Master's Thesis
Double Degree Program

Metamorphosis Between Limits:
Possible solution for urban revitalization of
the Xi'an Railway Station area

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July 2021

极限之间的变革:
西安火车站地区城市振兴的可能解决方案

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（申请清华大学建筑学硕士专业学位论文）

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二○二一六月

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Miriana Leo 廖丽

Metamorphosis Between Limits:
Possible solution for urban revitalization
of the Xi'an Railway Station area

Thesis Submitted to
Tsinghua University
Politecnico di Torino
in partial fulfillment of the requirement
for the professional degree of
Master of Architecture

by
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July, 2021

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摘 要

西安被誉为中国历史上最重要的城市之一，被誉为中华文明的摇篮，因为它是十三王朝的首都。这个有着3100多年历史的城市，也代表着丝绸之路的最东端，并已成为东部几个历史悠久的首都城市规划的典范。像西安这样历史悠久的城市，是随着时间的流逝而分层积累的痕迹的结果，整个痕迹承载着记忆的多种意义，这些记忆的意义在碎片，痕迹和空隙中都可以感知，需要诠释和新的意义。随着时间的流逝，完全没有城市项目，使得带有各种形态和地形标志的油松的常规做法成为了西安市的一块没有空间的碎片，而古代和历史性则由于缺少这些碎片而受到困扰。怀旧和记忆。这出现在旧的西安车站所在的城市区域，鉴于该车站的未来扩展将容纳新的地铁站，该城市的一部分被夷为平地。今天的航站楼是一个物理和视觉障碍，也是一个拥挤的地方。它是皇家城市和大明宫国家遗产公园之间的一堵墙，这两个文化中心都与之相关。该项目建议是重新设计这种城市结构，设想其功能将被废弃，从而使围墙中的城市与西安紫禁城的遗迹之间建立联系。论文的工作旨在通过重新定义界限（既作为障碍又作为连接点），通过创建一个新的城市交织的过程，对完全失去其身份的城市作品进行重新配置。因此，变态的想法是一种城市转型，尤其是将诸如屏障之类的元素转化为允许连接的物体，因此屏障放弃了其本质，成为固定但可渗透的元素。论文的结果是一种解释方法，旨在振兴失去其身份的城市元素，寻找一种将创新和记忆结合在一起的新配置，作为城市拥堵之外但仍在城市内部的一种场所。成为联系的空间。论文基本上分为三个部分。第一部分在历史上对西安市及其主要城市组成部分进行了调查，以研究的地点为重点。第二个寻找可以指导项目诞生的矩阵。在最后几章中，论文看到了所得到的矩阵在正在研究的城市环境中的应用，其中墙壁，确定场地组成部分将不再是障碍，而是可以通过的界限，从而为装配体提供了新的可读性，因此也赋予了新的可写性。现代城市。这个矩阵使我们能够在已经配置且密集的系统中以新形式继续书写和重新定义城市景观。

关键词：极限，城市更新，振兴，建筑干预，联系

ABSTRACT

Known as one of the most important cities in Chinese history, Xi'an is defined as the cradle of Chinese civilization, as it was the capital of thirteen dynasties. A city with more than 3,100 years of history, it also represents the easternmost end of the Silk Road and has been a model of urban planning for several historical eastern capitals. A city rich in history like Xi'an is the result of a stratified accumulation of traces left over time, a whole that carries multiple meanings of memories, perceptible in the fragments, in the traces and in the voids that require interpretations and new meanings.

Over time, the total absence of an urban project has allowed the common practice of the tabula rasa with every morphological and topographical sign, leaving in the city of Xi'an pieces with a dimension without space, where antiquity and historicity suffer from the absence of nostalgia and memory. This emerges in the urban piece that houses the old Xi'an station, where a part of the city has been razed to the ground in view of the future extension of the station that will house a new subway stop. The terminal today is a physical and visual barrier and a place of congestion. It stands as a wall between the imperial city and the Daming Palace National Heritage Park, both cultural centers of relevance. The project proposal is to redesign this urban fabric, imagining the fall into disuse of the station with its function, allowing a connection between the city in the walls and the remains of the imperial residential palace of Xi'an. The thesis work aims to give a reconfiguration to an urban piece completely deprived of its identity with a process of creating a new urban intertwining through the rewriting of limits, intended both as barriers and as connectors.

Hence the idea of metamorphosis as an urban transformation, and in particular the transformation of an element such as a barrier into an object that allows connection, therefore the barrier renounces its essence becoming a fixed but permeable element. The result of the thesis is a method of interpretation that aims at the revitalization of urban elements that have lost their identity, looking for a new configuration that holds together innovation and memory, as a sort of place outside of urban congestion, but still inside urbanity that becomes a space of connection.

The thesis is essentially divided into three parts: the first historically investigates the city of Xi'an and its main urban components to focus on the site under study; the second looks for the matrices that can guide the project in its birth and in the final chapters, the thesis sees the application of the resulting matrix in the urban piece under study where the walls, identified as main components of the site, will no longer be barriers but passable limits, giving new readability, and therefore new writability, to the assembly of the modern city. This matrix allows us to continue writing and re-signifying the urban landscape with new forms within already configured and dense systems.

Key Words: limits, urban regeneration, revitalization, architecture intervention, connection

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INTRODUCTION

Contemporary Chinese cities seem to have lost that sense of urban spaces and private places that was typical of the centuries of the Tang, Ming and Qing dynasties. The morphological characters derived from history and recognizable in an architectural tradition in the early 14th century seem to be dissolved, passing from the character of a city redesigned during the short Republic of China, then transformed again into the characters of a city subjected to modernization processes during the "The Great Leap Forward" to the metamorphosis now completed in the complex and "smart" metropolis of Asia today (Trisciuoglio, 2020). These transitions of the city are the subject of the study of the research unit "Transitional Morphologies", which also includes this thesis entitled Metamorphosis between Limits, dealing with the critical description of the transformations of the urban form of the city of Xi'an, with the identification of the main economic, social and cultural causes that have produced substantial changes to the urban layout.

On this basis of urban analysis, the hypothesis arises on which the entire thesis work becomes concrete: in the near future in the city of Xi'an the case of the transfer of a very relevant element at the level of urban design, such as the railway line, therefore the old station will become obsolete in that urban block of pure congestion close to the city walls. When all the railway traffic will be absorbed both by the north station already operational and by the south station in the planning phase, it will be up to the urban morphology to redesign that piece of city now dominated by the old station, making it completely new, while recalling the history for density and spaces generated. The architecture in Metamorphosis between Limits has the task of connecting two different urban fabrics with adequate functions, entering an empty field, but with distinct margins. In terms of urban design, the design intervention will extend beyond the original boundary of the old station to fit into the wider context that is between the walls of the Daming Palace and the city walls and remodel the district as a whole. The aim of this research is to explore how the area that today houses the huge transport infrastructure of the Xi'an railway station transforms from a barrier to a permeable urban piece, becoming a place with its own identity to stay, thus losing its connotation of non-place. The project aims to revitalize, imagining a connection between the two cultural poles of the Tang heritage, and at the same time to redefine an urban fabric with a new morphology, by injecting new forms of urban life in the heart of Xi'an. The project proposal will be able to act as a catalyst to connect the existing urban fabric and to physically and socially reconnect the community. Given the characteristics of the project area, it becomes essential to think about concepts such as limit, connection, barrier, regeneration and metamorphosis.

CHAP_1

Historical, Social and Cultural Background

1.1 The Moving Capitals

The city of Xi'an, the capital of Shaanxi province and the oldest of the four historical capitals of China, is located in the Guanzhong plain. This region, centered on the Wei River, is the cradle of ancient Chinese culture, as it becomes the setting for the birth of the first capital cities under the control of thirteen different dynasties. What makes the Guanzhong region a place of rich urban growth is its strategic location in the fertile plain, well protected and bordered between the Qinling Mountains to the south and the Huanglong Mountain, Meridian Ridge and Long Mountain ranges in the north. The name Guanzhong in fact means "inside the passes", referring to the four main mountain pass fortresses that historically defended the region: Xiao to the north, Hangu to the east, Wu to the south and Dasan to the west (Pezzetti, 2020). The first traces of the city are in the area from the 11th century BC with the Zhou dynasty that established its capital in Feng (灃 / 沣) and Hao (鎬 / 镐), both located west of contemporary Xi'an (Fig. 1.1). Here the ancient Zhou dynasty established the ideal urban planning of the capital, but following political unrest it was moved to Luoyang in 770 BC to then return to the northern bank of the Wei River with the Qin dynasty which moved its capital to Xianyang in 350 BC (Portal, 2007). The year 202 BC sees the birth of the city of Chang'an, which becomes the capital with the Han dynasty. The name Chang'an, capital of ancient China for over ten dynasties in history, means "perpetual peace" in classical Chinese (常 安). The first walls of Chang'an were completed in 190 BC, which measured about twenty-five kilometers in length, twelve meters thick at the base on average and the urban area inside the wall was about thirty-six square kilometers. Subsequently, the emperor of the Sui dynasty in 582 AD decided to found a new capital south-east of the capital Han, called Daxing (大興, great excitement). It consisted of three sections: the palace, the imperial city and the civil section. The total area inside the wall was eighty-four square kilometers, the main street Zhuque Avenue was about one hundred and fifty meters wide. The city was renamed Chang'an (長安, Perpetual Peace or Eternal Peace) by the Tang dynasty. As the much longer-lived capital of the latter dynasty (618–907), Chang'an was enlarged and divided into three parts: the City of the Palace; the Imperial City, for officers; and the Outer City, for artisans and merchants. Chang'an was soon made one of the most beautiful and extravagant cities in the world (Britannica, 2015) and became a cosmopolitan cultural magnet, attracting people from different cultures across the Eurasian world (Pezzetti, 2020). The end of the Tang dynasty brought the destruction of the city of Chang'an: residents were forced to leave the city and move to Luoyang, the new capital; leaving only a small area occupied as the market center and intermediary of Central Asian trade. With the Ming dynasty in 1370 we see a highly fortified wall erected on a wall of the pre-existing palace of the Tang dynasty (618–907) to protect a much smaller city than the great Chang'an. The wall measured approximately fourteen kilometers in length, twelve meters high and fifteen to eighteen meters thick at the base, enclosing an area of approximately fourteen square kilometers. Today these are the walls of Xi'an and represent one of the oldest, largest and best preserved Chinese walls. The popular name Xi'an ("Western Peace"), adopted in 1369 after the establishment of the Ming dynasty (1368–1644), was later changed to Xijing in 1930 but was restored in 1943. From the

