

## Urban Industries and the Production of Urban Form

A Typomorphological Analysis of Urban Productive Spaces in the Jette-Koekelberg Area in Brussels Capital Region

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### Abstract

The proposed paper aspires to provide a typomorphological analysis of patrimony of industrial activity in the urban fabric of a productive hotspot of the Brussels Capital Region. The research fits within a larger PhD-track on the sustainable retrofit of such productive activities in this region.

Due to zoning policies and increasing real estate pressure on urban land, a major part of the space-extensive productive activities has disappeared from Brussels' urban areas, taking jobs and artisanal knowledge towards monotonous enclaves in the outskirts. Whereas European cities were rich in productive activities, they now mostly host consumption. This is problematic. Urbanists, architects and policy makers plead for the inversion of this process by reintegrating industrial enterprises in the urban fabric.

Despite the observed shrinkage in the amount of active urban industries, a GIS informed hotspot analysis revealed a concentration in the Jette-Koekelberg area. The presented work therefore provides a typomorphological study of the patrimony of these remaining structures. In this light, the analysis is performed at different scales in order to bridge between the urban form and the architectural type. The studied area is therefore decomposed into the analysis of its urban fragments, building blocks and parcels.

Informed by the logical classification of these productive urban artefacts at different scales, this paper aspires to obtain insights on their typomorphological setup. Deploying this approach which is mainly focused on the residential use, to a mixed-use area, unveils strongholds and alterations on basic types in the urban fabric. In doing so, this investigation attempts to inform the ongoing planning debate on productive cities and mixed-use development by looking specifically at the existing built environment: urban form and building types. Despite the large interest in productive cities, this has not yet been treated systematically.

**Keywords:** urban industries, typomorphology, Brussels, productive city

## Brussels: a productive metropolis

In planning debates on sustainable urban development (European Environment Agency, 2006; Hillman, 1996), compact city strategies that promote the intensification of micro-central areas, are encouraged for their reduced consumption of energy and land. Such existing urban cores are to be densified and diversified with activities and building types. However, a gap between planning theory and practice exists, as zoning policies remain the corner stone of spatial planning in many cities (Crysler et al., 2012). Problematic is the contradiction that arises when considering the need for space-extensive, industrial urban land in highly desired urban cores, like former port areas. Exemplary are the high rates of redevelopment of industrial land with more profitable programs, after relocating their activities towards monotonous, suburban enclaves or third world countries. London can be considered the paragon for this phenomenon. Brearley (2016), argues: "What used to be the place of production is now solely hosting consumption: the city has eaten itself". Jobs in Brussels' industrial sector have disappeared since the 1980's by 4,1% on a yearly basis, compared to a notified increase in suburban areas. This, next to a general decrease of jobs in the sector, has caused 30,9% of the low-educated workers in BCR to be unemployed (De Salle, 2013). The separation of work-production and workers-consumption promoted the unsustainable transportation of people and goods via roads, proven by an increase of 70,0% between 1991 and 2001 (Ryckewaert, 2011; Verhetsel et al., 2009). In 2014, Brussels was ranked second on Europe's most traffic congested cities list (INRIX, 2015). In reaction to the previously elaborated numbers and inspired by the international planning context, the Brussels urban development agenda has been oriented towards the preservation and qualitative retrofit of production in the BCR (Brearley et al., 2016; De Boeck et al., 2017; Ryckewaert et al., 2012; Vandermotten, 2013).

Concretely, two planning policy tools, 'ZEUS' and 'OGSO', have been introduced in 2014 to promote the co-habitation of productive activities with the existing urban environment in well-chosen urban areas. Firstly, ZEUS (Du. Zone voor Economische Uitbouw in de Stad, En. Zone for Economic Expansion in the City) provides tax benefits for Small and Medium Enterprises (SMEs) that employ locals in residential areas with high unemployment rates. Secondly, OGSO (Du. Ondernemingsgebied in Stedelijk Weefsel, En. Entrepreneurial Zone in the Urban Environment) allows the upzoning of former urban, industrial land to mixed-use programs on the condition that 90% of the initial industrial floor surface is reintegrated in the new (Cassiers et al., 2012; De Boeck et al., 2017). Nonetheless, both policy measures contradict each other, as the upzoning of OGSO increases land prices, making residential activities more interesting than industrial or productive ones.

Despite these promising intentions, a gap between this planning theory and practice is notified in piloting projects that have been developed by Citydev Brussels (Vermeersch, 2016). The encountered problematics embody multiple scales, from societal to building technical. Moreover are designers reluctant towards this undiscovered field, where the need for typological research is repeatedly unveiled (Brearley et al., 2016; Vermeersch, 2016).

## Theoretical framework: typomorphology

In order to explore this undiscovered field of the typology and urban form of industrial activities, a systemic methodology is found in Caniggia's typomorphological approach. It is, next to Conzen's urban morphology, Bill Hillier's Space Syntax and Henri Lefebvre's philosophical theory, specified on bridging between the urban form and its main constituting element: the building (Sima and Zhang, 2009). The relevance of this approach is due to the gaping lack of knowledge on compatible and mixed-use types in order to qualitatively retrofit production in the city. By studying the urban form of Brussels' 19th century expansion, it can be concluded that its growth was highly characterized

by the presence of small-scale, industrial activity. Despite the notified escape of industry's activity from urban areas, their patrimony remains present. Today's mixed urban fabric, in other words, can be studied as a container of answers to previously encountered problematic. The city is in its history (Rossi, 1966) and is therefore here taken to be the point of departure for constructing systemic knowledge on the typomorphological setup and compatibility of urban, industrial activity.

