



El impacto de Breda y Batignolles en el espacio urbano: construcción ferroviaria y desarrollo industrial a finales del siglo XIX

The Impact of Breda and Batignolles on Urban Space: Railway Construction and Industrial Development in the Late 19th Century

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Resumen: La relación entre una fábrica y el espacio urbano que la rodea es un sistema complejo, producto de un equilibrio cambiante entre oportunidades y problemas. Estas estructuras imponen al vecindario contaminación, ruido y tráfico, pero al mismo tiempo son una fuente de beneficios. Esta contribución pretende comprender estas complejas relaciones a finales del siglo XIX observando los problemas espaciales y los cambios provocados por dos de estas industrias y su ciudad de acogida. Los dos estudios de caso serán la Société Jules Goüin et Cie. y la fábrica Breda, situadas respectivamente en París y Milán.

Palabras clave: París, Milán, industria ferroviaria, cambio urbano, urbanización, siglos XIX-XX.

Abstract: The relation between a factory and the urban space around it is a complex system, the product of a changing balance between opportunities and issues. Such structures impose on the neighbourhood pollution, noise, traffics but at the same time represent a source of profit. This contribution wishes to understand these complex relations in the late 19th century observing the spatial issues and changes brought forth by two such industries and their hosting city. The two case studies will be the Société Jules Goüin et Cie. and the Breda factory, located respectively in Paris and Milan.

**Keywords:** Paris, Milan, railway industry, urban changes, urbanisation, 19th-20th century.

### INTRODUCTION

Par au-dessus, passent les cabs, filent les roues, Roulent les trains, vole l'effort, Jusqu'aux gares, dressant, telles des proues Immobiles, de mille en mille, un fronton d'or. Les rails ramifiés rampent sous terre En des tunnels et des cratères Pour reparaître en réseaux clairs d'éclairs Dans le vacarme et la poussière. C'est la ville tentaculaire. (Verhaeren, 1920, p.3)

This article aims to explore the process so vividly described by Verhaeren, focusing on two key builders of industrial networks that, in different national and urban contexts, shaped their respective environments and contributed significantly to the emergence of 19th-century cities. The case studies of Milan and Paris provide an intriguing comparative lens through which to analyse the transformative role of the railway industry at the crossroads of industrialisation and urbanisation—two of the most defining phenomena of the second half of the 19th century. By examining the historical trajectories of the two cities and some of their principal industrial players, this article seeks to highlight how the railway industry not only catalysed but also redefined urban growth and development. In both cities, the railway sector was deeply entwined with urban expansion, yet the relationship between the industrial actors and their environments took on distinct characteristics, particularly in the way these entities interacted with the urban periphery and local administrations.

In the Italian case, the company *Società Italiana Ernesto Breda* (SIEB), and the previous societies collectively called *L'Elvetica*, born from a mechanical construction business in Milan, played a crucial role in the development of the city's industrial landscape, especially in the post-unification period. This case is marked by the influential leadership of Ernesto Breda, whose management extended beyond the boundary of railway production into the broader socio-political fabric of Milan, creating significant ripples across local governance and urban planning but also clashes and conflicts. In contrast, the French case centres around the *Société de Construction des Batignolles* (SCB) in Paris, which, while

originating in a similarly dynamic industrial environment, evolved differently. Founded by Ernest Goüin, a key figure in the early development of locomotive manufacturing, the company rapidly expanded its operations while simultaneously maintaining a strong sense of social responsibility towards its workers and their neighbourhoods. Goüin's approach to managing the intersection between industrial growth and local welfare left an indelible mark on the Parisian urban landscape. Over time, both companies became integral to their cities' industrial sectors, yet their relationship with the surrounding urban environments diverged in significant ways, reflecting broader trends in local politics, societal structures, and economic development.

Figure 1: Charles Vernier, «La bonne ville de Paris et ses nouveaux enfants»,



Le Charivari, actualités, 31 janvier 1860, p. 143. C.f.r. Nathalie Montel.

The following research will analyse these two case studies, using a chronological and spatial lens to trace the development of the two companies, their evolving relationships with the urban periphery, and the social and political dynamics that shaped their operations. The exploration will focus on the period between 1870s and 1910s, during which family-run businesses were pivotal in shaping the trajectory of the industrial revolution. This is particularly evident in the two case studies, where in one company, the French one, a true family dynasty can be identified at the helm (Brunel, 1996, pp.75-88). In the Italian case, though not as dominant, the company was for a long time virtually synonymous with the figure of its managing director (Castronovo, 1986, pp.7-32). A closer examination of the managers in both cases reveals that their influence extended beyond mere business administration, reflecting the broader societal forces at play during this period.

Through these two case studies, this article will not only trace the geographical and industrial transformations within Milan and Paris but also explore the nuanced ways in which industrialization was shaped by, and in turn shaped, the urban fabric of these cities.

The methodology employed to explore these subject draws from a variety of disciplines: urban history, environmental history, business history, and transport history. As a result, the approach will be inherently interdisciplinary, combining and synthesizing different sources such as contemporary press articles, urban studies, hygiene treatises, and minutes from various board meetings.

Although Milan and Paris differ significantly in terms of size and national significance, both cities shared a common role as innovators. As the Italian poet Giacomo Leopardi noted: "Milano è uno specimen di Parigi, ed entrando qui si respira un'aria della quale non si può avere idea senza esservi stato" (Leopardi, 1892, p.366). This view is echoed by one of the foremost 19th-century historians, Della Peruta (1987), who asserts that, from both an industrial and social perspective, Milan, around the mid-19th century, was closer to being a "small Paris" than an industrial city like Manchester. Milan boasted an important cultural diffusion and served as a center of cultural capital, characteristics that distinguished it from many other cities. Similarly, while Milan's role as a pole of immigration was more regional than Paris', it remained a significant force (Della Peruta, 1987, pp.14-16). My research aims to investigate both the similarities and differences between the two cities through a comparative lens.

