

URBAN MORPHOLOGY AND TYPOLOGY AS GUIDING ELEMENTS OF THE ARCHITECTURE PROJECT

EXTENDED ABSTRACT

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This Report intends to describe, justify and analyse the work that was developed in the discipline of *Laboratorio di Progettazione Architettonica* throughout the year that I studied at *Politecnico di Milano*. The project consisted on developing several interventions for a specific area of the historical center of Milan: *area di Porta Ticinese*.

Justifying the design options as part of a process were the decisions which resulted from historic and urbanistic factors. The formalisation of the project is linked to urban morphology and typology. This report seeks to explore and deepen how the study of urban evolution can become the generator of the architectural design in Milan's context.

Context

The geographical and topographical conditions that define this region are the first reasons for the occupation of the territory. A strategic location in the middle of the Padan plain and a smooth slope towards Southwest would prove to be a strong influence on the settling of the first urban networks of Milan

Between the X and the XIII centuries, Milan extended its boundaries to the *Cerchia dei Navigli* in a radial growth. After suffering the consequences of war with Frederick I Barbarossa and the serious loss of built heritage, the city's boundaries were resettled by building a surrounding wall through the *Cerchia dei Navigli*.

Later, in the XIV century, another defensive structure rose, just 700 meters outside the *Cerchia dei Navigli*. This new fortification, the *Redefosso*, is the result of the constant expansion of the city, defining its natural limits and creating a defensive military infrastructure. However, it is only in the XVI century, during the Spanish domination of the city, that this walled enclosure is completed by order of the governor of Milan Ferrante Gonzaga. Also, by this time, the hydraulic system of Milan would reach its maximum development.

In the XVIII century, the abolition of many convents and confraternities will once again in Milan's history cause a serious loss of the city's image and heritage.

Milan's architectural tradition was deeply rooted in classicism. In the Neo-Classical period, late XVIII century, there was a rationalist perspective widespread with the works by architects Pollack, Soave and Piermarini's work. There was also a Palladian side introduced by Cantoni in this period. These two parallel leanings were grouped and used by Cagnola.

The introduction of railroads, which started in 1840, allowed and intensified a new trading dynamic in the city.

With World War II, Milan suffered once more from a severe destruction due to the bombardments after the German occupation in 1943. With large areas of the city disfigured, Milan and its citizens will again go through a reconstruction process and catharsis. An economic growth would follow.

These disasters have been conducting the renewal processes as a reconnection to the origins, a search for the security of a steady past. This will be mirrored in the new construction and the theoretical reflections of the architects of the city, further reinforcing the traditionalist perspective. Aldo Rossi was the greatest representative of post-war architecture in Milan. This generation of architects would focus a special attention on the theme of city and architecture as a speech form.

At these post-war times and due to the economic growth, the city became a dense but chaotic polycentric structure. These urban challenges ultimately guide the construction, reconstruction and transformation of the city, solidifying a profound sense of autonomy in Milan.

Context of the *area di Porta Ticinese*

During the Roman occupation period, after the construction of the city's first surrounding walls, a gateway to the Southwest was created, the then *Porta Ticinensis*. From this gate, a road stretched across the plains towards the river Ticino and the city of Pavia, which was called Ticinum in the classical antiquity. The gate was located 200 meters to the north of the current site of the *Basilica di San Lorenzo*.

This area, the *Cittadella*, takes on a role of "*Città nella Città*", the city within the city, possessing a certain degree of individuality and an identity that makes it stand out from the larger Milan.

Although the boundaries of the *Cittadella* were not clear, it grew in accordance with the city's development and canal routes, eventually including the *Anfiteatro Romano* and the *Basilica di San Lorenzo*.

In the second half of the XVI century the Spanish bastions were built. These walls set the limits of the *Cittadella* to the South and caused the redesign of the canals. Their convergence to this location, near the *Porta Ticinese* of the Spanish walls, will ultimately generate the construction of the Darsena, a harbour. This waterway is in immediate proximity to a large plaza, which was devoted to the existence of a market and can be currently identified as the *Piazza XXIV Maggio*.

