

However, the students' critical stance was different as the objectives of their projects were different. On the one hand, the group working in Montreal tried to stick as close as possible to what they had perceived as possible and innovative in relation to the reality of a foreign terrain. On the other hand, the Brussels group tried to provoke a reaction. Hence their project act as that defends the idea of a territory that decide to no longer give up land for speculative real estate development. Despite the difference in positioning, both projects show a shared vision of the city that challenges traditional models of negotiated urban planning.

The comparison through a mirror effect was therefore used as an argumentative figure inside a narration process to convince public actors of the need to do something different from what has been done in the past or to argue why a project currently being carried out does or does not meet the needs or desires of the inhabitants.

Another process of comparison is engaged in the subsequent research using the conditions, lexicon and the timeline that emerge from its work. The comparison between images of the students' projects, historical images and images of ongoing development projects, refers to a process of collecting and categorizing used as a tool to enlighten what is a trend, an alternative, an innovation.

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¹ This Master's degree is a one-year interdisciplinary program. The profiles of the students are varied, some of whom are also researchers. In 2016-2017, the atelier was followed by Stéphanie De Meulemeester, Maïté Dewasme, Koussaila Hammoudi, Axel Hidalgo Mujica, Marjan Khaji, Omnya Khamis, Gloire Kibala Ntondele, Khalil Layoun, Quentin Letesson, Stéphanie Marques dos Santos, Arthur Nihoul, Bertrand Plewinski, Hélène Van Ngoc, Stefano Volza, Maria Torres Acacio. This atelier has been held between February and June 2017 and his part of a broader research platform called *Montréal et Bruxelles en projet(s)* led by Priscilla Ananian (UQàM ESG) and Bernard Declève (UCL-LOCI Metrolab Brussels). Initiated in 2014, this platform is intended to be an opportunity for exchanges and meetings between researchers working on similar issues in the two metropolitan areas.

² The thematic of the atelier has been described in: DECLEVEB., *Bruxelles et Montréal. Recomposition des anciennes vallées industrielles, atelier d'urbanisme opérationnel* January-June 2017, booklet.

³ This reflexive dialogue has been the method at the heart of the reflexion process intended for the book *Bruxelles-Montréal en projet(s)* (Ananian and Declève, 2017).

⁴ This paper will not develop the projects for Neder-over-Hembeek and the Dyle valley. In Neder-over-Hembeek (northern part of Brussels downstream from the canal), the politic regarding the definition of new enterprises zones is driven by dynamics related to other scales, such as the projects of a roll-on roll-off logistic platform for the trade of second hand cars, and of a touristic maritime cruise passengers' terminal. In the Dyle valley, the group of students have been asked to work on the transformation of Walibi Belgium, a leisure park located along the Dyle in a landscape of artificial ponds and straddling the municipalities of Wavre, Limal and Bierges.

⁵ A concept created and developed by historian Bernard Le Sueur to designate the movement of renewed interest and subsequent physical return of urban populations to the waterway.

⁶ The project on Biestebroeck has been described in DE MEULEMEESTER S., KHAMIS O., LETESSON Q., VAN NGOC H., *Emploi et réemploi à Biestebroeck. Une alternative à la flurbanisation*, atelier d'urbanisme opérationnel February-June 2017, booklet

⁷ The project on Peel Basin has been described in HIDALGO MUJICA A., MARQUES DOS SANTOS S., NIHOUL A., PLEWINSKI B., *Montréal. Le quartier des fabriques*, atelier d'urbanisme opérationnel February-June 2017, booklet.