The existing scholarship on this topic is limited. Despite the presence of several key studies on the two industries, most of the research adopts a business history perspective, where the spatial dimensions of production activities are often secondary to in-depth financial analyses.

### 1. Urban context for Railways constructors

Brunel (1995, p.13) argued that a company's activities are embedded within a social and economic context that partially shapes its policies and outcomes. I would add that the geographical context is equally significant, as a company, through its actions, can shape and influence the environment around itself

The early iterations of these companies were both established just outside the urban boundaries of their respective cities, taking advantage of lower land costs while remaining close enough to urban centres to access a sufficient labour pool. Both were located near engines of change—the first railway lines departing from the two cities. However, within just a few decades, these companies evolved into urban factories, embedded in increasingly dense areas where the surrounding environment, despite the addition of services, began to feel more constrained.

# 1. 1. Milan and the Corpi Santi

The first company under study, *Società Italiana Ernesto Breda*, originated from a mechanical construction business based in a building called *Elvetica*, located in the *Corpi Santi* area near Porta Nuova in Milan.

The *Corpi Santi* of Milan represents a particularly unique case in the history of urban planning due to its evolving boundaries. Historically, these areas surrounding the cities of Piedmont and Lombardy were considered peripheral, yet they were administratively part of Milan. Under Austrian rule, however, the *Corpi Santi* were separated from the city in 1781, forming a semi-rural municipality with its own finances and distinct taxation. This administrative change, which created a divide between the urban core and the surrounding areas, was highly criticized by the Milanese population. The separation benefited the Milanese patriciate, which included large landowners living in the *Corpi Santi*.

This administrative distinction was short-lived, as it was abolished during the Napoleonic Kingdom of Italy in 1806, with the *Corpi Santi* being re-incorporated into Milan. This reorganization meant that the

wealthy landowners would now share the burden of the city's growing expenses, which included large-scale urban planning projects inspired by French models, such as the *Foro Buonaparte*. This urban expansion was organized through the establishment of a *Corpo di ingegneri di acque e strade*, modeled on the French *Corps des Ponts et Chaussées*, to manage Milan's urban growth (Bigatti, 2000, pp.28-29).

Despite these reforms, in 1816 the Milanese nobility successfully lobbied for the restoration of the pre-Napoleonic separation, a move that was strongly protested by the Milanese administration. Nonetheless, the population density in the *Corpi Santi* grew steadily, surpassing that of the city center, which remained confined within the Spanish walls. In 1808, when the *Corpi Santi* were first re-incorporated into the municipality, the population there was roughly one-seventh of Milan's total population (13,572 out of 115,290). Over the following decades, the city's industrial expansion attracted significant immigration, particularly in the second half of the century. By 1836, the population of the *Corpi Santi* had grown to one-sixth of Milan's total population, and by the time of Italian unification, it represented one-quarter. When the *Corpi Santi* were definitively reannexed to Milan in 1873, they contributed a third of the city's population (62,976 out of 199.009).<sup>1</sup>

The geographical size of the *Corpi Santi* further highlights the speed of the urban growth. The area of the *Corpi Santi* was 66.35 km<sup>2</sup>—almost seven times the size of the city within the walls, which measured just under 10 km<sup>2</sup>. This illustrates the rising population density in the area.

Milan's demographic and urban expansion, like that of many other Italian cities, occurred in a manner distinct from France. While French cities underwent major transformations to their existing urban fabric, Italian cities, Milan included, expanded largely through the development of new areas by real estate groups. This approach was in line with Haussmann's advice for Rome—to build the city alongside the old one rather than on top of it (Gravagnuolo, 1994, pp.26-30). Bigatti, however, argues that Milan's center was indeed renovated, albeit through smaller, incremental changes that slowly reshaped the city. This process, which Bigatti refers to as *piccolo cabotaggio*, involved moving the population outward from the city center, creating a new urban area surrounding the original core (Bigatti, 2000, pp.172-173).

<sup>&</sup>lt;sup>1</sup> Statistical data from: Meriggi (1987); Regione Lombardia, comune dei Corpi Santi: 1798-1808; 1816-1859; 1859-1873.

In essence, both perspectives can be synthesized as follows: Milan's city center underwent slow renovations, while a new, vast urban area expanded around it. In these new areas, public infrastructure (such as roads) was created by the state, while private individuals carried out urbanization projects, capitalizing on the increased land values that resulted from these improvements.

In this context of urban expansion, a mechanical construction company called *Bouffier e Cie* was founded in 1846 by Joseph Adolf Bouffier at a site called *Elvetica*<sup>2</sup>, a former textile factory just outside Milan's city gates near Porta Nuova, bordered by the *Naviglio della Martesana* canal (Licini, 1994, p.80). Shortly after, another factory, the *Grondona* factory, which specialized in the production of railway materials (specifically wagons), was established nearby. The location was strategically chosen for its proximity to Milan's first railway station, built in 1840 on the Milan-Monza line. Just a decade later, the station was relocated to improve efficiency (D'Amia, 2004, p.84). Milan was at the heart of major railway developments, and by 1846, the *Porta Tosa* station, also on the Milan-Monza line, became part of the *Linea Ferdinandea*<sup>3</sup>, which connected the capitals of the Kingdom of Lombardy–Venetia.

These early stations, however, faced significant limitations, including the inability to manage increasing traffic (D'Amia, 2004, pp.90-92). To address these challenges, the construction of a new, larger station began in 1857, commissioned by the *Società delle Strade Ferrate Lombardo-Venete*. Milan's new Central Station was built between *Porta Venezia* and *Porta Nuova*, just 400 meters from the older station. It was located on an embankment that extended for a considerable distance on either side of the station.