1920s the city was the main port of entry for the communist ideology that reaches China from the Soviet Union. In December 1936 the city was the scene of the Xi'an Incident, which marked the beginning of the Chinese nationalist and communist united resistance against the Japanese (Britannica, 2015).
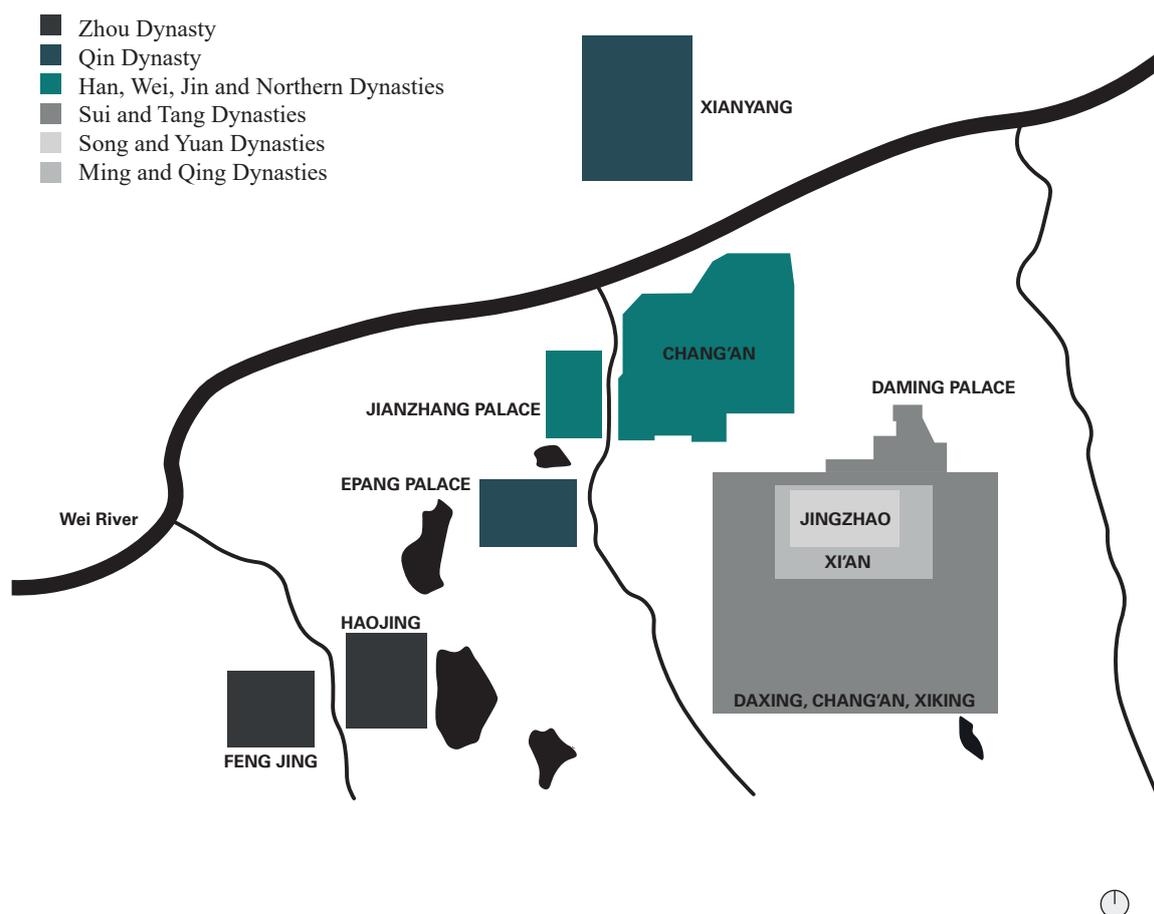
Figure 1.1 Map showing the history of city walls of Xi'an from Zhou dynasty to Qing dynasty. Source: Miriana Leo

1.2 The ideal model of the capital

Spatial planning included in the city or connected with it has a long tradition in East Asia. In China, the first urban traces already exist with the Xia dynasty more than four thousand years ago and during its long history of development, the Chinese city has seen transformations due to various factors, most often by the will of the sovereign, under the guide of court planners (Fayolle et al., 2016).

Professor L. A. Pezzetti defines Xi'an as "a paratactic collection of scattered cities" (2020). This "collection" sees its end with the emperor Sui Wendi who decides to rebuild the new capital near the plain of the first Chang'an, now abandoned, according to classical models and symbolic codes that have been handed down for years. The beginnings of a classical textual tradition concerning urban planning are to be found during the Warring States and the Han dynasty, although such texts exerted little influence on design until the late imperial period. The state of perfection was represented by the Wangcheng plan (Fig 1.2): an abstract but prescriptive image depicting the ideal planning of the capital in the Zhou dynasty, drawn by Song Chongyi in Kaogong ji (考工记) and later included in the Zhou Li (周禮), one of the three classic rituals canonized during the Han (Steinhardt, 1990). The Kaogong ji, translated variously as the Record of Trades, Records of Examination of Craftsman, Book of Diverse Crafts or Artificers' Record, compiled between the 5th and 3rd centuries BC, contains a description of the craftsmen's techniques, including two sections on construction of the city, about science and technology in ancient China. Specifically, ancient techniques are described for locating a city, including methods for accurately orienting the site in the cardinal directions and determining the flatness of the land. A description inside reads:

> The carpenters construct the capital city, which is a square of nine li on each side. On each side there are three gates. Within the city there are nine north-south and nine east-west roads; the north-south roads are as wide as nine carriages side by side (Steinhardt, 1986).

Zhou Li also provides a description for the location of the city's most important buildings. An indispensable element in the Chinese urban narrative is the central axis, which controls both the physical structure of the city, organizing the symmetry of the entire urban morphology, and the symbolism of the cosmic and social hierarchical order that governed all aspects of Chinese daily life. In fact, as reported by L.A. Pezzetti, "the axial symbolism was reflected on all scales, from the territory, to the city up to the only house in the courtyard"(2020). Even the physical element of the wall becomes a concept full of importance, since it is understood as a sort of container that guarantees social order, from the external urban defensive wall, up to the walls of the single courtyard house.

From the Han times, the builders of previous capitals ignored these principles due to their difficult implementation (Fig 1.3), but Daxing Cheng-Chang'an, with its almost square shape (Fig. 1.4), was the closest to the ideal capital model. Once built, Tang Chang'an, in fact, "exemplified the ancient cosmological tradition par excellence in Chinese urban planning, becoming the model capital for future Asian capitals" (Xiong, 2000). The project was strategically located in accord with geomancy, protected by deserts to the north and west, mountains to the south and the Dongguan fortified pass to the east, on a
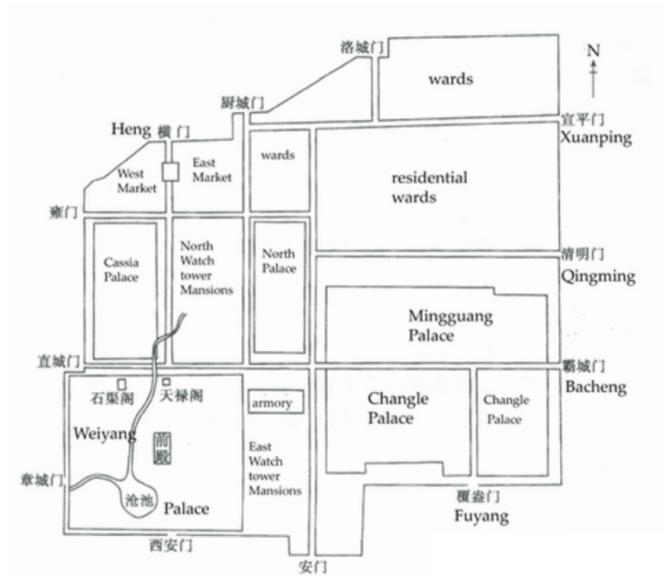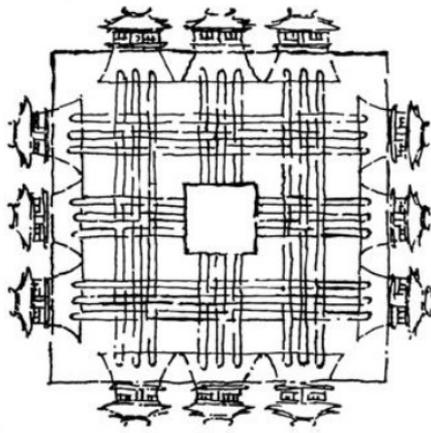
Figure 1.2 Wangcheng plan, redrawn after Sanli Tu. Source: Kaogong Ji.


Figure 1.3 Ground plan of Western Han Chang'an. Source: Wang, 1981.

Figure 1.4 Tang Chang'an plan. Source: Kiang, 2014

gently sloping terrain towards the Wei River and partially traversed by a series of minor land spurs (Fig.1.5). The construction of the city of Daxing started from the Palace City and subsequently the perimeter walls of the city were built in beaten earth with a length of about thirty-seven kilometers. When the Tang dynasty came to power, it decided to continue using the city of Daxing as its imperial capital, renaming it Chang'an, the city of eternal peace. It was large enough to satisfy the growing urban population and the needs of the expanding Tang Empire, in fact, the city remained within the boundaries marked by the city walls built during the Sui period, with the exception of a later addition of the 634 of a sumptuous complex called Daminggong (Fayolle et al., 2016). Such was the immense scale of the city that, despite efforts to develop new neighborhoods in the south, these remained largely vacant with vast fields and gardens. The city was distributed according to a grid that laid out clear functional areas within the walls. The symmetrical urban plan showed the sharp division of over one hundred neighborhoods of various sizes through fourteen latitudinal (east-west) and eleven longitudinal (north-south) streets, six of which were main ones leading to the city gates. In the north center there was a large fortified complex consisting of the palace and the imperial city which accounted for one ninth of the total area of Chang'an. However, despite the grandeur of the capital, the city was destroyed: Chang'an increasingly became a set of semi-autonomous fortified cities or urban villages separated by wide avenues within a fortified enclosure, commercial activities were limited to two large oriental markets and fortress-like Westerners and trade was only allowed at certain times of the day. Thus Chang'an of the Tang dynasty, while starting its decline, became an unprecedented typomorphological model of a city with a walled fence, following the principle of the axis in its internal development.
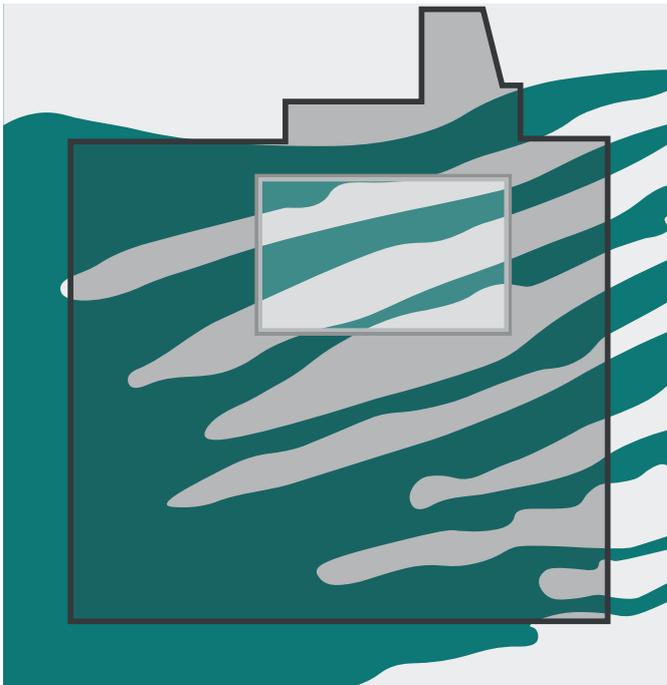

