



RECHERCHE N°1

WHAT DESIGN TO ENHANCE BRUSSELS' URBAN METABOLISM?

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Abstract

This essay investigates the conceptualisation of urban metabolism assumed by the Brussels Capital Region as part of the European Regional Development Fund's 2014-2020 programme, with a view to combating the social polarisation that characterises the region. By approaching the topic with an emphasis on environmental and economic factors, we will address social issues and challenge the traditional socio-natural divide while promoting experiments with innovative design strategies that encourage change based on shared decisions.

N.B.

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Keywords: Urban metabolism, urban design

1. Enhancing Brussels' urban metabolism to combat regional polarisation

The Brussels programme in the 2014-2020 European Regional Development Fund (ERDF) is officially intended to tackle the long-standing polarisation of the controversial and dynamic 'Capital of Europe'. Statistics are clear: while Brussels is a region with good levels of production and wealth, a significant part of its population is excluded [see for instance, Kesteloot, 2013; Vandermotten, 2013].¹ Brussels is also a place of immigration, attracting populations with very different educational backgrounds. The design of the Brussels programme in the 2014-2020 ERDF departs from this view of Brussels as a region split into two parts [Brussels Capital Region, 2014]: low income, unemployment, and low school-age rate numbers are concentrated in the centre and along the Brussels-Charleroi Canal, which the regional planning framework and the Plan Guide in particular refer to as the 'Zone de Rénovation Urbaine' (ZRU) [see for example Kesteloot, 2013] (figure 1).² The region does not dismiss the importance of ERDF funds for the development of the ZRU. The vast majority of the funds provided by the Brussels ERDF are intended for the implementation of individual urban facilities. The ERDF is seen as the main 'actor' for the implantation of 'grands équipements' (large-scale facilities) for culture, social cohesion, sports, health, education, childcare, and training in the ZRU [MSA and IDEA Consult, 2013]. These are ultimately regarded as opportunities for counteracting polarisation.

The Brussels programme in the 2014-2020 ERDF examines the territorial polarisation of Brussels as an intersection of social, economic, and environmental factors. The surroundings of the Canal and the centre of Brussels concentrate underprivileged social conditions; ever since deindustrialisation and the disappearance of industrial activity, these areas' economic fabric has been extremely fragile; the region also features high levels of pollution and traffic, few green spaces, and the least energy-efficiency residential buildings [Brussels Capital Region, 2014]. The Brussels programme in the 2014-2020 ERDF identifies problems and offers a solution: enhancing the 'functioning of the regional urban metabolism' can counteract polarization while fulfilling the recommendations set by the EU and meeting the objectives of the 'Plan Régional de Développement Durable' (regional plan for sustainable development) [Brussels Capital Region, 2014: 2]. The improvement of the region's urban metabolism is presented as the basis for low-carbon economic development. It is expected to be effective in addressing environmental challenges by reducing resource usage by relying on short supply channels.³ It will bring about social progress: streamlined processes will hopefully result in new jobs, but they will also improve the living environment by improving accessibility to local equipments and infrastructures, and by allowing the accommodation of additional inhabitants in an improved urban environment.

The economic, environmental, and social concerns at the basis of the Brussels programme in the 2014-2020 ERDF perfectly match the three priorities of the 'Europe 2020' strategy: smart growth, i.e. 'developing an economy based on knowledge and innovation'; sustainable growth, i.e. 'promoting a more resource efficient, greener and more competitive economy'; and inclusive growth, i.e. 'fostering a high-employment economy delivering economic, social and territorial cohesion' [European Commission, 2010]. These challenging targets endorsed by the Brussels programme in the 2014-2020 ERDF suggest a comprehensive understanding of the concept by the BCR. But since urban metabolism is an idea open to different interpretations, it is important to define the terms of the concept as well as the approach to take in order for the ERDF projects to properly address regional challenges.

2. Urban metabolism at the crossroads of human and nature

The Operational Programme (OP) of the 2014-2020 ERDF for Brussels places strong emphasis on a circular economy and a more rational use of resources, advocating a shift in Brussels' urban metabolism towards production and consumption patterns characterised by limited externalities. While this approach of urban metabolism is very popular nowadays, it has not been universally adopted. As Gandy [2014: 71] reminds us, 'urban metabolism is not a unified field but rather a range of different approaches'. The concept of metabolism entered the field of social sciences when Marx used it first to refer to transforming nature through labour. From that time, the analogy has inspired alternative ways of looking at human societies and their relationship to nature in particular [see

Wachsmuth, 2012]. Human ecology, industrial ecology, urban political ecology, and landscape ecology have each worked out their own interpretation of metabolism and their own approach to it [Ranzato and Grulois, forthcoming]. By closely examining this concept and the various approaches that it inspired, we can further understand the goals of the Brussels programme in the 2014-2020 ERDF and how it intends to tackle the region's polarisation.