## Typomorphological methodology

Caniggia's typomorphological methodology is characterized by a specific point of view on both the temporal, as well as the spatial dimension of urban form. Namely, it is fundamentally based on the understanding of a city fabric through the analysis of its historical process of formation on the one hand and introduces the concept of hierarchy of space on the other (Comert, 2013; Sima and Zhang, 2009). Moreover, it is particular in the sense that it applies to the building (typo) as well as the urban (morphological) scale.

Type can be defined as the inner structure of form, a principle that leads to infinite formal variations. In other words, the type is the ensemble of inherent similarities that are abstracted over a large set of buildings (Argan, 1963; Caniggia and Maffei, 1979; Grassi, 1967a; Moneo, 1978). Caniggia proposed the typomorphological method as being extensive classifications of urban spaces (Caniggia and Maffei, 1979; Moneo, 1978). This taxonomic conception stems from the idea that building typology is the basic premise for the analysis of an urban form: morphology. The decomposition of complex urban fragments into elements, structures and organisms, enables to reveal their specificities and interrelationships and bring order to the knowledge of the built environment (Moudon, 1994). The elemental objects to be found are lots (parcels), streets, built forms and public spaces (Levy, 1999). It is the deductive character of these analytical studies of past and present urban artefacts that enable the logical construction of architectural knowledge (Grassi, 1967a).

The derivation of constitutive types in the urban environment can reveal strongholds of political, economic, social and cultural influences that are imprinted in the built form (Argan, 1963; Grassi, 1967b; Moneo, 1978; Rossi, 1966). Grassi argues that the forms of realized architectures are entirely attributed to mankind and influenced by their societal context in the time they were conceived that the logical classification of these forms will unveil important insights on base types and modifications of it.

## Procedural typology

The hypothesis that urban form is the ultimate readable sediment of human culture, is conceptualized by Caniggia and Rossi in the notion of consciousness. The dialectic relationship between human interpretation, or action, and urban form can either be spontaneous or critical consciousness (Caniggia and Maffei, 1979; Moudon, 1994; Rossi, 1966). Spontaneous consciousness is not mere imitation, nor reproduction, but the "critical understanding of what it takes to make a building" (Moudon, 1994). The, by Caniggia repetitively used, examples are the Florence row houses that are constructed by builders without critically reflecting upon its design: there was only one way to build that row house in a certain time and place (Moneo, 1978). Such 'common-sense' can be attributed to the notion of (base) types. On the other hand, critical consciousness represents the "critical self-conscious thought process guiding the building activity which may not refer to its cultural context" (Moudon, 1994, p. 293). These highly specialized structures are often interpreted as monuments, places of symbolic function (Rossi, 1966). Rossi's theory of permanence in the city fabric analogously divides two concepts: types (dwelling) and primary elements (monuments). These persistent primary elements structure the mental map of the city and are of monumental value in the way they condition the collective memory of the city. It is not their actual function, but rather their form and locus which attributes to this memory.

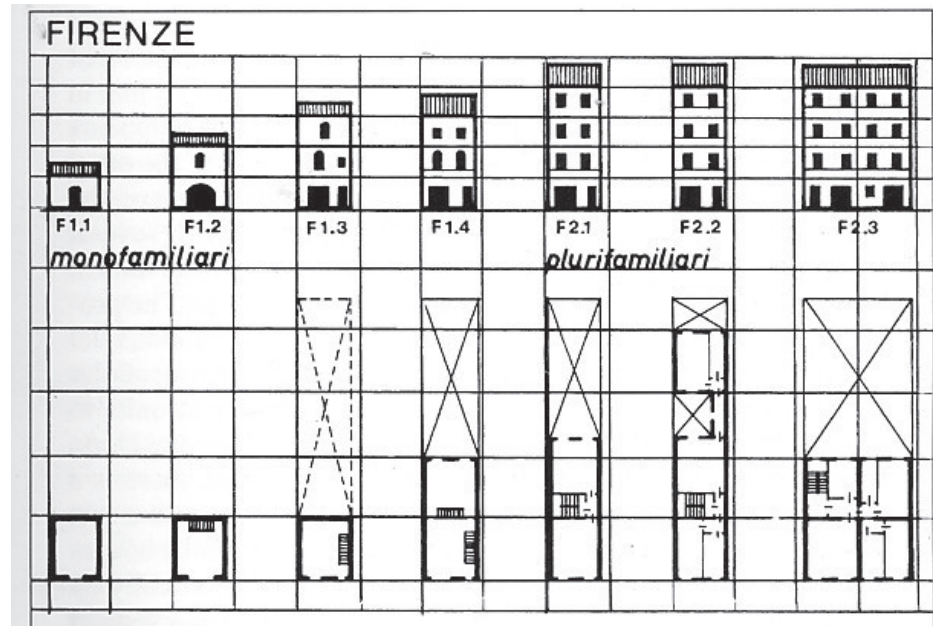


Figure 1 - Florence row houses, (Caniggia and Maffei, 1979, p. 87).