Figure 1.5 Historic landscape pattern of fengshui topography in the existing walled city area (Tang Chang'an and Ming Xi'an). Source: Miriana Leo.
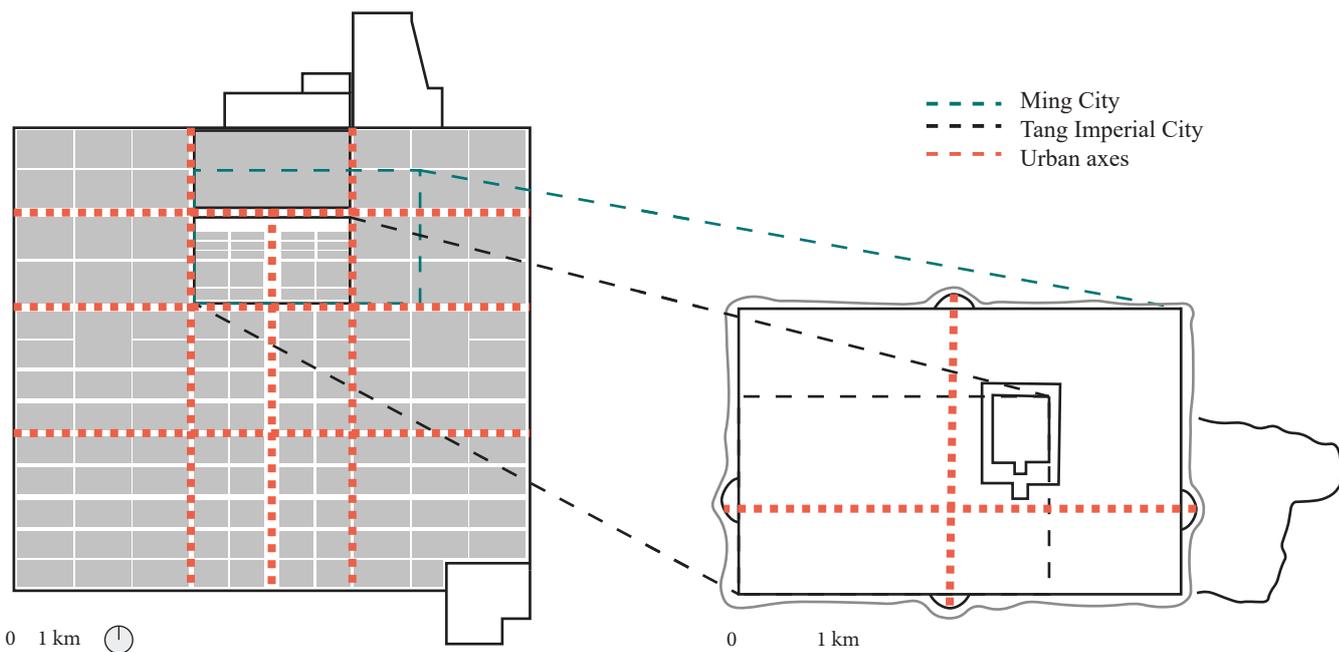
Figure 1.6 Superposition of Xi'an City in Ming dynasty (1611) and Chang'an Capital City in Tang dynasty (618). Source: Miriana Leo
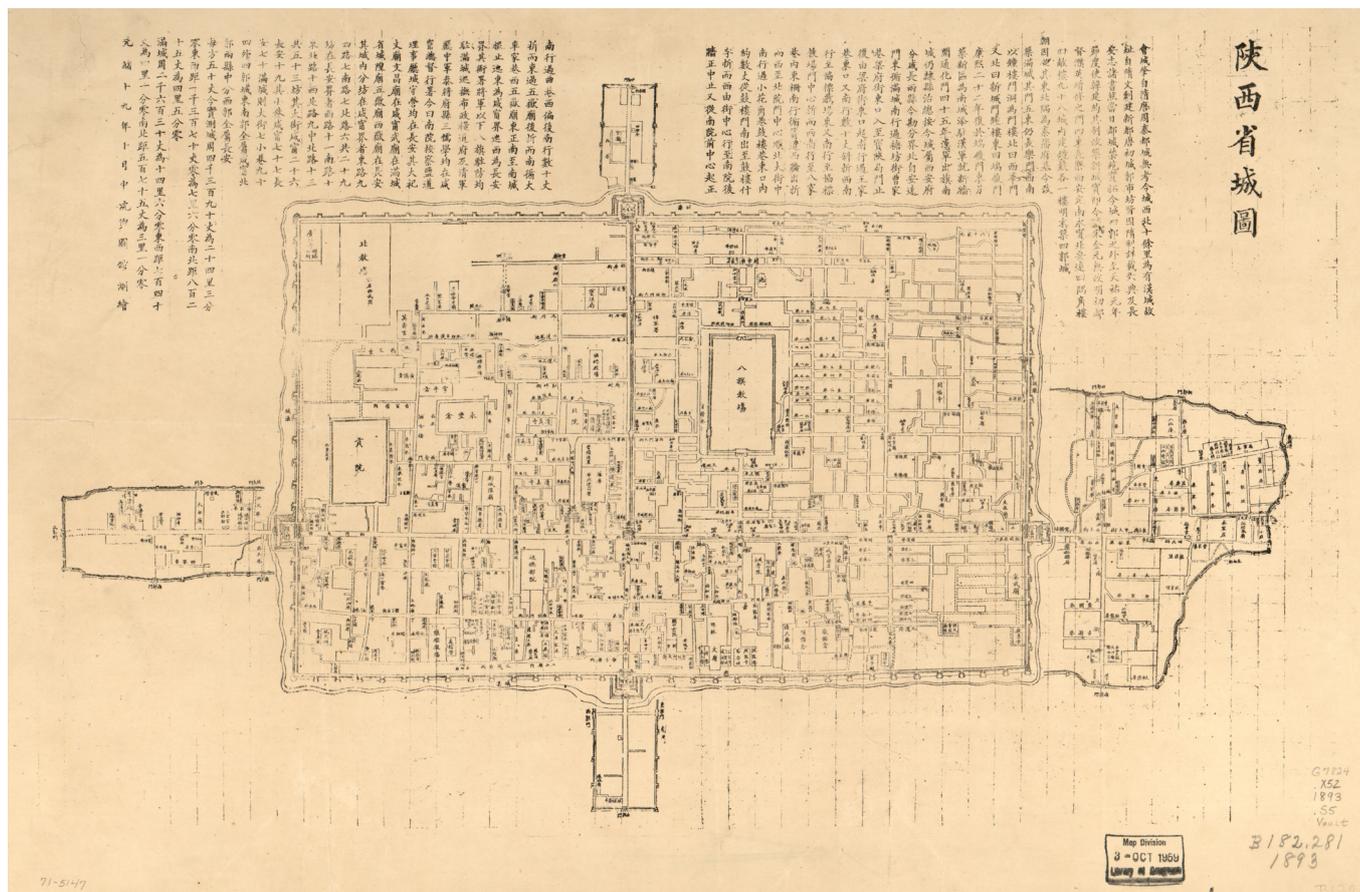

Figure 1.7 Urban map of Xi'an in Ming dynasty. Source: Library of Congress, 1893.

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1.3 The basic generators of urban expansion

The city of Tang Chang'an was a cultural and political magnet, in fact it attracted many visitors from all over the world attracted by the splendor of the Tang court. It follows the dominant role within the dynamics of trade, mainly due to the caravans of merchants that arrived for the location of the city: the splendid and rich Xi'an was the eastern terminal of the Silk Road, the most significant overland trade route of the city history between Central Asia and Europe. Since the Han, the location of the capital allowed control of this strategic artery, enjoying a lively commercial activity. This in fact determined in the city of Tang Chang'an the presence of two large symmetrical eastern and western markets, also known respectively as Duhui and Liren, respectively for foreigners and locals, occupying the dimensions of two li fang (wards) and forming a square enclosure with internal roads. (Fig. 1.6). Being at the Chinese end of the vast trade routes, in fact, Chang'an functioned more as an eastern collection and transshipment point: goods produced throughout China, especially silk and tea, were brought to Chang'an through a variety of vehicles, traded in the city markets and loaded onto camel caravans that encamped outside the city as they prepared for the long journey west. In this sense, Chang'an was an important point within three nested economic systems: the local and regional economy, the imperial economy, and the vast international network that was the Silk Road.

The departure of the imperial court decreed the rapid decline of Chang'an (904 AD), the decline of the population and its abrupt shrinkage to the size of the borders of the Imperial City alone, reducing the urban layout to about one ninth compared to the great capital. It was only during the Ming dynasty (1368-1644 AD) that Xi'an received its current name and had the first major urban development from the Tang era within today's walls (Fig 1.6). Building on the road network of the former Fengyuan city of Yuan, a northeastern development entailed the enlargement of the city walls, the opening of new connected gates as well as a new important urban axis that restored the canonical urban symmetry (Fig. 1.7).

The 1776 map of the Zhongnan Mountains (Fig. 1.8) shows the southern site of Tang city, external to the new city of Xi'an during the Qing dynasty: it depicts a setting described as a purely natural landscape, dominated by mountains emphasized by towering peaks and waterways, with only a few isolated landmarks like pagodas, temples and a palace. There is no graphic reference to the anthropic structure of the territory, such as roads, hamlets, hamlets, or fortifications which, however, existed in the 1735 map.

The topographical surface of the city of Chang'an, outside the walls of Xi'an, seems to be forgotten even in the cartographic reconstructions of the existing atlases, with the exception of a military map of the city of Xi'an from 1933 (Fig 1.9) where urbanization almost reflected the extent of Ming development, except for the notable urban development around the railway station area, made operational in 1935, outside the northeastern section of the wall, and some small linear settlements along the roads that branch off from the other three Ming historical axes.