The OP does not provide a definition of urban metabolism; the specific understanding of the concept emerges when the OP refers to the impacts expected from the implantation of facilities that internalise a metabolic approach. References are made to moving towards a low carbon economy (economic goal); reducing resource exploitation by relying on short supply channels (environmental goal);⁴ creating jobs and improving living environments—including to accommodate new inhabitants (social goal). The rational use of resources is the main factor that industrial ecology takes into account when studying the metabolism of a city. As scholars have noted [see for example Wachsmuth, 2012], industrial ecology interprets urban metabolism as the conversion of nature into society. It focuses on gaining insight into the transformation, transportation, and consumption of resources, and examines related environmental constraints. In practical terms, the goal is for cities and territories to consume less, i.e. to consume fewer resources, i.e. to consume less nature. In this perspective, the divide between society and nature is reaffirmed: the role of nature is recognised, but human aspects seem to be overlooked. The scope is limited to controlling supply and removal of materials, and striking a balance between consumption and the capacity of places dedicated to supply and removal.

This metabolic approach of industrial ecology is not new, but it proves to be especially successful now that circular economy is making headlines. The faith expressed in this approach is reasonable: it provides practical insights into how to meet rising concerns for the environment, and for example, the carbon emissions target set by the 'Europe 2020' strategy. The European Commission pushes towards this approach. The transition towards a circular economy 'will boost global competitiveness, foster sustainable economic growth and generate new jobs' [European Commission, 2017]. This positivistic perspective, however, is not without dangers. A number of scholars [e.g. Swyngedouw, 2014; Kenis and Lievens, 2016] and emerging social movements (e.g. the climate justice movement) warn about risks related to placing too much emphasis on an economy strongly geared towards the environment where there exists a rift between society and nature. They argue that greening the economy—and, we could add, making it circular—can resemble a 'hegemonic project that tries to retranslate environmental concerns into a new jargon, and to turn environmental conflict into a new motor for economic development' [Kenis and Lievens, 2016: 1]. In particular, it is argued that the process of recapturing environmental conflicts within a capitalistic system through market mechanisms is likely to have adverse socio-political effects. This means that there are no guarantees that a circular economy—and streamlined use of resources—will also be able to solve social challenges. Environmental matters could too easily be narrowed to technical aspects to the point that, in the name of a green economy, these issues supersede social questions.

For Brussels and its urgent need to counteract a polarisation that is mainly social, an approach to urban metabolism that—at least conceptually—reaffirms the rift between nature and society might prove controversial. Avoiding a fragmented or technocratic approach means embracing a view of metabolism that merges human and nature without one taking precedence. Moreover, even once the approach is adjusted to specific regional concerns, its translation in practice remains a true challenge for the Brussels ERDF programme and related projects.

3. A carpet of urban projects for urban renovation

In this time of crisis, the ERDF programme plays a major economic role in Europe's regions.⁵ This is likely to be the case in the BCR, where the 2014-2020 ERDF has allocated around €200 million. The Brussels programme in the 2014-2020 ERDF supports a little fewer than 50 projects, the vast majority of which are based on—or include—one or more urban design projects. From the reconversion of an old monastery into a cultural centre (project C075) to the construction of two integrated hospital centres (project DNR), and from the reorganisation of the Bourse—one of Brussels' historic landmarks—so that it could host the 'temple' of Belgian beer (project C055) to the construction of the new seats of the Zinneke—a non-profit committed to enhancing social

inclusion— (project 145), they all give form to a complex and variegated geography of urban change. All these projects will leave an imprint on Brussels' urban landscape, by contributing to the renovation of a stigmatised part of Brussels.

Revitalising the inner city is a long-standing political priority of Brussels. It has its roots in the peculiar 'middle class's "exodus" to the suburbs ("urban flight") and the concentration of low-income households, often of foreign extraction, in the city's central areas' [Van Crieelingen, 2006: 17]. Anxieties about renovation can be well-meaning, and are often legitimised by referring to values such as social mixing, cohesion, sustainable development, enhancing the city's image, and conserving historical buildings. If we look at the Brussels ERDF programme, the implantation of new facilities can provide the services required by the disadvantaged local population living in the ZRU. Conversely, expanded social support could also be used to attract middle-class households, whose members are both taxpayers and voters. As underlined by many scholars [e.g. Van Crieelingen, 2006; Van Hamme et al., 2016], public policies are generally aimed at increasing the social mix in these neighbourhoods, by encouraging the arrival of new middle-class residents; this further increases the demographic pressure in these already dense areas, often resulting in a proliferation of small dwellings and a migration of the less wealthy population 'towards the adjacent intermediate territories and, for a very small proportion, towards the suburbs' [Van Hamme et al., 2016: 10]. The Brussels ERDF programme is not exempt from this risk. Incidentally, this has long been a dilemma in urban planning and policies, that is, whether to give priority to the urban renovation of an area at the risk of pushing out less well-off parts of the population, or to favour the permanence of local disadvantaged communities at the (potential) detriment of—at least on paper—quick and guaranteed renewal.