### Type-mixity

In contrast to the stated objective of this paper, most studies have so far been particularly interested in functionally determined types (Moudon, 1994). The classification to function therefore presupposes that all existing forms are created to serve a particular function, neglecting its dynamic capacity or ability to host more than one (Rossi, 1966). This last is particularly valid for the critically conscious works of architecture. Whereas the spontaneous are residential and derived from categorization, the latter are independent of their function and stand alone. According to Rossi, such monuments hold an ability to host multiple functions over time. Therefore, the form of the primary elements is independent of their functions. He even argues that we tend to appreciate urban artefacts that have altered their function over time (Rossi, 1966).

### Case study: Brussels Capital Region

The typomorphological method is, as earlier described, characterized by the hierarchy of analysis that is similar on two different scales: buildings and towns, architecture and urbanism (Caniggia and Maffei, 1979; Moudon, 1994). The hierarchal order therefore distinguishes between elements, structures of elements, systems of structures and organisms of systems to delineate the studied object in scale and enable the decomposition of the complex urban environment (Comert, 2013; Sima and Zhang, 2009). Concretely, if buildings were defined to be the elements, then building blocks can be regarded the structures, the area will be the system and a town can be considered the organism. This pyramid structure is equally valid for what bricks are to walls, walls to rooms and rooms to buildings. Caniggia's emphasis thus lies on the interplay between scales in the urban fabric, what Rossi (1966) denoted to be the architecture of the city. This synthetic methodology therefore enables to understand this relationship through the analysis and categorization of all elemental objects.

In order to grasp the typomorphological setup of these elemental objects in the Brussels Capital Region, raw sources of data are to be ordered and brought together. This has been established by the means of a registered company database (0) which is spatially interpreted through GIS-mapping (1), historical and actual aerial images (2), archival research (3) and on-site investigations (4) that respectively enable the following studies:

0. The categorization and listing of active productive activities (FOD Economie, 2016).
1. Geographical interpretation (mapping, clustering and hotspot analysis) of the earlier listed active industries (CIRB-CIBG, 2017a)
2. Diachronic reconstruction and qualitative interpretation of the studied environment (CIRB-CIBG, 2015).
3. The in-depth study of Brussels' industrial patrimony that has been listed in the visual inventory of industrial patrimony, published in 1981 by the Archives d' Architecture Moderne in Brussels (CIVA, 1981). The inventory holds graphic information, such as plans, elevations and pictures, as well as a listing of the building's most important features: date of construction, original function, architect, actual (in 1981) function, etc. Its major drawback, however, is the visual, in situ method that did not always allow to reach the inner yards of the building blocks. This space, as will be later revealed, appears to be the most frequently chosen location for industrial activities in residential areas. The building permits of industrial buildings that are not listed in this visual inventory are, however, found in other municipal archives.
4. On site investigations logically allow for the check-up of the temporal relevance of the previously elaborated data.

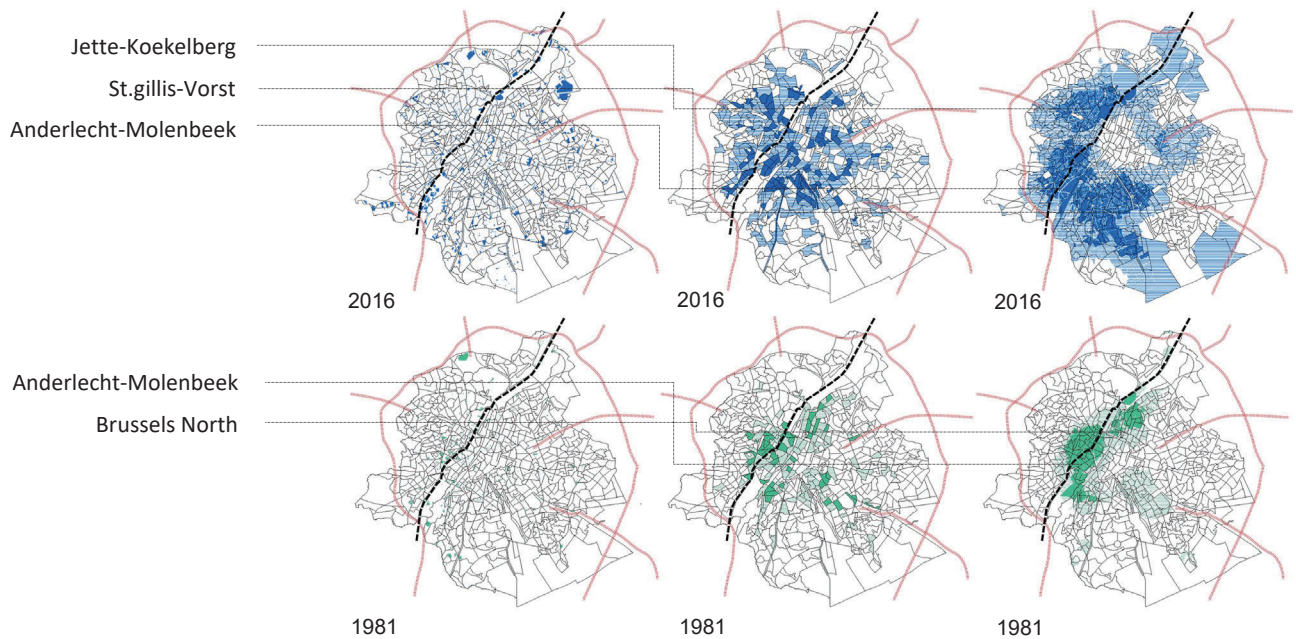
This paper will, following the typomorphological method, first define a productive cluster through the hotspot analysis of the entire region that will then be decomposed into aggregates of building (block) types.