However, the location of Central Station was not universally appreciated. The Milanese Council of Architects and Engineers criticized the project in 1883 for its lack of integration into the city's existing urban plan, arguing that it created difficulties in connecting the station to the broader urban network:

La condizione fatta a quella località da cotale importantissimo impianto di edifici e terrapieni non subordinato ad alcun preconcetto piano che razionalmente si collegasse col l'interno della città, riescì a questa

<sup>&</sup>lt;sup>2</sup> Eco della borsa, vol. 10 (September 5. 1847), p.2.

<sup>&</sup>lt;sup>3</sup> On the subject of the firsts Milanese railways: Bernardello, 1996; Ogliari 2012,

gravosissima anche per le difficoltà che da essa derivarono, e tuttora sussistono, a provvedere Milano di un conveniente piano regolatore generale (Brotti, 1885, p.122).

Despite these networking challenges, the area around the station attracted numerous industries, which thrived thanks to improved infrastructure and new connections (Brotti, 1885, pp.121-122). This trend was further accentuated by the *Piano Beruto*, which delineated two distinct production zones in Milan: one inside the city walls, which housed small and medium-sized enterprises, and one outside, where larger industries were established in a more dispersed manner. The plan, although criticized for being indifferent to ongoing industrial trends, provided a better connection between these zones and reduced Milan's geographical dependency on the railways. This led to the creation of the first industrial areas around Porta Vittoria and Porta Nuova (Bigatti, 2000, 194-197).

The growth of industrial clusters like *Elvetica*, *Grondona*, and *Pirelli* continued to shape the surrounding urban fabric, attracting more workers and leading to a steady increase in residential density in these areas. By 1895, these industrial zones still exerted a powerful pull on migration to the area, as seen in maps of the urban region at the time<sup>4</sup>.

# 1. 2. Batignolles-Clichy, a complex identity

In contrast to the *Corpi Santi* area, where it is difficult to identify a distinct local identity for the peripheral area around *Porta Nuova*, Batignolles presents an opposite challenge: the development of two conflicting identities over time. The area, now part of the 17th arrondissement of Paris, saw the emergence of two diverging identities during the 19th century.

At the beginning of the century, Batignolles was a small hamlet, part of the larger commune of Clichy. Its elevated location and proximity to Paris made it an attractive area, leading the neighbouring commune of Montmartre to attempt annexation in 1807. However, this request was denied due to the area's lack of historical significance and its relatively minor economic role at the time.

Over the years, Batignolles grew in both size and infrastructure. By the 1920s, it boasted a police office, a post office, a stationery store, and

<sup>&</sup>lt;sup>4</sup> Images 2, 3, 4.

two tobacconists. This expansion, which included the merging of the westernmost area (Monceau), the village of Ternes, and the eastern part (Batignolles), led to a push for autonomy from Clichy. In 1827, after a few years of administrative processes, the municipality of Batignolles-Monceau was officially established with a population of around 4,000. By 1831, this number had risen to 6,286 inhabitants (Cassini, EHESS, 2002, p.12).

As the decades progressed, industrialization began to take hold in Batignolles, spurring population growth. In 1847, the year the new town hall was built, the population had increased almost sixfold, reaching 25,000 (Babize, 1930, p.56). This development was tightly linked to the expansion of the French railway system. The first Parisian railway line, the *Paris-Saint-Germain-en-Laye*, passed through the commune, dividing it in two. Batignolles station, located just a kilometer away from the heart of the area, served as an important transit point, and the establishment of France's first railway depot, *Dépôt des Batignolles*, further spurred the area's growth. The arrival of engineers and specialists working on the railway brought an influx of skilled workers to the area.

Despite the increasing industrial presence, the Batignolles area continued to be associated with the holiday resort lifestyle, attracting an upper-middle-class population, especially around the Monceau area (Charle, 2021, p.160). This dual identity—industrial and bourgeois—coexisted uneasily until the mid-century.

In 1854, two new railway lines were introduced to the area, each with different purposes and operating in opposite directions. The first, the *Ceinture de Paris*, was initially conceived in 1836 by Jean Christophe Armand Husson, a manager in the Seine prefecture. After years of debate, construction began in 1852, with a temporary section between *Pont du Nord* and Batignolles station opening the following year. The line gradually extended until it reached Bercy. Built with cost-cutting measures, the *Ceinture* line was initially primarily used for freight traffic, linking the various head stations of the railway companies it connected. Special trains for military personnel, emigrants, or even the Emperor occasionally used this line on his way to the castle of Saint-Cloud,<sup>5</sup> but freight was its main purpose for many years.

In contrast, the *Ligne d'Auteuil* was built with the primary purpose of serving passenger traffic. In fact, several works were needed to adapt it to

<sup>&</sup>lt;sup>5</sup> Le Constitutionnel, vol.42, n.230 (August 18, 1857), p.1.

the movement of goods when it was connected to the wider *Ceinture* in 1866 (Carriere, 2017, pp.43-44).

It connected Paris to the affluent suburb of Auteuil and was intended as an extension of the *Ceinture* line (Menant, 2017, p.18), although its construction and management were distinct. The *Ligne d'Auteuil* was designed with significant infrastructure investments, including tunnels and trenches to avoid level crossings, a notable difference from the *Ceinture* (Carrière, 2017, pp.16-18). It was also managed by the *Compagnie de l'Ouest*, which unlike the *Ceinture*, involved multiple companies.