The development of Xi'an began only in the 1950s with the first of four Masterplans (Fig 1.10): the new city joined the old city with important industrial schemes that were established along the railway line to the north, developed an orthogonal lattice derived

Figure 1.8 Map of Zhongnan Mountains (1776). Source: Bi, 2004.
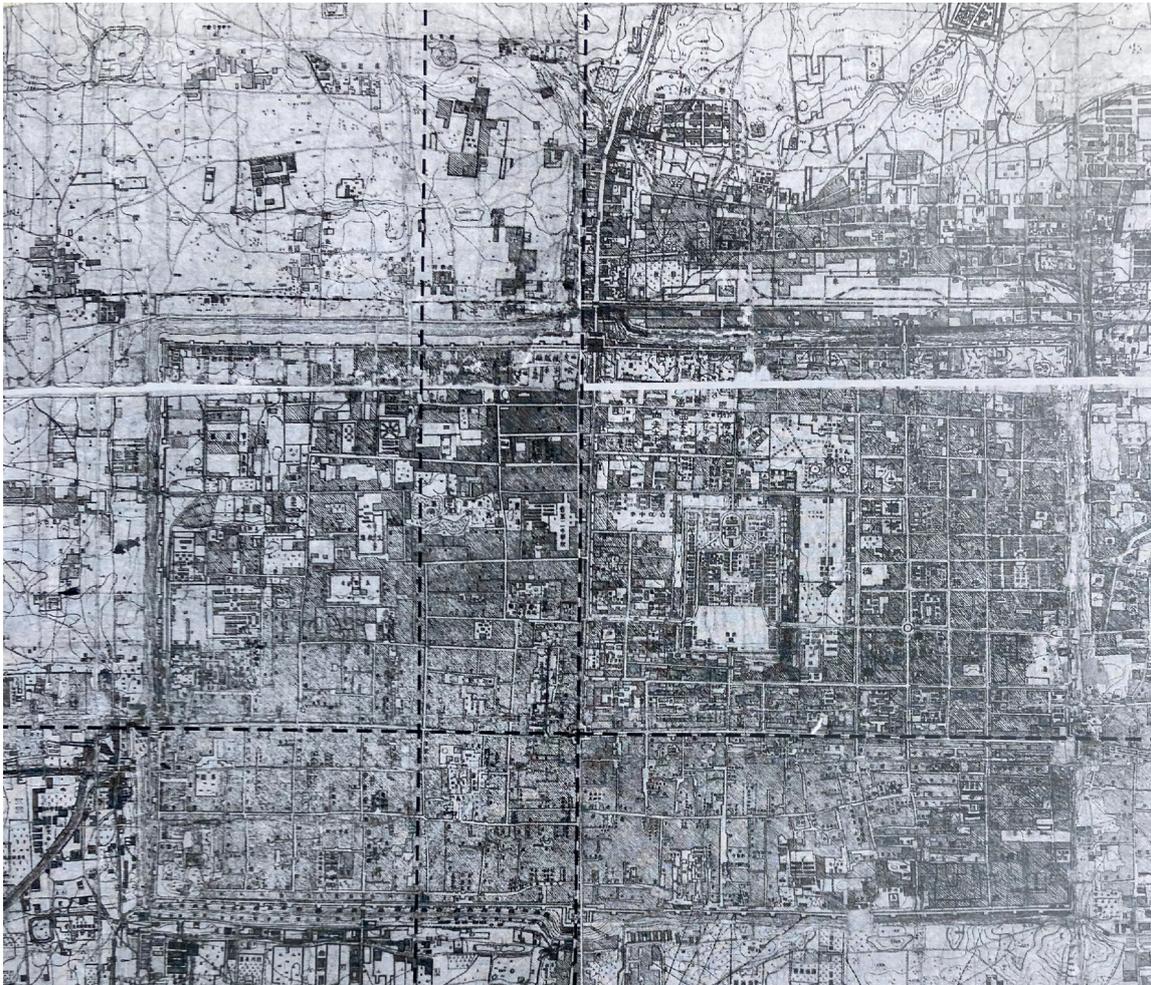

Figure 1.9 Xi'an City's Military Map (1933). Source: Geographic Information Surveying and Mapping Bureau of Shaanxi Province.

from the continuation of that of the old city and the whole city was surrounded by a wooded belt. The Ming axis was the center of this symmetrical composition, but the new historical distance introduced abruptly by new building typologies and alien fabrics caused a distortion of spaces, generating a detachment from tradition and as Halbwachs writes, "where tradition ends, history begins ". As professor Pezzetti argues, in the encounter with unprecedented rapid development, the timeless reality of Chinese architecture was interrupted because it failed to evolve from tradition, introducing a fracture that changed the meaning of demolishing forever (2020).

Paradoxically, the destruction of the traditional city began as Liang Sicheng sought to establish a modern historiography to recognize the notion of 'built heritage' and 'monument' in Chinese buildings that began to be recognized as architecture. Heritage that was first applied to individual buildings, then to districts and subsequently extended to entire ancient centers, often abandoned and transformed into profitable tourist attractions. Xi'an immediately absorbed the cultural role of a distinctive Chinese city, being one of the four ancient capitals of the world, in fact, from the second Masterplan (1980-2000) (Fig 1.11) it began to develop heritage protection plans, not taking into account traditional urban fabrics. This lack resulted in the demolition of the continuous fabric of narrow courtyard houses in view of greater urban density, making the building reach thirtysix meters in height in the center of the Ming City. The railway expanded tangentially to Han Chang'an along with substantial industrial land. The extent of this lack of attention to historical sites and landforms can be gauged by the fact that rapid urban development has begun to erode the surrounding countryside in all directions, threatening the rural landscape, also causing the inevitable modernization of the areas existing buildings, particularly in the Ming city where all historical textiles have rapidly disappeared. The airport and the new high-speed rail loop transformed the Wei River valley into an infrastructure corridor that surrounded the Qin and Han archaeological sites. To this day the city continues to be designed by independent blocks and the process of urban regeneration has now become a threat to history, memory and character. While the entire stratification of the block will be razed to the ground by the usual tabula rasa of the pre-existing buildings and by topographical signs (Pezzetti, 2020).
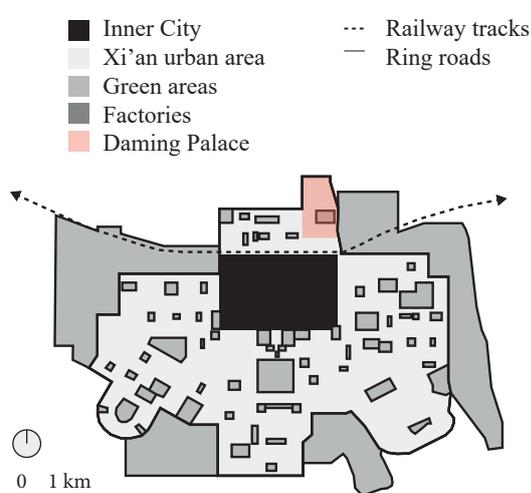

Figure 1.10 The First Masterplan (1953-1972)   Figure 1.11 The Second Masterplan (1980-2000)
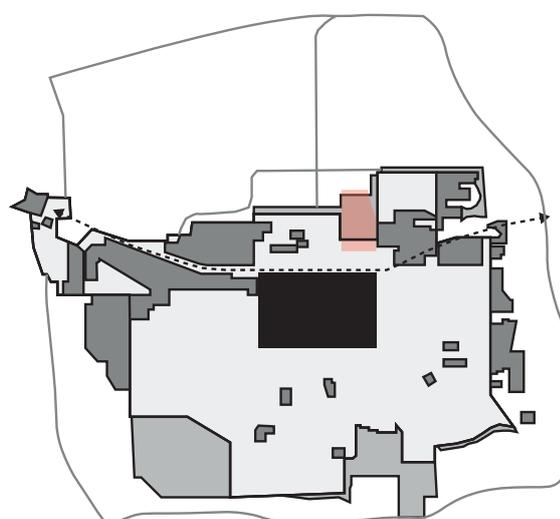
Highway system
Railway line
Inner city
Xi'an urban area
New planned area
Xianyang urban area
Airport
Train Station

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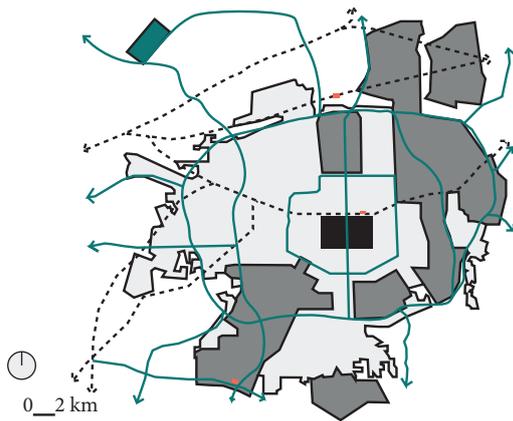
Figure 1.12 The Third Masterplan (1995-2010)   Figure 1.13 The Fourth Masterplan (2008-2020)
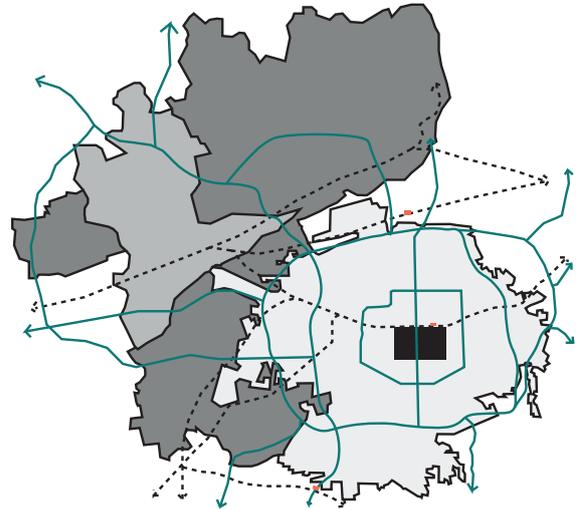
Daming Gong

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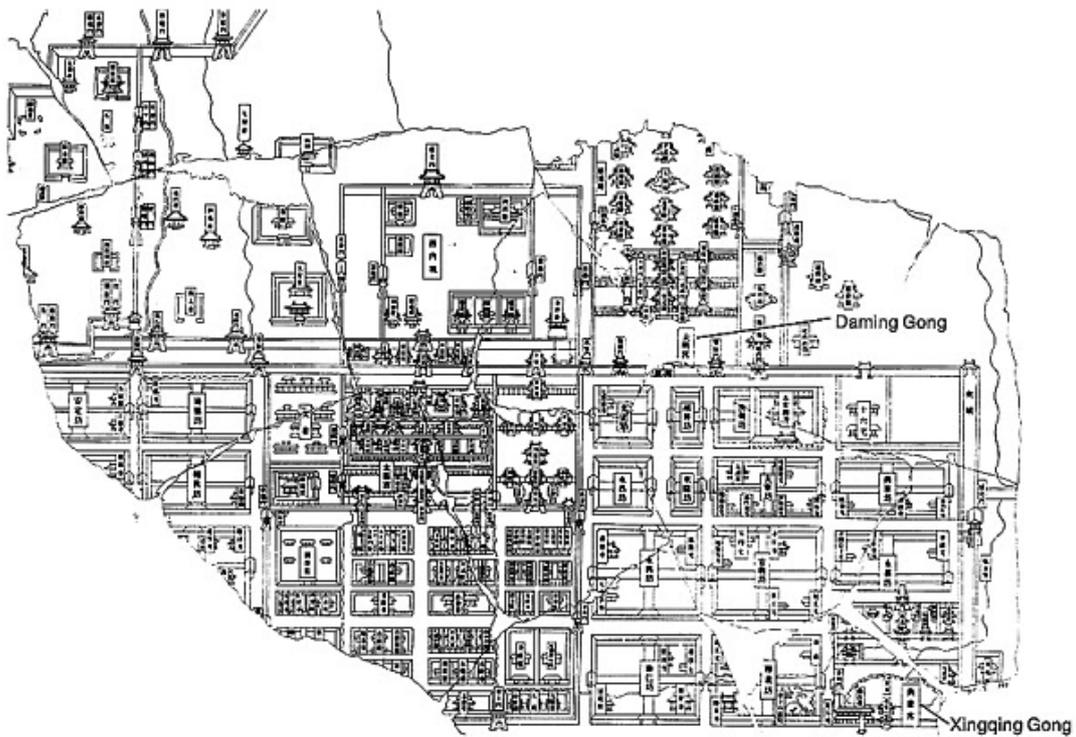
Figure 1.14 Representation of the fragment of Tang Chang'an's plan carved on a stone stele in Song dynasty. Source: Stele collected in Xi'an Beilin Museum.