### **Brussels Capital Region (BCR)**

In order to locate and grasp the actual productive activities in the BCR, a geo-referenced database has been set up for which the raw input data is obtained from the national register of subscribed enterprises in Belgium (FOD Economie, 2016). All records of the database include a NACE (Fr: Nomenclature statistique des Activités économiques dans la Communauté Européenne, En: statistical nomenclature of economic activities in the European Community) code that indicates the nature of the company's activity and can therefore be used to make a selection of the existing productive activities in the BCR.

Due to the availability of address information in the databank, a link with the cadastral data of the Brussels Capital Region was established and allowed for the study of the geographical distribution and extent of these industrial activities. By the use of GIS-software the distribution, density and hotspot analysis maps are generated and respectively shown in the upper row of Figure 2. The hotspot-clustering analysis is carried out by means of the *getis-ord* *gi* method and represents places with high concentrations of industrial activity. Theoretically it is calculated to be a cluster of delineated areas (blocks, municipalities, monitoring districts etc.) with a high concentration of features (here industrial activities) and which are surrounded by other delineated areas with high concentrations (Manepalli et al., 2011). The features that were put in, are the address points of the companies, calculated on the delineated area that is chosen to be the building blocks. In order to be clear, it should be mentioned that the address point has therefore been calculated as a singular entity, not considering economical or physical statistics of the studied companies. Small, medium and large enterprises in terms of employment or production, are thus equally calculated as one feature. This allows to maintain the entire range of building structures for industrial activities.

Analogue to these spatial statistics of productive activities anno 2016, the method is repeated to visualize the sprawl and distribution of the industrial patrimony that was listed in the earlier elaborated, visual inventory (CIVA, 1981). After being manually corrected, the inconsistent set of address points was geocoded using Google Maps API. Therefore, the inventory became comparable, as shown below, to the actual database of productive activities.



**Figure 2. Distribution map (left), density map (middle) and hotspot analysis of productive activities (as defined above) in the Brussels Capital Region.** Whereas the upper row is created by the use of the Databank of Registered Companies in Belgium (FOD Economie, 2016), the lower is generated for the visual inventory (CIVA, 1981). All maps are created by the author with the use of ArcGIS software. Figure 1 - Florence row houses, (Caniggia and Maffei, 1979, p. 87).

The above shown graphs unveil three major concentrations of actual productive clusters in the Brussels Capital Region, being Jette-Koekelberg in the north, Anderlecht-Molenbeek in the west and St. Gillis-Vorst in the south. The productive clusters that are based on the visual inventory from 1981, however, reveal a somewhat different pattern, with hotspots in Molenbeek and the Brussels North area. Whereas the first is still recognizable in today's analysis, the latter is now mainly replaced by office blocks. In general, some preliminary observations can be made.

1. The radius of centrality, defined as the distance from the hotspot to the city center has significantly elongated over the course of time.
2. The imprint, and therefore importance, of the Canal Brussels-Charleroi is clearly depicted by the location of industries in 1981's density map and hotspot analysis. The current-day situation has altered.
3. The mobility context of the current St.Gillis-Vorst hotspot seems to be problematic as it is located in the midst of the Ring Road's (R0) missing link.

Due to its smaller, compared to the two others, grain size of parcels and blocks, it here is chosen to focus on the Jette-Koekelberg cluster. The hypothesis is based on the idea that the chances to discover qualitative co-existence in space of industries, residential use and other, are higher in residential areas with significant concentrations of industrial activities. By doing so, we attempt to avoid the mono-functional (industrial) enclaves that are in parts of the Canal Zone.

### Jette-Koekelberg - Organism

The hotspot that is subject to research, as shown in Figure 3b, is delineated by the scale of the Monitoring District map (du. Wijkmonitor, fr. Monitoring des Quartiers) in order to increase the statistical comparability of the generated data as it is the most commonly used denominator (CIRB-CIBG, 2017b). In reality, the researched area is bordered by the following linear elements: railroad Jette-Brussels North on the north side of the area, the Canal Brussels-Charleroi on

the east side of the area, Avenue Leopold II (and tunnel) on the south and the Avenue de Laeken on the west. The productive activities (in red) appear to be of sprawling nature.