During the construction of these railways and their associated infrastructure, Batignolles experienced a population explosion. By 1860, the population had soared to 75,228 (Bazibe, 1930, p.90), following a steady increase from 28,760 inhabitants in 1851. In 1856, the population reached 44,094, nearly 80% higher than it had been five years earlier.<sup>6</sup>

The integration of Batignolles into Paris in 1860 occurred with less resistance than that of other communes. Despite the loss of part of its territory—specifically the area on the other side of the *Thiers* enclosure, which was ceded to Clichy—Batignolles-Monceau was one of the few communes to express support for integration into Paris when asked in the 1859 annexation law. This positive stance was reflected in an 1860 cartoon from *Le Charivari*, which depicted the annexation process. In this image, personifications of the four annexed communes (Batignolles, Bercy, Belleville, and La Villette) are shown as children, with Paris at the center caring for them. Interestingly, the personification of Batignolles is portrayed as a well-dressed, composed little girl, in contrast to the other more working-class communes, such as Belleville and La Villette. This image conveyed a sense of respectability and closeness to Paris, further emphasizing Batignolles' bourgeois identity compared to the industrial image of other areas (Montel, 2012, p.108).

Inspired by the English model he encountered during his exile in the United Kingdom, Louis Napoleon, who would later become Emperor Napoleon III, was a strong advocate for social housing projects. His first attempt, the *Cité Napoléon* of 1852, located on Rue Rochechouart (Carbonnier, ESH, 2008, pp. 30-32), was not particularly successful. However, in the following decade, he revisited the idea of workers' housing, albeit on a smaller scale. One notable project in Batignolles,

<sup>&</sup>lt;sup>6</sup> Data from: Institut national de la statistiqu et des études économique, Recentements de 1851 à 1921, Donné de la SGF.

constructed between 1856 and 1857, comprised 311 dwellings (Benevolo, 2008, pp.165-166).

The internal divisions of Batignolles-Monceaux, and later the 17th arrondissement, were further solidified after its annexation to Paris. As with other areas of the city, a strong east-west divide emerged. On the west side, areas such as Monceau and Ternes became synonymous with wealth and affluence, while the eastern side, separated by the railway line and the expansive locomotive depot, encompassed Batignolles and the Epinettes. Although these eastern neighbourhoods were not as purely working-class as, for instance, La Villette, they were certainly more mixed in terms of social and economic demographics. The housing patterns here were notably heterogeneous, reflecting the diversity of the area's inhabitants (Charles, 2021, pp.572-575).

#### 2. THE FACTORIES AND THEIR ACTIVITY IN THEIR ENVIRONMENT

This second part of the contribution aims to examine both the direct and indirect interactions between the two companies and their surrounding environments. It seeks to identify recurring phenomena or any consistent attitudes on the part of factory management toward their surroundings. To achieve this, the analysis will begin with the first half of the 19th century, the period during which both companies were established.

In the case of Paris, corporate continuity is clear, as the founder of the initial company, Ernest Goüin, is also the founder of the *Société de Construction des Batignolles*. After him, the company was led first by his son Jules and later by his grandson Gaston. The main transformation the company underwent was the change in its legal structure, from a limited partnership to a joint-stock company, but the core leadership remained within the Goüin family.

Conversely, in Milan, continuity is less apparent, as the company underwent seven name changes over a period of forty years. This research adopts the perspective expressed by Licini in her study of this period. She argues that there is a *fil rouge* connecting the various mechanical manufacturing companies that succeeded one another, beyond just the physical location in which they operated. A key element of continuity was a group of investors, including the Lagorios and Mylus, who were associated with the *Veille Banque* (Licini, 1997, pp.99-101). Additionally, despite the frequent changes in company name and structure, continuity was maintained within the workforce. Personnel from previous iterations

of the company, often highly skilled due to their expertise, were typically retained when the company transitioned to its next phase.

## 2. 1. The rapidly expanding Breda

Due to gaps in industrial documentation for the period between 1846 and 1883, analysing changes to both the building and the surrounding area during this time will be challenging. However, this research is not without resources. Period maps can serve as valuable tools for reconstructing these changes and tracking them chronologically.

The first signs of transformation can be observed in the initial two maps (Figures 2 and 3), which depict an increase in building density between 1865 and 1878. While the area shows some development, it is not yet densely built up.

A comparison with the subsequent map from 1883 (Figure 4) reveals a noticeable change in the road infrastructure. Several municipal documents help track this development. They indicate that the road where the building was located was opened by the municipality in 1877,

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Figure 1: Milano, 1878: detail Elvetica.

Collezione Giorgio Stagni - www.stagniweb.it

following the voluntary cession of land by the owners on both sides. At that time, these owners were Bamat e C. (the company occupying the Elvetica site between 1877 and 1879) and Filippo Pennati, the owner of the nearby *Giardino d'Italia* hotel and one of the prominent landowners in the former Corpi Santi area. The only stipulation for the land cession was the obligation to maintain the road and include the newly constructed blocks the *Elenco delle strade comunali* when necessary.<sup>7</sup>

Although the document dated 1878 comes after the land cession, it is evident that the extension of Via Bordoni had not yet been carried out—likely because it had not yet been constructed.

One noticeable difference between the first two maps is the layout of the Elvetica factory. While we currently lack a detailed description of the early plant, Licini, citing Colombo, notes that it was one of the major industrial sites in Italy at the 1861 Florence Exposition (Licini, 1997, p.85). The most significant change is represented by the increased density

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Figure 2: Milano, 1883: detail Elvetica.

Collezione Giorgio Stagni - www.stagniweb.it

<sup>&</sup>lt;sup>7</sup> Biblioteca Trivulziana e archivio civico storico (Milano) Fondo Strade, C. 50, 1v.

within the Elvetica plant. Notably, there are several new, larger buildings, including those along the Via Bordoni boundary.