Morphological Analysis

A morphological analysis of the area was undertaken with a disaffection of memories, meanings and history that are identified with the site, in order to allow for a look at the city without predetermined judgments. The urban organization denotes in its structure several formal characteristics resulting from the hydraulic configuration that marked the city landscape for centuries

Urban development was intrinsically linked to the definition of the different surrounding walls in the different eras. The term "Morphological Periods" is therefore used to define the different areas of the city in the first observation scale, taking the city's history into account.

The definition of the *Cittadella* and its limits are perfectly visible through an elliptical area, about 800 meters long, and whose interior has a lower construction density comparatively to the surroundings. We can see a more organic structure in the northern part in contrast with the south part.

In an intermediate scale of observation the area is analysed according to the definition of blocks and streets. The Morphological Units were defined through its characteristics of shape and size.

The standard gothic house type is characterized by a very long rectangular perimeter, requiring the opening of small courtyards to ensure the space's health condition. This narrow configuration is expressed in urban front facades, from five to seven meters high. The great depth of each house's land presents distances ranging from seven to nine times the front's width.

Currently, the urban market in *Piazza XXIV Maggio* is located west to the monument of Luigi Cagnola. Its building form is rectangular, with one floor and little significant architectural value. This market is recurrently a theme of discussion regarding the reorganization of the *Piazza XXIV Maggio*. The City Hall has already launched some competitions in order to replace it with a new work that would have a better rapport with its surroundings.

The area of *Porta Ticinese* presents challenges but also some problems. It is still marked by a considerable number of urban voids, what shows a loss of compositional coherence, consistency and continuity of the building and blocks' design form. It is also important to come up with a resolution that incorporates the archaeological remains of the Roman amphitheater, and the valorization of the Spanish bastions' ruins.

It is also important to improve the existing canals, the Darsena being the main focus. Its waters are stagnant due to several modifications and coverings that the canals suffered over the centuries.

During the lessons, it was always emphasized the importance of each place over the general idea of the site. Therefore, incisive interventions with concerns at the scale of the neighborhood or street were preferred. The intervention strategies on historical fabrics with a plurality of memories and meanings cannot be homogeneous. Each specific location should be a receptor of a specific strategy, taking into account the morphology of the building and its history.

Thus, an intervention focused on specific points was favoured. These locations were chosen according to their position, historical significance and their influence on daily life.

These key points are: the empty gothic plots in front of the *Basilica di San Lorenzo*, the ruins of the roman amphitheatre and surroundings, the plot to the North of the Monastery *Sant'Eustorgio* in *Corso di Porta Ticinese* and finally the *Piazza XXIV Maggio*, the Darsena and its surrounding areas.

The first project is a collective housing building, developed in two phases, which directly faces the Basilica di San Lorenzo and is surrounded by a mesh of forms and ideas of the past. There are two distinct phases of construction due to the fact that this area comprises two separate lots. One of them has a building. In the first phase this building is maintained. In the second phase it is removed, allowing for the new design to stretch further to the south. The design was conceived in order to establish an urban continuity, following up the surroundings' morphology and typology, possessing a wide variety of modest apartments and an inner courtyard.

The second project comprises several different actions whose main purpose is to reaffirm the Piazza XXIV Maggio's importance as an active urban center, with commercial and cultural activities claiming their rightful place within the city. The square becomes a pedestrian friendly place. The current market is demolished and replaced by a new one, which follows along the northern shore of the Darsena in a longitudinal expansion. The market conglomerates two distinct levels: the *Piazza* level and the Darsena's platform level, providing merchant booths to both sides. A new cultural building rises between the *Piazza* and the market space and the Darsena is redesigned so that its stream is able to flow freely towards the Ticinello.

Conclusions

The city, with all its layers and atmospheres, is an entity whose weight overshadows that of any building within itself. The tangling of all its elements reflect the identity of a nation, of a community with a past, a present and a future. It is that fascinating aspect that justifies the study of a design methodology based on a culture that heavily respects the past and the continuous evolution.

This approach allows for the development of an intuitive knowledge about the site, an identification which molds the design process to the demands of tradition and historical weight. All that facilitates the natural development of a design which is intimately related with the environment.

When supported by an analysis to the site's history, morphology and typologies, the decision process stems from these same factors, making it rather easy to determine the structural components.