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1.4 Daming Palace National Heritage Park

The Daming Palace, recently reevaluated, reimagined and rebuilt into a theatrical fantasy, a national icon and finally a world heritage site in 2014, poses an interesting reflection on the authenticity of conservation, questioning the fabrication of identity and memory in heritage construction (Zhao, 2018).

According to the Tang huiyao, the Daming Palace was built in the year 634, during the reign of the second Tang emperor, Taizong (627-649), with the function of residence of the first emperor, Gaozu (618-626). Initially called Yongan gong ("Palace of Eternal Peace"), and renamed Daming gong in 635, it was built in the northeast of Taiji gong which at that time was the seat of the Tang government and the residence of the emperor. However, the Daming Palace was completed during the reign of Emperor Gaozong (650-683), Taizong's successor, and became a symbolic complex of the emperor's power, where the latter moved along with his court (Chung,1990). During the reign of Empress Wu (684-704), who usurped the throne and ruled under the dynastic title of Zhou, the Daming Palace was renamed Hanyuan gong ("Palace of the One who encloses the First"), but was rarely used, as the empress made Luoyang the main capital; the name Daming returned in 701 with its function as the seat of the imperial government and permanent residence of the emperors until its destruction at the end of the Tang era. Daming Palace was largely destroyed by the ravages of war and insurrection during the occupation of the capital by Huang Chao, the rebel leader who declared himself ruler of the Qi Dynasty in 881 (Schafer, 1963). According to a ballad written in the 880s, Chang'an was at the time a shattered city, with foxes and hares infesting the Hanyuan dian, the throne room of the Daming Palace (Chung,1990) and during the first half of the 12th century, when a certain Shao Bo visited the site of the Daming Palace, nothing could be seen but cultivated fields with some ruined foundations at the entrance (Schafer, 1963).

The location of the Daming Palace is somewhat unusual, as although it was connected to the city walls of Chang'an, it was practically outside the northeastern section of the capital, unprotected by the city walls on three sides. This is due to the already complete definition of the urban plan of Chang'an to which the Daming Palace is added, taking advantage of the presence of a large and spacious land in correspondence with the imperial park used for archery (Chung, 1990). A peculiarity of the site chosen for the Daming Palace was the presence of a plateau in correspondence with the three great state rooms: from here the emperor facing south in the great throne room was placed literally and symbolically above his subjects, existing, for as it were, in a different realm and radiating his power over them like a deity. After the destruction of the Daming Palace, many scholars have undertaken studies on its plan, with the names and locations of various structures; the existing plants, together with the literary documents, represent valuable sources for the study of the Daming Palace and have provided the basis for identifying many structures unearthed during recent archaeological excavations. Yet despite their undeniable importance, these plans must contain a number of errors, as all were made after the Daming Palace was completely destroyed. Recent excavations have provided valuable information on the actual plan of the Daming Palace such as the layout of the building which follows a strongly vertical north-south orientation. Furthermore, documentary sources claim that the Daming Palace

was immense in size. The walls of the palace, which were made of beaten earth covered with ashlars and bricks, formed a non-rectangular shape (Fig. 1.15), but an irregular shape; the east wall ran perpendicular to the south wall for about a thousand meters, before turning west at right angles for three hundred and four meters and finally continuing north, sloping slightly west, for about one thousand three hundred meters. So the north wall was shorter than the south wall. This is undoubtedly related to the site: while the flat terrain at the Taiji Palace location must have made its plan easy to execute, the other, located on Longshou shan, had to be adapted to higher and more uneven terrain.

As the main gate of the Daming Palace, the Danfeng Gate was the largest in the complex: with a rectangular foundation, it was the only gate with five entrances. The two gates east of the axis were largely destroyed and, as a result, their location has not yet been defined with certainty. However, the position of the two gates to the west of the axis has been established. The Jianfu Gate, which had an entrance, was located about forty meters west of the Danfeng Gate, while the Xingan Gate was located about two hundred and sixty meters west of the Jianfu Gate. The Xingan Gate, however, was discovered just outside the southwest corner of the palace, and as such should not be considered one of the gates of the Daming Palace proper. According to previous plans, there were numerous buildings within the majestic gates of the Daming Palace. Of these, literary sources tell us that the three state halls built in 663 - the Hanyuan dian, a throne room; the Xuanzheng dian, an audience hall; and the Zichen dian, a reception hall, were the most important. The Hanyuan Hall was by far the most important room in the Daming Palace, as it was used for imperial audiences and ceremonies that marked important occasions such as New Year's, the winter solstice, the investiture of a new emperor and birthday of the emperor.

The archaeological work of the Daming Palace began in 1975, when a team from the CASS Institute of Archeology carried out long-term archaeological research and excavation work in the palace, excavating part of the gate, walls, temples, halls and other foundations of the building. Before the dayizhi policy, the population within the site area, right in the center of the city, grew rapidly with spontaneous settlements, driven by migration from the surrounding rural areas. With the dayizhi policy, the Conservation Plan of the Daming Palace was enacted in 2005 and in 2006 the Conservation and Regeneration Plan of the Daobei region was prepared and published. In 2007, the Qujiang Management Committee, a unique government institution, began implementing the regeneration plan and construction of the archaeological park. On 30 October 2010 the park was opened to the public. The construction of the archaeological park (2008-2010) involved all the main monuments of the site (Danfeng Gate, Yu Dao Street, Shishinden, Xuanzheng Hall, Sanqing Hall, Taiye Pool, Xuanwu Gate and others). Today at the Daming Palace, large-scale reconstructions consist of the palace's main gate, Danfeng gate, and the Taiye pool, the central element of the palace garden. The earthen foundations and elevated platform of the Audience Hall, Hanyuan Hall and its side pavilions have been restored, but there are no plans to rebuild the huge superstructure.

Recently reorganized as Daming Palace National Heritage Park, what was once an active excavation site for expert archaeological teams is now an urban park, a green area. The surrounding environment has been cleaned up, offering citizens a large space for recreation and relaxation, with better environmental conditions.
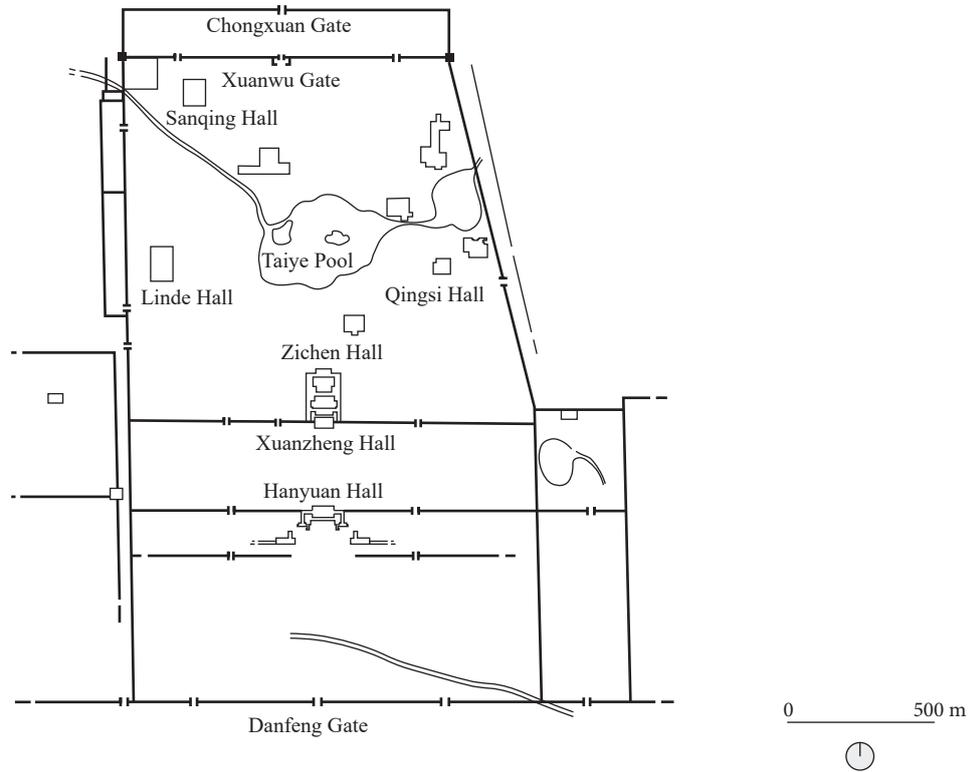
Figure 1.15 Plan of Daming Palace Site. Source: Miriana Leo
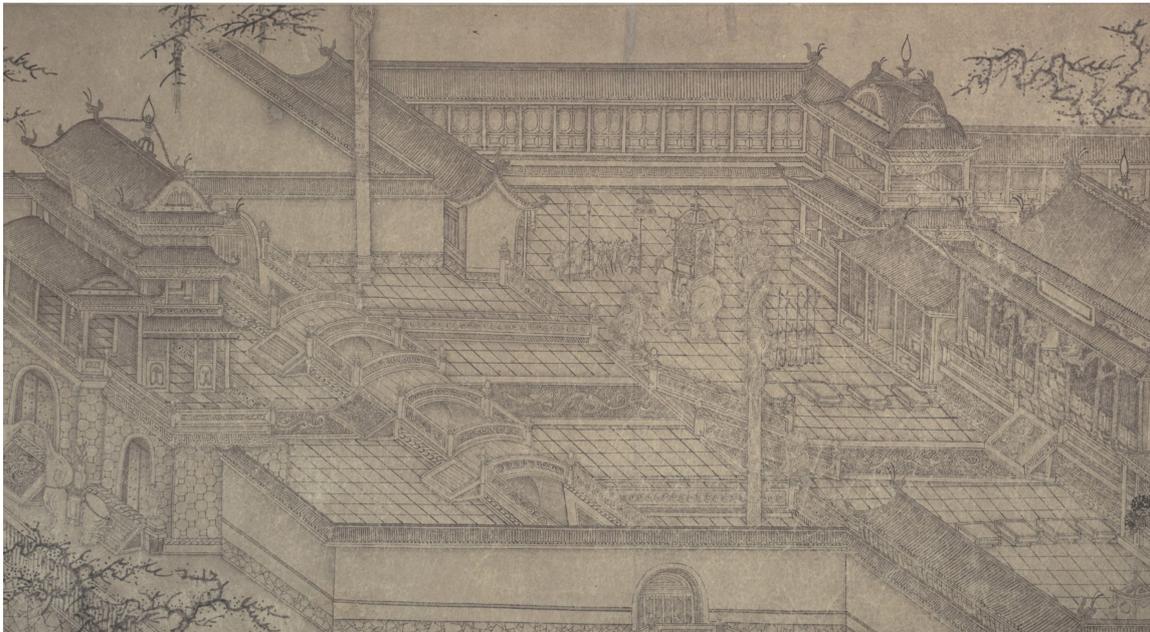
Figure 1.16 The Daming Palace. Artist: Formerly Attributed to Wang Zhenpeng (Chinese, active ca. 1275-1330)