For a later period, we have a more detailed description of the factory's state in 1883. This description, found in *Milano Tecnica*—a publication by the *Collegio degli Architetti ed Ingegneri*, published in 1885—is accompanied by a plan of the factory. The description portrays a very positive image of the company, which remained one of Italy's leading firms in the railway construction industry (Borghi, Guzzi, Ponzio, 1885, p.433).

By integrating these two descriptions with the detailed maps of Milan and its rapidly expanding neighbourhoods, we can observe how the urbanization process accelerated between 1878 and 1883. In just five



Figure 3: Milano, 1894: detail Elvetica.

Collezione Giorgio Stagni - www.stagniweb.it

years, there was a marked increase in construction along the southern section of Via Bordoni, alongside a significant expansion of the road network.

As previously mentioned, an industrial area was emerging in the Porta Nuova district, with the founding of two new factories: Grondona and Pirelli. Grondona specialized in the production of railway carriages and wagons, experiencing fluctuating growth until it was absorbed by the competing Miani e Silvestri in 1890. Pirelli, a manufacturer of plastics, saw remarkable growth. Initially employing just 20 workers at its founding in 1871, by 1891 the company had expanded into a *piccola città industriale*, employing 1,350 workers (Della Peruta, 1986, pp.70-82).

During this period of industrial growth, another significant development occurred with the founding of the *Società Ernesto Breda e C.*, established in 1886 after acquiring Cerimedo's 35,670 m² plant, which was facing a crisis due to a downturn in the economy and a resulting drop in orders. This led Cerimedo to reduce its workforce to just 400 workers. The company's investors included the historic Mylus and Lagorio families, the *Società Costruzioni Venete* (a company chaired by Ernesto's cousin, Senator Vincenzo Stefano Breda), and engineer Cerimedo, the previous plant manager.<sup>8</sup>

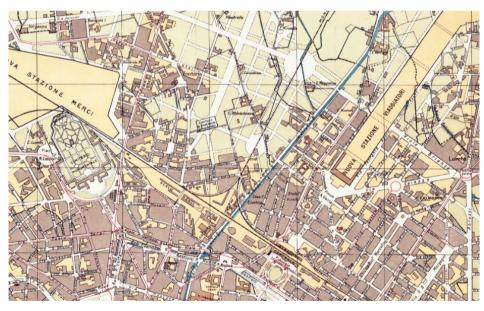


Figure 4: Milano, 1910: detail Elvetica.

Collezione Giorgio Stagni - www.stagniweb.it

<sup>&</sup>lt;sup>8</sup> L'Italia finanziaria, vol. 4, n. 1049 (December 2, 1886), p.2.

Between 1883 and 1895 (Figures 4, 5), further important changes can be observed. While the overall area remained unchanged, the transition from Cerimedo e C. to Breda e C. saw a profound reorganization of the space. A comparison of the 1883 plant with the cadastral documentation from 1889 shows these changes clearly (Borghi, Guzzi, Ponzio, 1885, pp.456-457).

From the outset, Breda embarked on an extensive project to reorganize the plant, incorporating lessons learned in America some years before (Lugonelli, 1986, pp.57-58). It is evident that the redesign of the plant involved progressively reducing open spaces, introducing new office buildings (1888), and adding roofs (1887) to optimize the site's layout. <sup>9</sup>

While there is no comprehensive record of all the changes made, a valuable collection of documents from 1891 provides insight into the modifications carried out by the new company on the building it acquired in 1886. These plans, compiled two years earlier, reveal an impressive number of changes. Among them, several demolitions are noted, including the removal of the roofing over the railway sidings. The construction of new buildings is also evident, with the company's land becoming increasingly dense. Additionally, new floors were added to existing structures. Along with these plans, there is a summary of previous requests, accompanied by a request for a general amnesty in case of bureaucratic errors.

The development of the factory was not a continuous, linear process; instead, it alternated between rapid growth and periods of stagnation. In fact, during the early 1890s, a slowdown is observed, which can be traced through the description of the plant provided by Ernesto Breda in 1895, as part of the company's submission to the *Concorso a premi al merito industriali* on August 4, 1895. <sup>10</sup> From this point onward, however, growth and integration with the surrounding area intensified. In the three years following this report, new buildings were constructed, including warehouses (1897), two new buildings for offices and workshops—one small and annexed to the previous building, and another, larger, and three stories high (1898). Additionally, a laboratory space was remodelled in 1899.

<sup>&</sup>lt;sup>9</sup> Biblioteca Trivulziana e archivio civico storico (Milano) Fondo Strade, Registro catastale B, pp. 96-97.

<sup>&</sup>lt;sup>10</sup> Istituto per la storia dell'età contemporanea (Milano), Fondo Breda, SERIE S.I.E.B., FO 6, Fasc. 13, 1v.

By this time, the company's existing space had become increasingly cramped. Within a few years, the company purchased three additional parcels of land on the west side of Via Bordoni, completing the transaction on April 20, 1899. <sup>11</sup> This acquisition allowed the creation of a larger, unified plant, which required closing off part of the street to connect the two land portions. Toward the end of 1899, the company proposed to the municipality the purchase of 1,450 square meters of road, specifically the section between Via Adda and Via Cardano, in line with the portion of Via Bordoni it already owned on both sides. The company offered to cover all costs, including any reimbursement to the municipality for the expense and any related litigation.