**Figure 3a.** Delineation of Jette Koekelberg cluster on monitoring district map. Image produced by author.

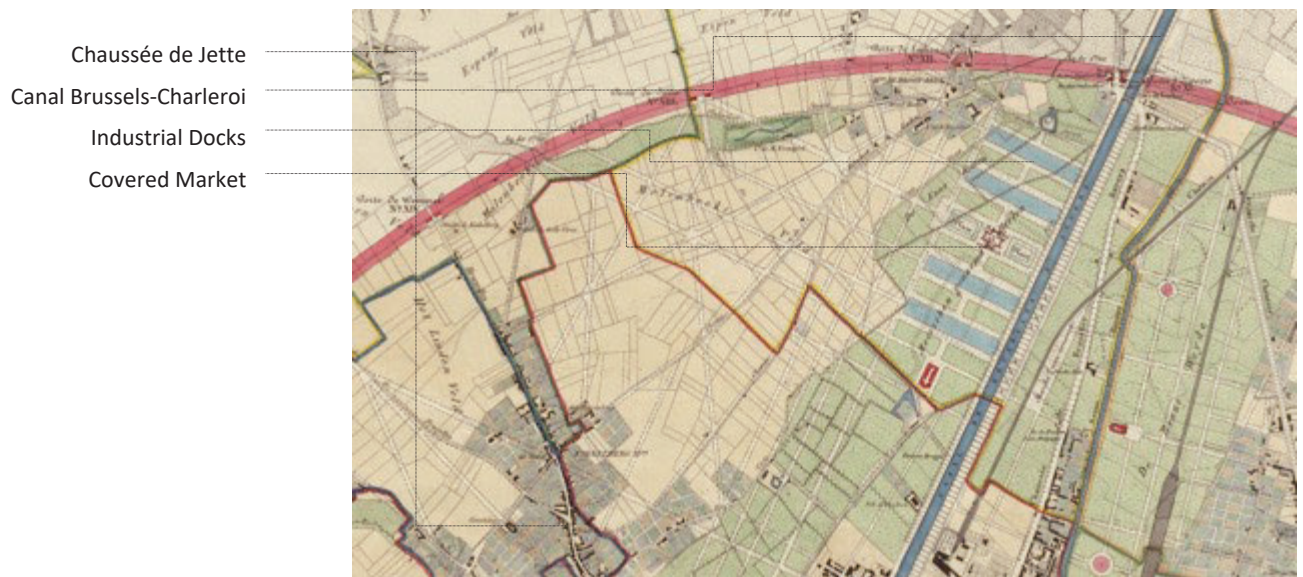
**Figure 3b.** Figure ground map of the area of interest, showing the productive activities in red, the canal in grey and greenery. Data retrieved from cadastral maps, edited by author (CIRB-CIBG, 2017a).

### Concise Historical Overview

The first expansion of Brussels city center out of its pentagonal shape, happened shortly after the establishment of the Belgian kingdom in 1831 and along its main axes of entry from the hinterland: Chaussée de Gand, Chaussée de Jette, Route de Ninove, etc. The villages that surrounded Brussels in a first belt took shape around these important (cross)roads and generally accommodated housing and agricultural activities. This rural character persisted for a long period as the first industrial activities were grafted on agriculture: breweries, leather workshops, etc. (Bauwelinckx et al., 2011). The Jette-Koekelberg area was rich of Small and Medium Enterprises (SMEs) that were located along these important historical axes. The Sunday market, for example, hosted their stands of local SMEs on a weekly basis (Bauwelinckx et al., 2011). The presence of their ateliers, workshops and farms is firstly depicted in the in 1836 established Dubois map.

Certain consecutive developments testify of a quick industrial development of the region on a larger scale. Exemplary is the construction of the canal Brussels-Charleroi in 1827-1832 and the first European railroad connecting Brussels with Mechelen in 1844. The first cartographic material from that period (Dubois, 1836) reveals the design proposals for the 'quarters of work' and 'industrial arsenal of Brussels' area at the west bank of the canal. Years later, in 1843, these structures seem to be significantly enlarged with docks and a

covered market at the location of the current Tour & Taxis complex, as notified in Vanderstraeten's map (1843).



**Figure 4.** Depiction of studied area anno 1843, revealing the importance of the Chaussée de Jette, of the canal Brussels-Charleroi and the proposed design of industrial docks with a covered market (Vanderstraeten, 1843).

Unlike what the upper left map (1873) in Figure 5 suggests, is the street grid already studied and projected on the landscape in 1843, however, only introduced partly by the end of the 19th century. What is already present in the urban fabric though, is the railroad connection between Brussels South and North station that happened to form a surrounding belt around the historic Brussels Pentagon. This historical border still exists today in the form of the earlier elaborated metro line 2 ("Map Belgium in 1873," 2015).

The 1904 map depicts the established connection between the historic center and the newly introduced Elisabeth Park in the west of the area, in the form of the Leopold II Lane. This wide avenue in Hausmannian grandeur forms the structuring backbone of the newly introduced street pattern. In 1900, this same Leopold II also inaugurated the port of Brussels (now: Vergotodok) and thereby caused a wave of construction of prestigious industrial buildings in this maritime area (Valente, 1999). Later, in 1939, we can see the first signs of the Tour & Taxis complex that was constructed by, and named after the family that started the Belgian Postal service: Von Thurn und Tassis (Tour & Taxis, 2014). They used the marshland next to the port as pastures for their postal horses and constructed a public warehouse, a goods station and buildings for the customs near the water (Valente, 1999). Apart from the continuous densification of the outlined street pattern in the area, no significant changes are notified in the consecutive maps. Statistics unveil that 74% of the area's built fabric stems from before 1961 (FOD Economie, 2001). However, after Tour & Taxis' heydays in the 1960's, its use as logistical hub diminished and gradually lost importance up until the point where it was put for sale in 2000. After a tumultuous planning decennium, the site is being redeveloped into a mixed-use neighborhood (BRAL, 2015).

It can be concluded that the Jette-Koekelberg cluster has taken advantage of its excellent positioning in terms of mobility (road, rail and water) of goods and workers. This has enabled the area to change from an agricultural character to accommodate a high variety of industrial activities (CIVA, 1981). Moreover, due to the strict outline of the parceling grid with a residential grain size, a high diversity of industrial activities can be found: from small ateliers with the size of a house to larger annexed building complexes (CIVA, 1981).