CHAP_2

Social-Place

2.1 What is Social?

This chapter aims to provide food for thought on planning theory with new perspectives for understanding the city as a network of interconnected social spaces. There are different ways of producing a space generally understood, from natural space to more complex spatiality whose meaning is socially produced, and each practice and spatial perception is influenced by a complex social construction. Social space is both the combined use and the perception of space by distinct social groups and is produced by society according to the spatial practices that exist within it (Fig 2.1). Until the nineteenth century, truly social spaces were almost always outdoors. In fact, nowadays the most furnished examples of spaces in which mainly social activity takes place are streets and squares, urban spaces in the public realm, in short, the living rooms of the city (Hertzberger, 2000). But in reality such social spaces can be found wherever there is interaction. Henri Lefebvre, one of the most important French thinkers of the twentieth century, stressed that in human society all space is social: it is in those places where people invariably end up, they meet, in short, where action and adventure are found. These are spaces that increase the chances of meeting and have a catalytic effect on seeing and being seen, thus helping to express what unites people. In other words, where a sense of collectivity is expressed is where a large number of people converge spontaneously or along organized lines and it is social contact that transforms collective space into social space. The goal each time for the social space as a whole is to provide the opportunity to inspect, evaluate, keep an eye on and bump into each other, then create contact; in short, it is about seeing and being seen. An important aspect for the definition of social space is the experience of environments that is confronted with issues of perception, emotion, embodiment, dwelling, identification (Ingold, 2000). In this perspective, Degan (et al., 2005) advocate a "re-evaluation of environments as living entities, not as background or passive entities but as actively shaping forces" an integral part of the "passionate entanglements" between humans and non-humans. In this perspective, living passionately with and through nature in cities can form the basis of a different kind of politics embodied in the urban wilderness in which humans and non-humans can coexist and collaborate (Degan et al., 2005). Man-man relationships take place in and around these natural spaces, thus contributing to a further dimension to think through gardens as geographies of social power (Parr, 2008). The structure of the social space manifests itself, in the most diverse contexts, in the form of spatial oppositions, an appropriate physical space functioning as a spontaneous metaphor of the social order. There is no space that does not express social hierarchies and distances in a more or less distorted way, especially as a result of the naturalization associated with the lasting inscription of social realities in the physical world. Buildings that are used collectively to a certain extent are organized more like cities, where accessibility is often so ambiguous that the entire relationship between inside and outside dissolves and it is sometimes difficult to know if you are inside or outside.
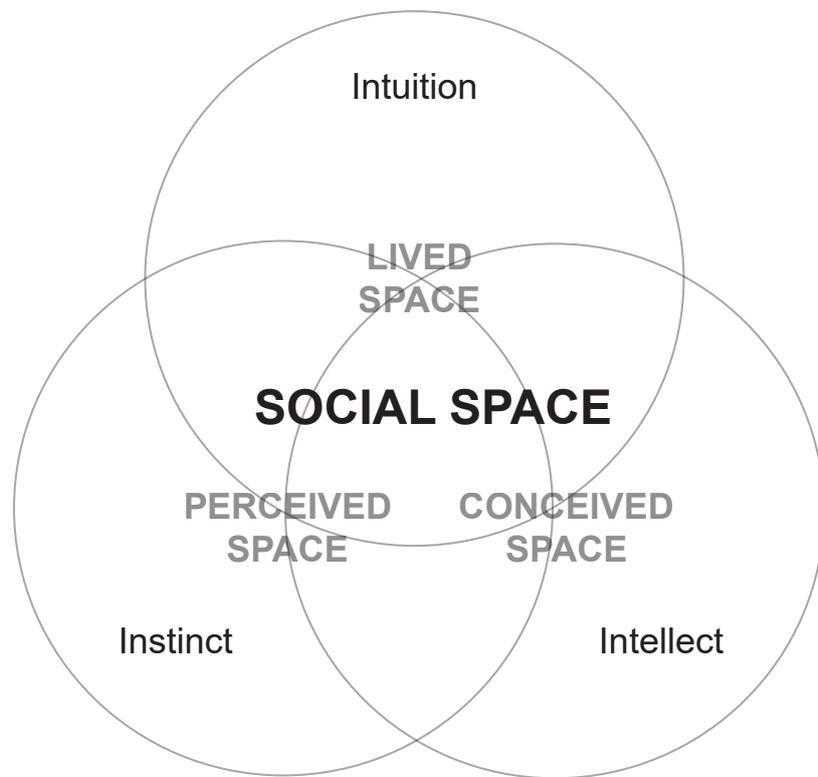
Figure 2.1 Henri Lefebvre's triad of space production. Source: Miriana Leo

2.2 What is a Social-Place?

Social space is intersubjective, existing or shared by more than one mind. Individuals in a particular region of social space share the same physical environment and a set of beliefs, values and practices that transform this physical environment into a social environment. Therefore, being a portion of designated space, it becomes a place.

Human beings, as biologically identified bodies, are at the same time social agents and through their relationship with a space, they make it social (Bourdieu, 1985). Such biologically identified bodies, not having the property of physical ubiquity, which would allow them to be in several loci at the same time, are located in a place, which can be defined first in absolute terms as the place where an agent or thing is located , "takes place", exists, in short, as a place, it can also be defined relationally, as a position, as a rank in an order. The occupied place, in turn, can be defined as the scope, the surface and the volume that an agent or thing occupies, its dimensions or, better still, its encumbrance. The social place tends to be translated, in a more or less direct way, into physical space in the form of a precise distributional structure of agents and properties. This means that all proposed distinctions about physical space can be found in the social place. The structure of the social place thus manifests itself, in the most diverse contexts, in the form of spatial oppositions in an inhabited place, functioning as a sort of spontaneous metaphor of social place. Although it is not a physical space, it tends to be realized in a more or less complete and accurate way in a space, in fact it is difficult to think of it differently from the concept of space. The social place is physically realized with the distribution in the physical space of bodies linked to a more or less permanent site, with goods and services. We can see human interaction at the micro level as a complex set of transactions between individuals, or at the macro level as the predictable model of a system that operates according to certain laws. These laws are of architectural domain, with the study of certain lines that guide and ensure that there are meeting points where they naturally converge. In fact, the social structure results from the spatial constraints to social interaction produced by the physical distance between individuals. Social space is thus defined as an intersubjective matrix of psychological distances based on physical and social reality that provides a framework that limits the way in which people are influenced by each other. Somewhere between physical space and psychological space, there is a form of space that can be called a social place. The social place helps determine who comes into contact with whom and with what effects. The social place is a structure that determines the relationships between people and, therefore, the ways in which they are influenced by each other.

CHAP_3

Limit

3.1 Urban design needs utopia

Utopia is one of the key concepts in understanding the architectural process that seeks to define the city with its transformations. Rem Koolhaas in the essay "Dilemmas in the Evolution of the City" declares "the absence of utopian drive is perhaps almost as serious as an overdose of it" (2006). More than five hundred years now separate us from the publication of Thomas More's Utopia with its description of an ideal future society that implicitly criticized existing society. Half a century earlier, two Italian architects, Leon Battista Alberti and Antonio di Pietro Averulino known as Filarete, had initiated a parallel utopian tradition of designing the ideal city (Meyerson, 1961). Such works are nothing more than efforts to describe a desirable model for future life in terms of organizations, social institutions, artifacts and the organization of space, but inevitably this comes into direct conflict with the ideological forces of politics, technology and economics. Yet the creator of utopia does nothing but choose some principles on which to pivot for a desirable future society with only two necessary criteria: selectivity and arbitrariness. On this basis stands the thought of David Riesman who in his essay on utopias calls for a revival of utopian thought as an intellectual challenge, precisely because it takes more courage to face what could be than with what is, and because it is more difficult to pose great alternatives than choosing among the lesser evils (Riesman, 1947). With the help of utopia, urban planning can aim for human well-being, thanks to changes that require substantial sacrifices, since utopia specifies a desirable future state without detailing the means to achieve it, urban planning, on its side, it has the task of specifying a desirable future state and also the means to achieve it. "As urban planning clarifies its theory and refines its methodology, it will be faced with the choice of renouncing the utopian elements that are now residual in its ideology or of capitalizing on them" (Meyerson, M. 1961).

Today, an absence of social reform emerges from the architectural proposals, in fact as early as 1996 N. Rose theorized "social death", a phenomenon that reaches all modes of government in post-industrial societies; yet, we are aware that we are living in a moment of intense social activity that is creating new forms of collectivity and power, springing up spontaneously, spreading rapidly, proliferating and shifting back and forth from real to virtual, transforming the social realm (Contandriopoulos, 2013). Therefore, it is necessary that utopia remains a generative concept in contemporary architectural theory, so that it proposes the creation of new urban infrastructures, drawing on the strong speculative forces that try to reinvent our environments, and involving the themes of our time, such as the vertiginous growth of cities and social division, resource and land limitation, global contamination and depletion of our ecosystems, as well as the impact of new virtual technologies (Contandriopoulos, 2013).

Only by defending the value of utopian perspectives is it possible to develop a critical approach to the city and to urbanization processes, in fact Schneekloth (1998) argues that "irremediably utopian" nature is in every urban profession to be able to recognize and create character of places. In this context, small-scale utopian visions are inserted which, in order to perfect urban life, shift attention to local qualities. Leading this movement was famed urban planner Jane Jacobs, whose classic The Death and Life of Great American Cities continues to be cited as inspiration for current planning trends, including