Initially, the proposal was well-received by the city council, and the matter progressed. However, once the plan was made public, local residents strongly opposed the expansion. They cited various concerns, from legal issues to complaints about the increased dust and noise that a larger factory would bring. This opposition also highlighted a shift in the ownership of land along Via Bordoni. In the 1899 list of landowners, there were 14 names, including three members of the Pennati family (heirs of Filippo) and Ernesto Breda, whereas only two landowners had been recorded twenty years earlier. <sup>12</sup>

An interesting aspect of this situation is how the city government, despite the opposition, largely supported the company's expansion. Mayor Mussi personally advocated for the change to the road system, referencing his official report in support of the proposal:

Non l'interesse di una società privata, ma bensì più alte ragioni reclamano l'attuazione del progetto; quali il decoro della industria cittadina e il conseguente benessere della classe operaia. [...]

se un pronostico è lecito, e s'impone, questo dovrebbe farsi nel senso di ritenere come lo sviluppo di una forte industria e di un grande stabilimento possa anzi riuscire di non poco vantaggio ai proprietari dei fabbricati che gli sono più vicini; così direttamente, per maggiore richiesta di affitti, come indirettamente per l'incremento che una aumentata colonia operaia ne verrà agli esercizi vicini.<sup>13</sup>

<sup>&</sup>lt;sup>11</sup> Biblioteca Trivulziana e archivio civico storico (Milano) Fondo Strade, C. 50, 2v.

<sup>&</sup>lt;sup>12</sup> Biblioteca Trivulziana e archivio civico storico (Milano), Fondo Strade, C.50, 4v.

<sup>&</sup>lt;sup>13</sup> Biblioteca Trivulziana e archivio civico storico (Milano), Fondo Strade, C 50, 12v.

The mayor's support for the expansion plan, however, did not prevent opposition from the city council. The proposal had to be debated in an extraordinary session on July 13, 1901, specifically called to discuss Breda's request. Several municipal councillors, particularly Vigoni and Siebanech, criticized the plan, arguing that by approving it, the municipality would be neglecting its responsibilities to the public in favor of private interests. Divided on the matter, the council ultimately rejected the proposal, forcing the company to seek alternative locations for expansion.

This was not the first conflict involving Breda. In 1891, the company faced a large strike triggered by a series of redundancies, which started at Breda and quickly spread to nearby factories. During the strike, Ernesto Breda refused to engage with the workers, and like many other industrialists of the time, he did not cooperate with public authorities, who called for meetings to mediate between the parties. The strike ended after 18 days, having lost momentum (Azzarelli, 2016, p.432).

In 1900-1901, Breda also collaborated with Pirelli in financing the creation of a railway subway along Via Galilei. <sup>14</sup> This subway would directly connect to the Central Station and, in the coming years, be accompanied by a new tramway line that would serve the new neighbourhood. The tramway would pass near the Elvetica factory along Via Ponte Seveso, a street created by covering the Seveso canal. This was part of a broader, ongoing reorganization of Milan's waterways to accommodate industrial and private needs (Serneri, 2005, pp.148-150).

During these years, the changes were not limited to the volume of business or the geography of the area. The Breda company also transitioned from being a limited partnership to a joint-stock company, founding *Società Italiana Ernesto Breda per Costruzioni Meccaniche* on January 1, 1900.

The issue of acquiring new premises remained unresolved, and the company first looked to expand in the immediate vicinity before turning to Sesto San Giovanni, a few kilometres away. There, it purchased large plots of land and created a major industrial hub, drawing workers from Milan and establishing a workforce of around 3,000(Della Peruta, 1987, p.79). This expansion was part of a broader initiative to develop an industrial zone to the north of Milan. Breda himself was involved in the

<sup>&</sup>lt;sup>14</sup> Biblioteca Trivulziana e archivio civico storico (Milano) Fondo Strade, C 51, P.G. 27203.

Società Anonima Quartiere Industriale Nord Milano, which also included Giovan Battista Pirelli and the *Banca Commerciale* among its founders, marking a new phase of collaboration with Pirelli in reshaping the city's industrial spaces (Petrillo, 1986, p.142).

Despite the new plant in Sesto San Giovanni, the company did not abandon its original site. Investments in Via Bordoni continued, with new warehouses (1908) and garages (1911) being built across various plots. <sup>15</sup> The most significant development at the original site came in 1912, when a major new workshop building with five bays was constructed.

The number of workers employed at Breda fluctuated significantly depending on the volume of orders. While the core workforce remained comprised of specialized technicians, a more general workforce faced ongoing precarious working conditions, often in line with the company's fluctuating demand.

With the onset of the war years, Breda scaled back its construction activities, at least within Milan. However, after the First World War, local investments resumed. In 1918, the company built an office on the west side of Via Bordoni, and in 1927, a new refectory for its employees.<sup>16</sup>

## 2. 2. The Société de construction constructing its envirorment

The founder of the Société de Construction des Batignolles (SCB) was Ernest Goüin (1815–1885), heir to a banking dynasty from Touraine (Lemoine, Plont, 2014, pp.26-27). He completed his technical training at the prestigious Paris Polytechnic and further honed his expertise in locomotive manufacturing during several visits to England, particularly Manchester. Before founding his company, Goüin worked as an agent for the *Compagnie du chemin de fer de Paris à Orleans*, overseeing the production of locomotives in the UK, and later for the *Compagnie du chemin de fer de Paris à Saint-Germain* between 1839 and 1845, where he worked in the Batignolles workshop (Park-Barjot, 2005, p.63).

<sup>&</sup>lt;sup>15</sup> Biblioteca Trivulziana e archivio civico storico (Milano) Fondo Strade, Registro catastale B, p. 97.

Biblioteca Trivulziana e archivio civico storico (Milano) Fondo Strade, Registro catastale, B, P.97.

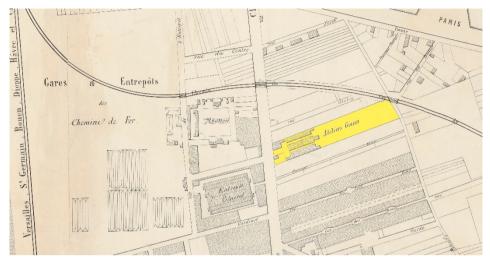


Figure 5: Batignolles' map, 1854.