Figure 5. Historical growth patterns from 1873 until today (2017) of the Jette-Koekelberg region. (NGI, 2015)

## Urban Morphology

Based on the industrial and morphological outlook of the Jette-Koekelberg area, it can be divided into two major study zones: a monotonous residential part in close proximity of the Elisabeth Park and a more productive eastern area.

Moreover, the following morphological and spatial notifications can be summarized:

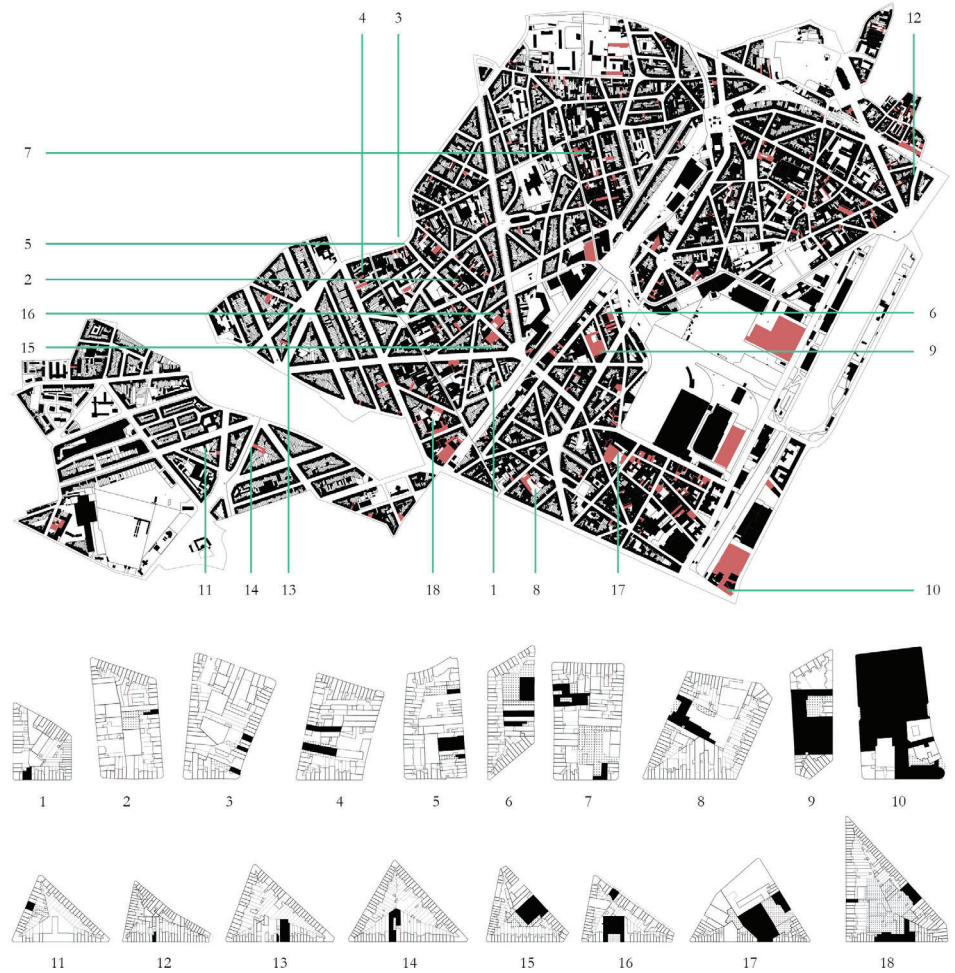
1. The location of Tour & Taxis (and intrinsically the canal) has attracted a diverse gamut of industries to settle in their proximity and the presence of this productive patrimony diminishes with the radial distance from this focal point.
2. The built area of the productive activities does not seem to be inversely proportional to their distance from the city center as could be expected in the context of real estate value.

As mentioned above, today's overall morphological outlook of the region has not been drastically altered since the 1930's due to its profound planological street pattern. Namely, the radical introduction of the street axes has caused that all building blocks, except for those facing barriers like metro lines or a railway station, appear to have regular shapes: triangular, rhomboid or rectangular. Consequently, it enables to unveil strongholds in the formation of mixed-use building blocks, through the morphological categorization of typical blocks.

## Productive Blocks – System

The shapes of the studied building blocks (defined as the smallest enclosed space by three or more streets) can be divided between rectangular and triangular structures. These recurrent urban patterns reveal underlying logics when displaying the industrial buildings in red:

1. In triangular, regularly shaped blocks, productive activities are mainly located in the midst of a street. As such building blocks are usually divided with plots that lay orthogonal to the street, the deepest parcels can logically be found in the middle and appear to be a favourable location for industries to settle.
2. On the basis of the figure ground maps, three categories of industrial sites can be divided in those that a. follow surrounding plot dimensions (1-4, 11-12), b. are constructed over multiple plots (5-7, 13-18) and c. reveal a continuous and chaotic annexation of land for the expansion of their activities (7-10).



**Figure 6. Morphological analysis of mixed-use (residential, industrial, other) building blocks in the Jette-Koekelberg hotspot.** Industrial buildings are depicted in black, their parcels in dots. Image produced by author.