pedestrianism, place-making and bespoke planning of man. The new urban paradigm today is sustainability and it can be understood as the ability of a city to "meet the needs of the present without compromising the ability of future generations to satisfy their own" (World Commission on Environment and Development, 1987). However, the concept of sustainability is susceptible to ideological manipulation and can be used to justify changes ranging from radical and inclusive to technocratic and elitist (Davoudi, 2001). Therefore, utopian thinking is necessary to bring out the ideologies and values underlying every choice that shapes urban practices and processes. Henri Lefebvre considers utopia as inevitable (Lefebvre, 1996b), since only strictly specialized prisoners who work to order without the slightest critical examination of the stipulated norms and constraints escape it. So it is better to continue to seek urban utopia, despite the risks, accepting the inconvenient fact that we cannot avoid pursuing urban utopia any more than we can hope to achieve it (Orum et al., 2021).
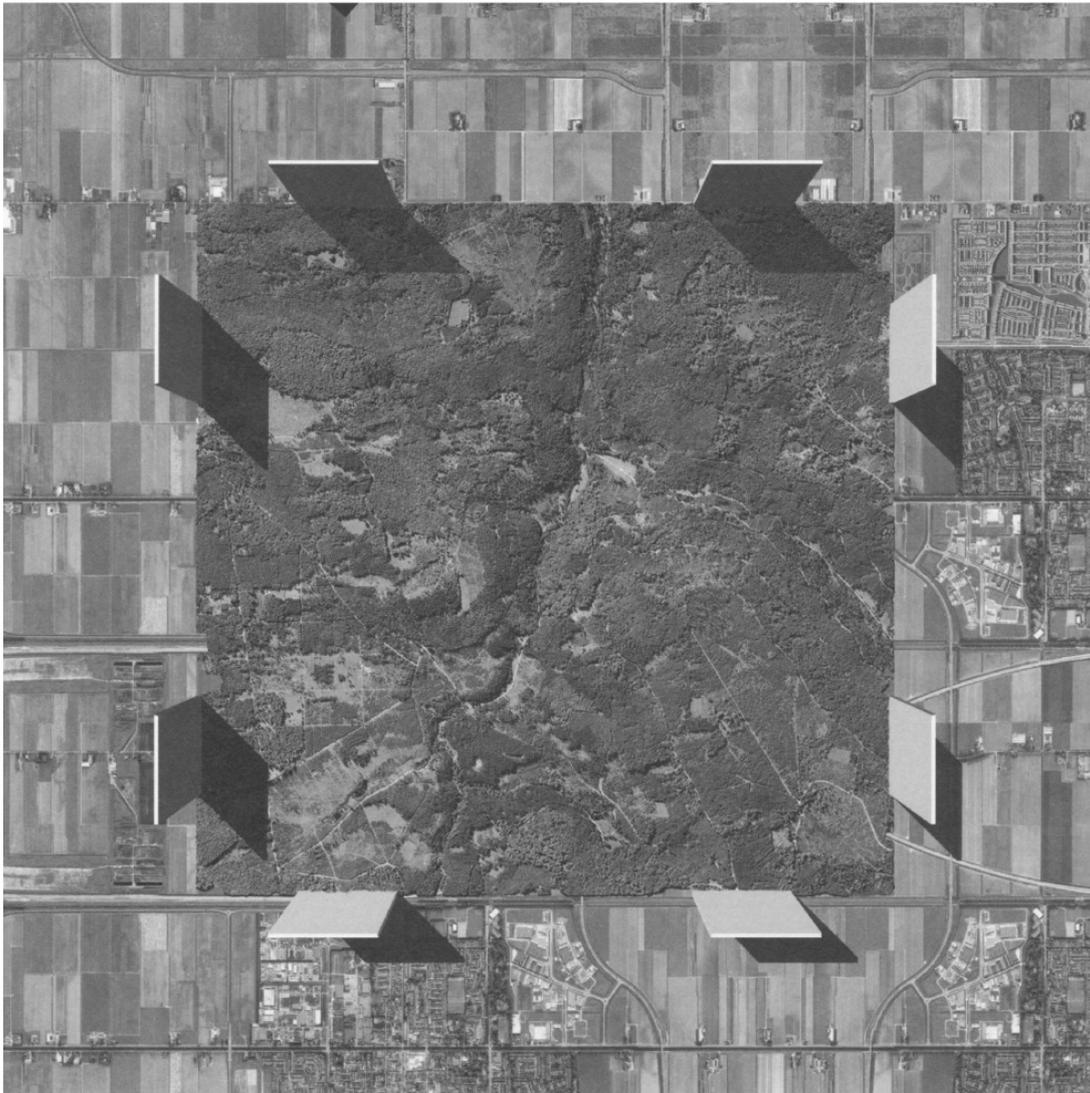

Figure 3.1 STOP CITY. Source: DOGMA, 2010

3.2 The essence of the Limit

Limit: what it really is and what happens at the limit. Not on this side or beyond the limit, but in the action of limiting, in the border area, in the no man's land that the concept shows itself without letting itself be understood. It is the point of the catastrophe, the moment of transition, of transformation, of crisis. But at the same time it is also the relationship, the bond, the contact, the generative moment. This relationship includes two realities: to stop or to go further and it is in this way that the limit becomes a boundary, a conventional line that becomes material, showing its identity, its limitation and its internal laws. The limit is the non-place of every relationship, of every passage, and it is therefore difficult to define its beginning and end. Paradoxically, in order to distinguish reality it is necessary to delimit, then make use of limits, borders, edges, contours. However, rupture is also part of these forms: drawing a limit means establishing the possibility of violating it, always implying a relationship, a relationship, a comparison and therefore a tension between one thing and another. Similarly, the city is not determined only by constantly moving flows, but above all by stops, walls, borders and partitions. This nature is made explicit and tangible by architecture understood as a project with its finished, closed forms that create separation from the urbanization space. Thus the city becomes rich in closures and forms of containment marked by the constant dialectic of integration and closure. What becomes necessary is an attempt to re-establish the sense of the city as a place of confrontation, relationship and recomposition of parts through an architecture capable of proposing an alternative idea of the city, rather than confirming the existing status. Only the architectural form with its finiteness is capable of understanding the city and its opposing force, urbanization; therefore architecture makes and includes the city. The tools to define the city as a form and space of human life are the clarity of the texts and drawings that do not leave much room for the imagination. Pier Vittorio Aureli and Martino Tattara see the finitude of architecture as a physical and theoretical place to face the spatial crisis of the contemporary city and overcome an analytical drift that in recent years has increased the perception of complexity without being able to propose a way out . And it is precisely thanks to architecture as a project of the finished form, therefore separated, that the urbanization space can be read in a critical way, where integration and closure are not the consequence of each other, but are two simultaneous phenomena destined to strengthen each other. For Pier Vittorio Aureli the possibility of an absolute architecture consists in the alteration of this dialectic between integration and closure by claiming separation, not only as part of the principle of urban management but as a form that goes beyond it. In this way, architecture becomes an attempt to re-establish the sense of the city as a place for political confrontation and the recomposition of parts (Aureli, 2011). "As the islands are framed by the sea, but their formal boundaries allow them to be understood as what frames and, to a certain extent, (re)defines the sea between the islands" (Aureli, 2011), so must be the architecture in the "sea" of urbanization. This act of framing and redefinition consists not in the imposition of a general principle or an overall norm, but in the strategic deployment of specific architectural forms that act as a frame, and therefore as a limit to urbanization (Aureli, 2011). Therefore, it is within its limits that the architectural form must be conceived, rather than starting from cognitive frameworks

that reduce everything to a simplistic and all-encompassing representation, such as visions and scenarios. There is no doubt that the idea of limit implies issues that go far beyond the realm of architecture and its design, and involves the complexity of space with political and economic issues. However, the role of architecture lies precisely in making common things public, generic, therefore graspable, the political organization of space, of which the architectural form must not only be a consequence but also the most powerful and influential political example. Architecture with its finished form, with the clarity of its limits, becomes the example of a city guided by the positive idea of limits and comparison. From here the project reconstructs through itself the formal and political sense of the city (Aureli, 2011).
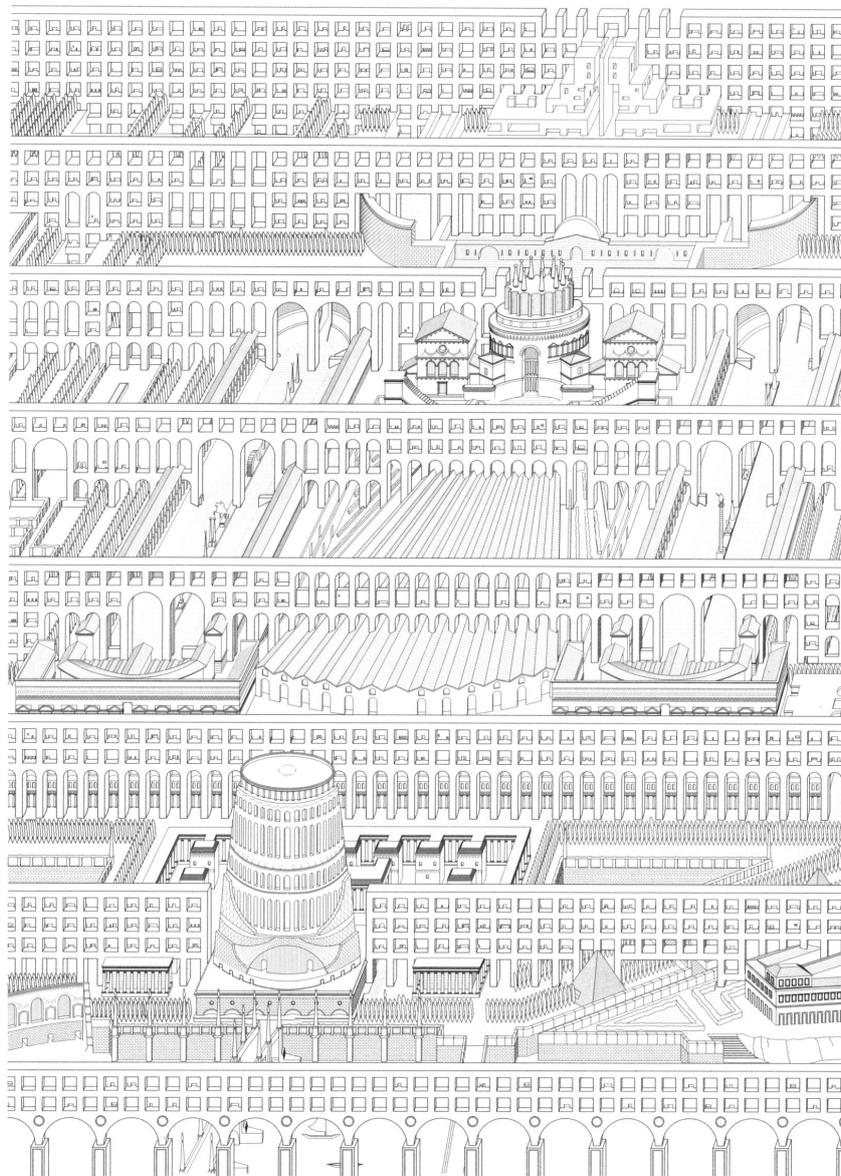