BNF Gallica

In 1846, Goüin established his own company, purchasing a 13,676-square-meter plot of land where he built a factory equipped with forges, boilers, assembly plants, warehouses, offices, and even a house (Park-Barjot, 2005, p.85). The *Société Ernest Goüin et Cie* was founded on February 18, 1846, as a limited partnership (*société en commandite simple*), with several prominent financiers among its general partners, including Rothschild, Talabot, Delesser, Fould, and Hottinguer (Burnel, 1995, p.38).

In the map (Figure 6) it is possible to observe the early plant, still without a rail junction and mostly uncovered.

In its early years, the company received large orders and quickly became known for producing high-end locomotives. This success led to job security and significant investments, fueling rapid growth. Within just ten years, the number of employees at the Avenue de Clichy plant soared from about 150 to 1,000 by 1856 (Société de Construction des Batignolles, 1952, p.29). This expansion created a high demand for housing, and in 1847, the Cité des Fleurs was established nearby by Jean-Edmé Lhenry and Adolphe Bacqueville de La Vasserie. This small community of houses and cottages, complete with gardens and small circular squares, was

closely connected to Goüin's factory, with many of its workers and engineers residing there (Troilleux, 1995, p.43).

As domestic demand for locomotives declined, the company successfully pivoted to new ventures, such as the construction of iron bridges. One notable project was the Pont d'Asnières, built between 1852 and 1853, a monumental bridge for the time, stretching 160 meters (Park-Barjot, 2005, p.102). In connection with this project, Goüin initiated his first temporary railway connection to transport materials more efficiently to the construction site. <sup>17</sup> The connection, approved by the Ministry of Public Works, was made permanent in 1854 when the Ceinture Railway opened, integrating the Goüin factory into its network. <sup>18</sup> Notably, it was Goüin, not the *Syndicat de Ceinture*, who successfully lobbied for this connection, setting a precedent for future industrial plants to pay an annual fee for access to the railway network (Carrière, 2017, pp.20-21).

Over the following decades, the factory expanded further, eventually occupying the entire block bounded by Avenue de Clichy, rue Boulay, rue de la Jonquière, and *Passage D'hier* (now rue Emile Level) (Brunel, 1995, p.84). However, unlike Breda's approach, the Goüin company, and later Société de Construction des Batignolles after it became a joint-stock company in 1870, engaged with its surrounding neighbourhood in a more socially responsible manner.

Ernest Goüin and his wife Anne-Mathilde Rodrigues-Henriques, daughter of a prominent Bordeaux banking family, were deeply influenced by the ideas of the Saint-Simonian movement, particularly its emphasis on paternalistic social welfare (Lemoine, Plont, 2014, pp.55-57). As a result, they were active in charitable initiatives, using their wealth to build institutions like a girls' school and an orphanage in Batignolles. These efforts, along with other welfare practices, fostered a strong bond between the workers and the company, with the factory never experiencing a strike (Brunel, 1995, pp. 76-78).

When Ernest Goüin passed away, his son Jules inherited a company very different from the one founded in 1846. By this time, the Société de Construction des Batignolles had grown into a major multi-sector jointstock company with several subsidiaries and a strong international

<sup>&</sup>lt;sup>17</sup> Archives de Paris, 15 Eb 12 – 1, 1v.

<sup>&</sup>lt;sup>18</sup> Archives Nationales du Monde du travail (Roubaix), 75 AQ 106, 2v.

presence in infrastructure projects. Jules Goüin, an engineer in the Corps des Ponts et Chaussées, had been involved in the management for several years, allowing for a smooth transition. Under his leadership, the company's international activities expanded, though he remained dedicated to the local neighbourhood and factory. As the company described him:

Il est ingénieur de Travaux Publics beaucoup plus que constructeur de machines. Certes, il maintiendra à l'atelier de l'avenue de Clichy sa réputation, certes, il en améliorera l'équipement, en accroitra la production et l'appellera à des fabrications nouvelles, mais il gardera toujours au fond de lui-même la passion d'ouvrir de grands chantiers dans des pays nouveaux, même les plus lointains (Société de construction des Batignolles, 1952, p. 57).

Despite the international trend, the project soon encountered local issues related to the original Avenue de Clichy plant. In 1888, following changes requested by the Parisian administration to the route of the Petite Ceinture—specifically the removal of several level crossings in the 17th and 18th arrondissements—tensions arose between the two companies. The railway company informed the Syndicat with only two weeks' notice about the closure of its junction for 10 to 12 months and demanded payment for reinforcement work needed to eliminate another level crossing further along. <sup>19</sup> This led to a tense exchange of letters, especially since several material deliveries were already scheduled for the weeks following the planned closure.

After a few days, a compromise was reached: SCB would pay nearly 30% of the estimated amount, and the closure would be postponed until March 25. This was a financial burden for the company, as it had to reroute its shipments through wagons from the nearest station. The works, however, were delayed further, pushing the opening back by an additional six months. As a result, Goüin refused to make the payment, while the Syndicat de Ceinture insisted the junction remain closed until the fee was settled. The dispute was finally resolved when SCB relented. <sup>20</sup>

<sup>&</sup>lt;sup>19</sup> Archives Nationales du Monde du travail (Roubaix), 75 AQ 106, 4v.

<sup>&</sup>lt;sup>20</sup> Archives Nationales du Monde du travail (Roubaix), 75 AQ 106, 4v.

Jules Goüin continued his father's legacy by building more social housing for factory workers, with projects in Batignolles (1893), Clichy (1903), and the 17th arrondissement (1907) (Brunel, 1995, pp.82-83). One of the most significant housing projects was the large workers' housing

Unable de 5000
200 300 400 500

Figure 6: The Gouin plant, 1885, Seine.