## Chaussée de Jette – Structure

In order to further study these outcomes in regard to their context (spatial and temporal dimension), it is chosen to focus on the area around the Chaussée de Jette. Its historical importance in terms of mobility and industrial activity, as well as it being a spatial cross-section of the larger study region 'Jette-Koekelberg', argument for the proposed zoom. Despite the few domiciled productive companies in this region, the actual morphological outlook certifies a richer industrial history, taken over by other, more compatible functions.

### Historical analysis

Available historic maps (Dépôt de la Guerre, 1969; Institut Cartographique Militaire, 1891; Vander Maelen et al., 1858) and (CIRB-CIBG, 2015) geo-referenced aerial views that date from 1858, 1869, 1891, 1930, 1971 and 2015 enabled to reconstruct the chronology of all buildings in the studied area. However, it should be noted that renovations with small impacts on the surrounding urban form were neglected. The result is depicted in Figure 7 and can be summarized by the following notifications:

1. Most large-scale complexes stem from before 1930 and persisted despite the development pressure and zoning policies.
2. Buildings and building blocks that are constructed after 1971 are small-scale projects that either infill the vacant land or redevelop former industrial structures.

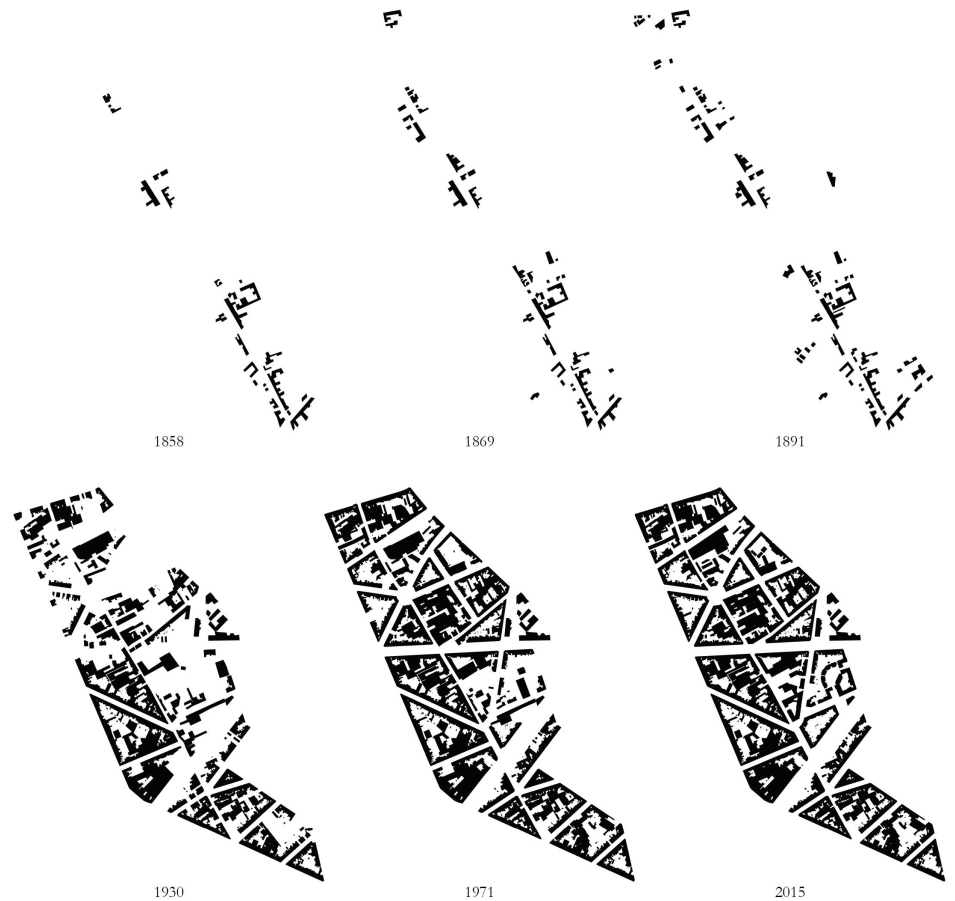


Figure 7. Date of origin of actual built environment. Produced by the author by the use of historical maps (CIRB-CIBG, 2015).

**Morphological analysis**

Figure 7 would suggest that the Chaussée de Jette had lost importance around 1900 due to the introduction of the Hausmannian street pattern that surrounds it. However, it was only after the construction of the Brussels Ring road (R0) in the 1960's and its connection to the city that the passing traffic was redirected via the Jetselaan and Leopold II Lane. However, as mentioned before, the morphological outlook of the area did not alter significantly.

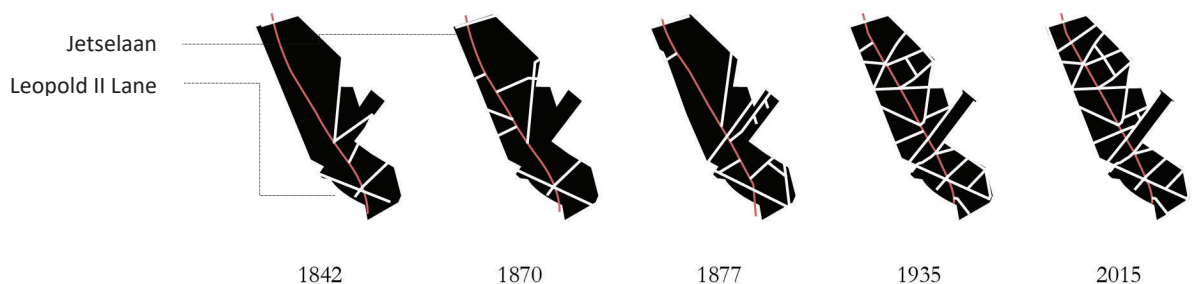


Figure 8. Historical overview of street pattern around the Chaussée de Jette. Schemes produced by author.