The projects covered by the 2014-2020 ERDF will have to deal with this question. The replacement of the local population by wealthier groups is observed in swaths of central Brussels today [Van Hamme et al., 2016]. In order to prevent renovation projects that might favour the substitution of parts of the local population, the Brussels ERDF projects would have to embrace a careful understanding of the context and dynamics that the new facilities will create.⁶ In this regard, the fact that the Brussels ERDF engages in urban renovation by implementing an 'album of projects' could play a strategic role to a certain extent. The making of a city through individual projects is a relatively recent tradition in urbanism. Starting at the end of the 1980s, Bernardo Secchi [1989] frequently referred to 'albums of projects' among the planning documents. According to Secchi [1989: 295], these projects could work as explorations of the 'principle of inhabiting'. This means suggesting principles intended to be shared and to form a kind of 'ethics of places'. Secchi also argues that when urban projects are attached to a plan and result from similar reflections, they could be highly innovative and operate like 'structures that organise our understanding, the transformation and modification of the city and the territory'.⁷ The call is to look for 'ethics of places' and 'principles of inhabiting' while remaining consistent to a plan. For the Brussels ERDF projects, this perspective can be used to determine an overall strategy, at least in principle. In a way, instead of developing a plan based on a presupposed general good, the album of projects could make it possible to determine rules that stem from insights on the city and the territory.

If we look at the Brussels ERDF projects through the lens proposed by Secchi, the challenge becomes the identification of the shared 'principles of inhabiting' carried by the new facilities and that will 'make' the city. The new facilities will act as cores of urban regeneration, producing effects on their surroundings at multiple scales. The required inputs should come both from the specificities of the context where they will be settled, and from the reference plan, i.e. the Plan Guide [MSA and IDEA Consult, 2013].⁸ This plan provides a general framework for the long-lasting public discourse about "revitalisation", "regeneration", and "renaissance". In the Plan Guide, the Brussels ERDF programme has a general mission of renovating the disadvantaged areas surrounding the Canal and the city centre. Apart from making a list of the kind of facilities required, the plan does not impose specific locations or schedules for ERDF projects: the principles and priorities that the new facilities should follow are set by the ERDF programme, the goal being to improve the region's urban metabolism in order to combat polarisation. This goal is clearly at the basis of several of the projects selected.⁹ Many others, however, have no obvious link with the metabolic perspective: the metabolic goal is often limited to energy-efficient buildings.¹⁰ In what terms improving the region's urban metabolism can be a shared principle of inhabiting, and how this principle could be integrated in the design project, are yet to be understood. Addressing these questions will be up to each ERDF project in consideration of the specific context and service they are meant to address.

4. Towards inclusive design processes

In this context, design research may need to focus on two main issues that are closely related to each other. First, it should look for design strategies and tools that can bring together social and natural perspectives, i.e. strategies and tools that enable the consideration of social issues in the search for enhanced metabolic arrangements. Second, emphasis should be placed on design strategies and tools that enable the identification—and later implementation in ERDF projects—of the ‘ethics of places’ and ‘principles of inhabiting’ that are shared within the local communities.

The Brussels ERDF programme’s objective of improving urban metabolism brings with it the risk of overcoming the requirements of the local population in favour of external environmental concerns. Solutions—and principles of inhabiting—should instead be sought that meet both human and environmental concerns. However, there is no obvious way to design ERDF projects that cement social and environmental issues at the same time. The Brussels ERDF programme emphasises the metabolic perspective on ‘nature’ as if this were the solution to Brussels social problems, but it should stay away from reductionist or pure functionalist approaches [see Bianchetti, 2017], for instance a project focused solely on energy inflows and outflows. As Gandy [2014: 75] notes, for urban metabolism ‘a key challenge is how an active and informed citizenry can be involved in these discussions’. The way forward is rather to be found in working on the politicisation of the environmental discourse beyond pressures that could come from the market—and/or from city marketing. Design principles should be adjusted to the lives of those who live in the area, and they should promote a renovation process that meets the needs of both inhabitants and institutions.