Direction des travaux

unit at 75 Rue Pouchet, designed by architect Cintrat (Maillard, 2006, pp.2-3). In collaboration with the Société Philanthropique, he also founded a hospital in Clichy, which was completed between 1893 and 1897. The deed of donation prioritized access to the hospital for the workers of Batignolles (Trouche, 1997, p. 30-32).

During World War I, a new locomotive production plant was established in Nantes, where the Goüin company had previously attempted to set up a shipbuilding division. This new facility, created in cooperation with the Compagnie des forges de Châtillon-Commentry, was dedicated to producing locomotives, allowing the Paris plant to focus on war-related production.

After the war, under the management of Gaston Goüin, the Nantes plant resumed locomotive production, marking the construction of the company's 2,000th locomotive. However, Gaston's untimely death in 1926, followed by the death of his brother Edouard just a year later,

brought an abrupt end to these plans. In 1927, management passed out of the Goüin family for the first time.

Interest in the Avenue de Clichy plant waned following Gaston's death, and insufficient investment in modernization led to the plant's gradual decommissioning between 1926 and 1928. The facility, now consisting of a 24,000-square-meter complex and an additional 1,335 square meters across rue de la Jonquière (comprising a canteen and a warehouse) (Brunel, 1995, pp. 83-87), was sold to the city of Paris for 15 million francs, with plans to convert it into a park (Babize, 1930, p.146). Other nearby properties, including four parcels of land totalling 5,114 square meters, were sold to the Office public des Habitations à bon marché de la Ville de Paris for 70 francs per square meter. The last active part of the factory, the Goüin railway junction, was officially decommissioned in 1930, as recorded in the Syndicat de Ceinture's documentation. <sup>21</sup>

### **CONCLUSIONS**

The sources analysed reveal distinct approaches in the relationship between the environment and the railway construction companies, with notable differences in their interactions with local communities and the evolution of their operations.

In the Milanese case, the relationship between the company and its neighbourhood was often confrontational. This is evident in the suppression of strikes and the strained relationship with residents. For instance, the strike of 1891 and the complaints from the surrounding neighbourhood highlight the tensions that arose as the company expanded. The company's response to these issues was not always conciliatory, and the strain between the company and its environment is evident in these episodes.

In contrast, the Société de Construction des Batignolles (SCB) in Paris exhibited a more cooperative approach with both its workers and the local community. Through initiatives such as the *Cité des Fleurs*, a residential development for workers, and various social welfare programs, SCB fostered a closer relationship with its employees and local residents. This more harmonious interaction is reflected in the company's ability to avoid significant conflict, both with workers and the local population.

<sup>&</sup>lt;sup>21</sup> Archives Nationales du Monde du travail (Roubaix), 75 AQ 106, 7v.

The contrasting paths taken by the two companies after their initial growth further illustrate the different approaches to their relationships with their respective environments. In Paris, when the Batignolles plant became increasingly constrained in the early post-war period, the company decided to gradually close it. The main machinery and workforce were relocated to the new railway construction plant in Nantes, operated by the *Compagnie Générale de Construction de Locomotives Batignolles-Châtillon*. The closure of the Batignolles plant marked the end of its industrial activity in the area, with the factory's vast space sold to the city of Paris. Additionally, the housing built for workers was sold to the *Office public des Habitations à bon marché* (Public Housing Office) for 7 francs per square meter.

On the other hand, Breda's plant in Milan, despite facing similar space constraints, remained deeply rooted in its territory. When it outgrew its original location on Via Bordoni, Breda sought new land nearby, first "nelle immediate vicinanze di Milano" <sup>22</sup> and later in Sesto San Giovanni and Niguarda—just six kilometres away. Breda's ongoing investment in these areas reflected its commitment to the territory, and the company's expansion included the construction of workers' housing, such as *Villa Torretta*. Breda's connection to its surrounding environment remained strong, and the company continued to invest in the local infrastructure, including the creation of new services like a refectory for employees in Milan.

Both companies, as they faced spatial limitations, expanded into new urban areas, acquiring land that would serve their operational needs. However, the key difference lies in how each company managed these expansions. Breda remained closely connected to the local community, reinforcing its presence, while SCB, after relocating its operations, gradually severed its ties to its original location.

Another notable difference lies in the companies' relationships with local administration. S.I.E.B. (the company in Milan) developed a direct relationship with the Milanese municipality, evident in both conflict and cooperation. For example, Breda's proposal for a road modification in 1899 was initially accepted by the city council, though it faced significant local opposition. Additionally, Breda was actively involved in improving

<sup>&</sup>lt;sup>22</sup> Istituto per la storia dell'età contemporanea (Milano), Fondo Breda, SERIE S.I.E.B., Reg.1/a, 6v.

the local road network, such as funding the creation of a railway subway along Via Galilei.

In contrast, the SCB exhibited strong political influence and frequently used its connections to navigate local issues. Ernest and Jules Goüin, particularly, used their political capital to address challenges. Ernest Goüin, in addition to his leadership of SCB, held several important municipal and departmental offices, including positions on the *Conseil général de la Seine*, *Conseil municipal de Paris*, and as a municipal councillor for Batignolles-Monceau (1855-1860). His political involvement likely facilitated direct collaboration with local authorities. Although Jules Goüin did not hold similar municipal offices, his influential role as president of the SCB and regent of the *Banque de France* allowed him to wield significant political power.

It is therefore likely that further investigations will reveal a higher degree of direct collaboration between the SCB and local administration during Ernest Goüin's leadership, especially in the early years of the company. The political involvement of the Goüin family suggests that they were able to leverage their political influence to achieve favourable outcomes for the company, particularly in terms of infrastructure and land acquisition.

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