Whether or not in productive use today, the area is rich of industrial buildings that face the Chaussée de Jette. Table 1 highlights the average parcel surface at each street side of the building blocks (see Table 1)<sup>1</sup>. From the table can be

<sup>1</sup> The averages (Av.) are calculated as the sum of the plot areas (Total) that have access to a particular street, with the exception of the corner plots, and



be found in the triangular shaped blocks as their plot distribution is rather static.

2. The buildings in the second row are typified for their chronological annexation of land in order to accommodate their growing industrial activity. These structures are, in a first phase, annexing the neighboring plots or parts of it. It results in chaotic structures that are connected by cut-out passages. Seen the original, or basic, structure is a residential row house, this type again fits within its context in the street.
3. The earlier elaborated phenomenon of the 'residential crown' in rhomboid or rectangular building blocks around an industrial activity, is depicted in row 3. Whereas one front house from this belt solely enables accessibility to the pit, the significantly larger floor surface of the industry hosts all activities. This heart of a mixed-use building block, however, forms the edging wall for neighboring backyards, often covered by a small garden houses for micro-scale productivity.
4. In the fourth category, the large-scale industrial activities are listed. Among it is the well-known Godiva Chocolate factory in the Wapenstilstandstraat. Characteristic for these monumental structures is their incapacity to grow further. This 'final stage' is often represented by buildings of grandeur, replacing old and inefficient structures that were annexed.

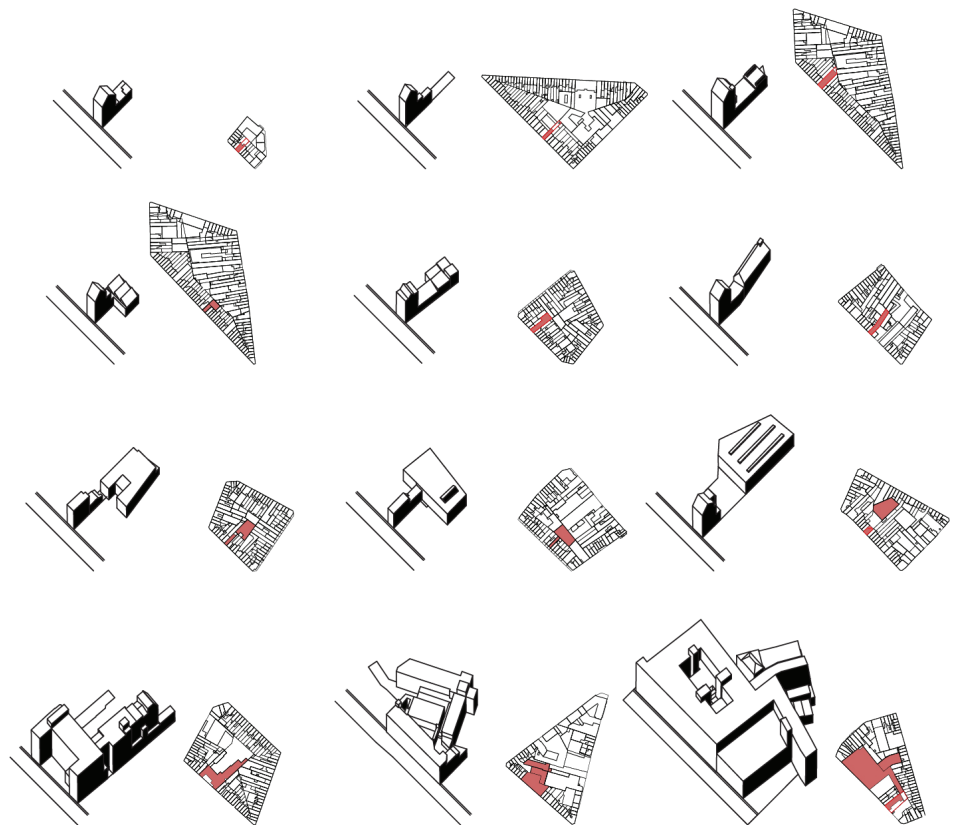


Figure 10. Typological overview of industrial buildings in delineated area around the historically important Chaussée de Jette. Façade images (Google Maps, 2016), drawings produced by author.

## Conclusion

The categorization of the industrial buildings to their plot dimensions has intrinsically caused to unveil insights on the basic type as the term was defined by Caniggia, earlier in this work. Row 2 and 3 for example, hold such elemental traces in the current forms, which are established through the continuous

annexation of land. The persistent nature of those elements in the time frame and urban fabric, plea for their spatial importance and compatibility. It can be concluded that, contrarily to row 4, the structures shown in rows 1-3 can be subscribed to the concept of spontaneous consciousness that results in more or less similar types which can be traced back to their root / basic type: here the (residential) row house. Opposed to that are the monumental industrial buildings that reveal the critical consciousness about their built environment that is lacking among the spontaneous. As Rossi argues, these monumental artefacts help constitute the mental map of a city and have often altered in use (Rossi, 1966). This latter is particularly true when comparing the industrial outlook of the Chaussée de Jette strip with the amount of actual industrial activity.

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