The Brussels ERDF programme’s objective of revitalising the ZRU could result in urban operations that actually improve the local population’s living conditions or, on the contrary, in projects that will attract middle-class households replacing the underprivileged groups currently inhabiting these areas. The fact that the Brussels ERDF projects are planned at an individual scale does not preclude the risk of promoting principles of inhabiting that are elusive for the ZRU’s local population. As Van Criekingen [2006] has noted, other public, private, or public-private operations that have aimed at renovating poor parts of the centre of Brussels since the nineties have resulted in the migration of poor populations towards outlying areas and, in turn, the emergence of new pockets of prestige. The question of how the ERDF projects and their mission of exploring principles of inhabiting can support the disadvantaged population and refrain from boosting gentrification still remains on the table.

The above questions also concern design, both in terms of research and practice: in the context of the Brussels ERDF programme, can design be just the instrument ‘to bring coherence, order, and rationality to the production of capitalist urban space’ (Mitrasinovic, 2016: 4, quoting Rosalyn Deutsche, 1998)? Or should design be explored as a social praxis and focus on ‘the design of new capacities, capabilities, social protocols, processes, and infrastructures’ (Mitrasinovic, 2016: 18g)?¹¹ With the same essence and structure, the Brussels ERDF projects ask the well-established design praxis to expand the vision on design and carry out the metabolic shift ‘on the ground’.

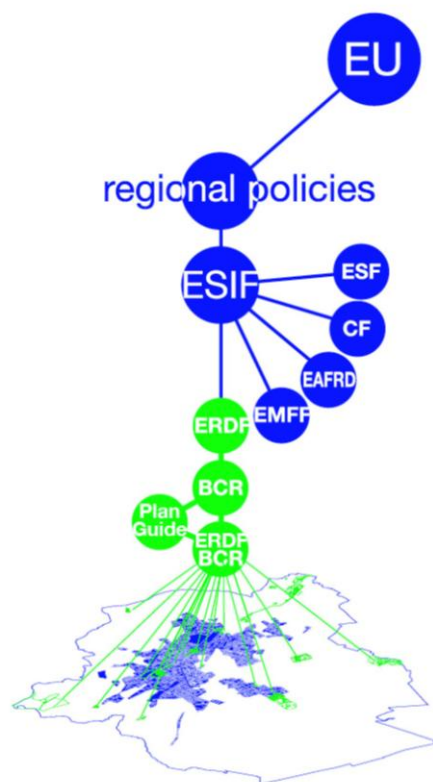


Figure 1: The architecture of the Brussels programme in the 2014-2020 ERDF. European regional policies and funds entering the Brussels Capital Region (solid blue line) in the form of facilities (green areas) mainly located in the Zone de Rénovation Urbaine (blue area). (European Union, EU; European Structural & Investment Funds, ESIF; European Social Fund, ESF; Cohesion Fund, CF; European Agricultural Fund for Rural Development, EAFRD; European Maritime and Fisheries Fund, EMFF; European Regional Development Fund, ERDF; Brussels Capital Region, BCR).
Geographical information about ERDF projects is provided by Pauline Varloteaux. Author's elaboration.

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¹ The paradoxical condition of Brussels is perfectly in line with the perspective of the ERDF policy for urban areas as catalysts of growth and 'powerhouses' of desegregation.

[http://ec.europa.eu/regional_policy/en/policy/themes/urban-development/].

² Admittedly, to a certain extent, such a division could appear too sharp: Brussels features scattered pockets with strong social identity, and in general a fine-grained diversity. Nonetheless, scholars generally consider Brussels to be a city divided into two parts.

³ The original text reports the following: 'Le développement des énergies renouvelables, l'amélioration de la performance énergétique des bâtiments, le développement des circuits courts et de l'économie de fonctionnalité, ainsi que la réhabilitation des sols pollués' [Brussels Capital Region, 2014: 3].

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⁵ 'Between 2014 and 2016, the Funds are expected to account for approximately 14% of total public investment on average, and even to reach up to 70% in some Member States' [http://ec.europa.eu/regional_policy/en/policy/what/investment-policy/esif-contribution/].

⁶ The question of displacing disadvantaged parts of the population is of a particular interest for a city-region such as Brussels, where such movements could lead to interregional conflicts.

⁷ Translated by the author.

⁸ The relationship between the Brussels ERDF programme and regional planning tools PRDD and Plan Canal is beyond the scope of this essay.

⁹ This interpretation seems to be the basis of projects such as Smart Retail City (project 094), Irisphère (project 027), or Le Bâti Bruxellois: Source de Nouveaux Matériaux (project 071). Irisphère and Smart Retail City are also officially part of the Programme Régional en Économie Circulaire (PREC) [Brussels Capital Region, 2016].

¹⁰ These insights are mainly based on the official presentations of the projects, as the official applications were not made public.

¹¹ Metrolab.Brussels is already actively studying and exploring design tools and strategies that the ERDF projects could integrate in order to meet both the goal of improving the region's urban metabolism and the requirements of the local population [see for example, Vignes and Ranzato, 2017; Ranzato and Vignes, 2017].