Figure 3.2 Field of Walls, from The Piranesi Variations. Source: Dogma, 2012

3.3 Il Parco Centrale di Prato

The project at the international design competition "Il Parco Centrale di Prato" presented in 2016 by the group of architects made up of Martino Tattara (Dogma), Pier Vittorio Aureli (Dogma), Luciano Aletta (Dogma), Paolo Rigoni (StudioSilva), Marco Sassatelli (StudioSilva) and Elia Zenghelis is very helpful in the design definition of an urban regeneration intervention within a dense system set up with fixed elements. The request is a new urban park of three hectares in the historic center of the city of Prato , located within the perimeter of the city walls, where the former city hospital is located. Among its objectives, all aimed at interpreting the needs of the contemporary city, are the
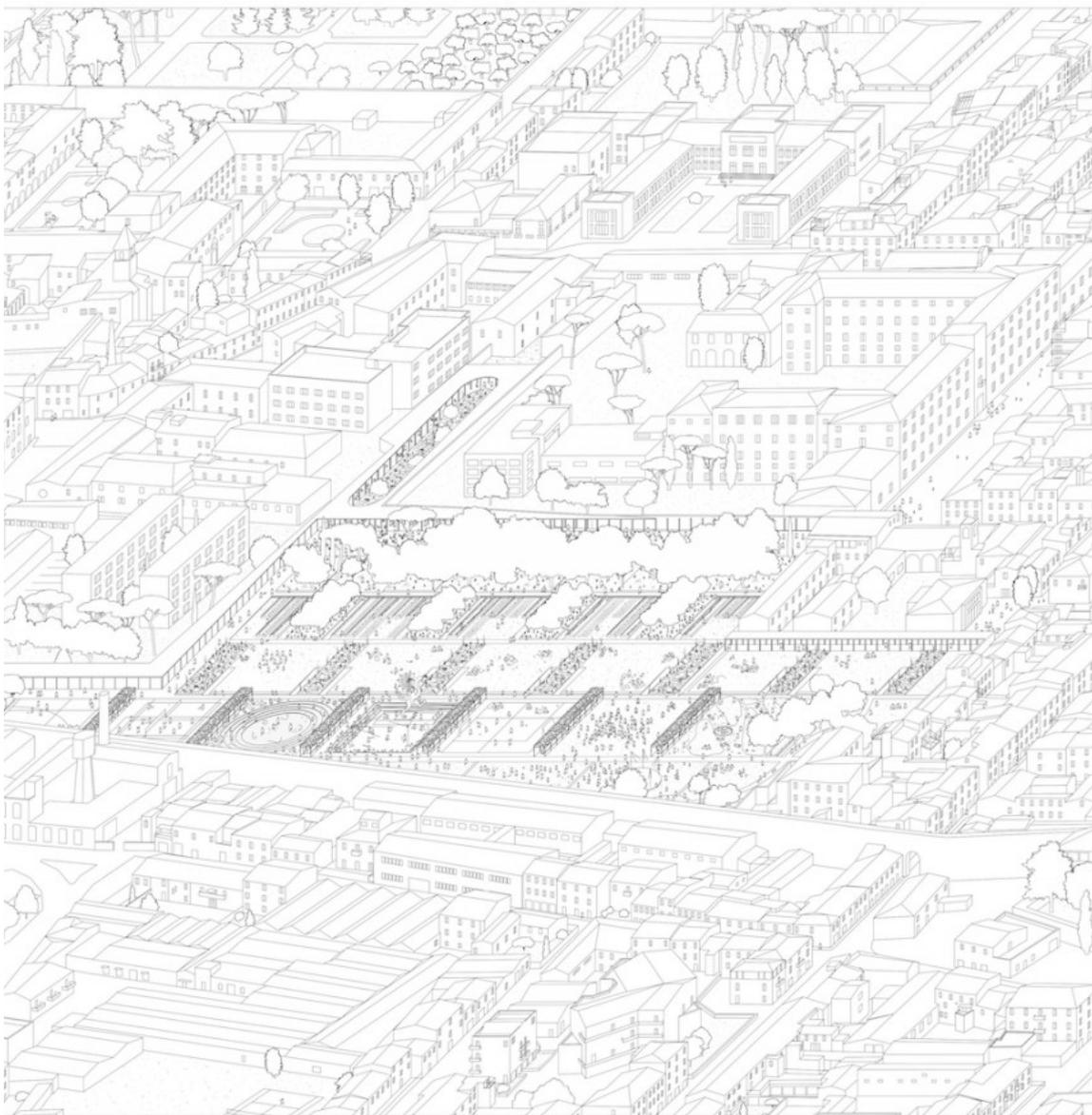

Figure 3.3 Il Parco Centrale di Prato, Architecture Competition. Source: DOGMA & Elia Zenghelis

socio-economic development of the city center, the enhancement of its tourist vocation, sustainability and accessibility. The aforementioned group proposes a park intended as a space for diversity, sharing and solidarity between citizens. A park within the medieval walls of a city is a rare event in modern and contemporary urban history. So the project becomes an opportunity to revisit the theme by making the park a sequence of ever-changing gardens. As in the medieval garden, the contemporary garden can be a space made up of different rooms, in continuous transformation, and whose vegetal and mineral forms are affected by the way in which the people of Prato decide to interpret them. In this composition each room relates in sequence to the others through a gradation of levels arranged at different altitudes. Following this logic, the gradient organizes denser plant masses towards the northern side and sparser towards the walls. In this way, the design of the park recognizes the walls as the main backdrop visible from every room in the park.

Figure 3.4 Il Parco Centrale di Prato, Architecture Competition. Source: DOGMA & Elia Zenghelis

In fact, the gradient finds its raison d'etre not only in the urban layout but also in the choice of freeing the walls from any visual obstruction to give them the role of the park's background. Each strip of the park is defined by rooms whose east-west sides are delimited by strips of plant mass while the north-south sides are defined on the ground by the curbs of the terraces resulting from the attempt to organize the topographical data of the project area. In this way the park becomes a composition of different species, thus increasing not only the biodiversity of the area but also the diversity of points of view, through shades of colors, surface textures, glimpses of ever-different tree masses. The intent of the project is to rethink the park beyond the myth of nature as an urban microcosm and to focus on the diversity and multiplicity that characterize the city as a whole (Tattara et al.,2016).
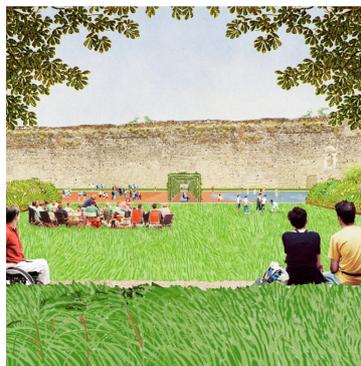
Figure 3.5 Il Parco Centrale di Prato, Architecture Competition. Source: DOGMA & Elia Zenghelis

CHAP_4

Context of Design

4.1 The contemporary city of Xi'an

The city of Xi'an seems to have lived two different lives between a glorious past and today's underdeveloped situation. Being located in the central part of the country, Xi'an emerged as a railway and highway hub since 1935. It experienced slow industrial development after Longhai's east-west railway line reached the city, interposing itself between the walls of the Daming Palace and the walled city of the Ming dynasty, crossing the city and extending from the eastern seaports along the coast to Gansu, Xinjiang and the Central Asian countries in the west. The policy of openness introduced in 1979 completely changed China and the Chinese over the next two decades, creating a growing divide between Western and Eastern influences. By analyzing the past and recent developments, we realize how Xi'an needs to be more aware of its heritage, given the multiple demolitions of its built heritage, and make it a cultural basis for urban construction, ensuring that what remains of this heritage is made accessible to the inhabitants of the city and is also passed on to future generations. Most of the historical sites in the city (Fig. 4.1) and its surroundings are now green spaces with a basic structure that presents the historical and cultural background, but this system lacks cohesion in terms of style, function, situation and relationship between its different elements and with the urban context (Fayolle Lussac et al., 2016). Furthermore, green spaces are in a clear minority compared to the built density of the city. Hence the need to create a cohesive infrastructure that makes the historical background of the city perceive and binds to it, not only with the green filling and compositions, but taking into account the principles of how the environment works on human perception and the human need for activity and belonging to the place, as a sort of "evolutionary path" (Fayolle Lussac et al.,2016) that respects and records the historical traces for the future through parks, paths, gardens and green spaces in the model of the city.

Figure 4.1 Map of existing heritage in Xi'an. Source: Miriana Leo

Fig. 4.2 A Young couple walk along the old Xi'an city wall. Source: Zhang Peng

Fig. 4.3 Xi'an huge fortification walls and modern city. Source: Mariusz Kluzniak

Fig. 4.4 People Riding Bicycle By Drum Tower In Xi An Against Sky. Source: Fu Celing

Fig. 4.5 Xi'an City Wall. Source: Dea / Gianni Oliva

Fig. 4.6 Busy street outside Xi'an railway station. (2009) Source: Mariusz Kluzniak

Fig. 4.7 China Prepares For Spring Festival Transport Peak. Source: China Photos
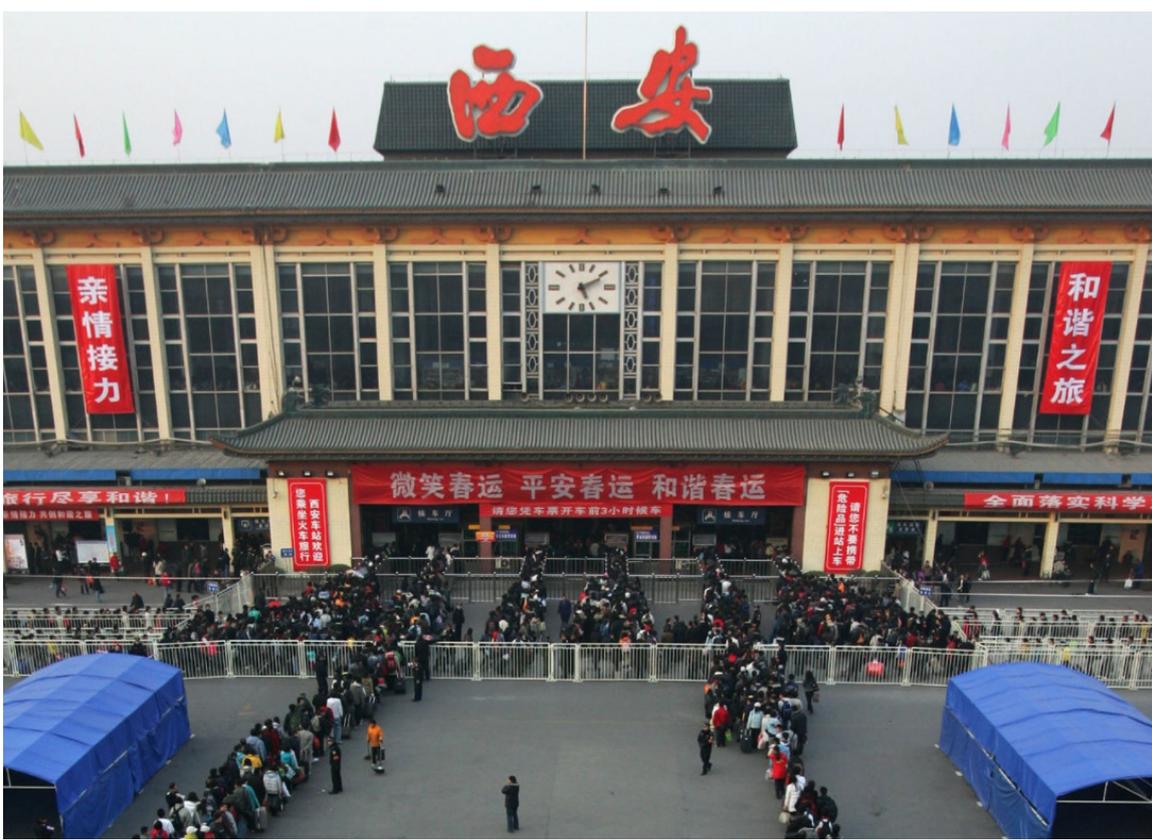
Fig. 4.8 Passengers queue to check in at the Xian Railway Station. (2009) Source: China Photos

Fig. 4.9 Dépôt ferroviaire à Xi'an, en octobre 1986, Chine. Source: Gérard Sioen/Gamma-Rapho

Fig. 4.10 Daming Palace National Heritage Park. (2007) Source: Xiu Huo

Fig. 4.11 Archaeological platforms inside the Daming Park (2011) Source: China Photos

Fig. 4.12 Old Buildings Are Torn Down To Make Way For Modern Development In Xian. (2007)
Source: China Photos

Fig. 4.13 Old Buildings Are Torn Down To Make Way For Modern Development In Xian. (2007)
Source: China Photos
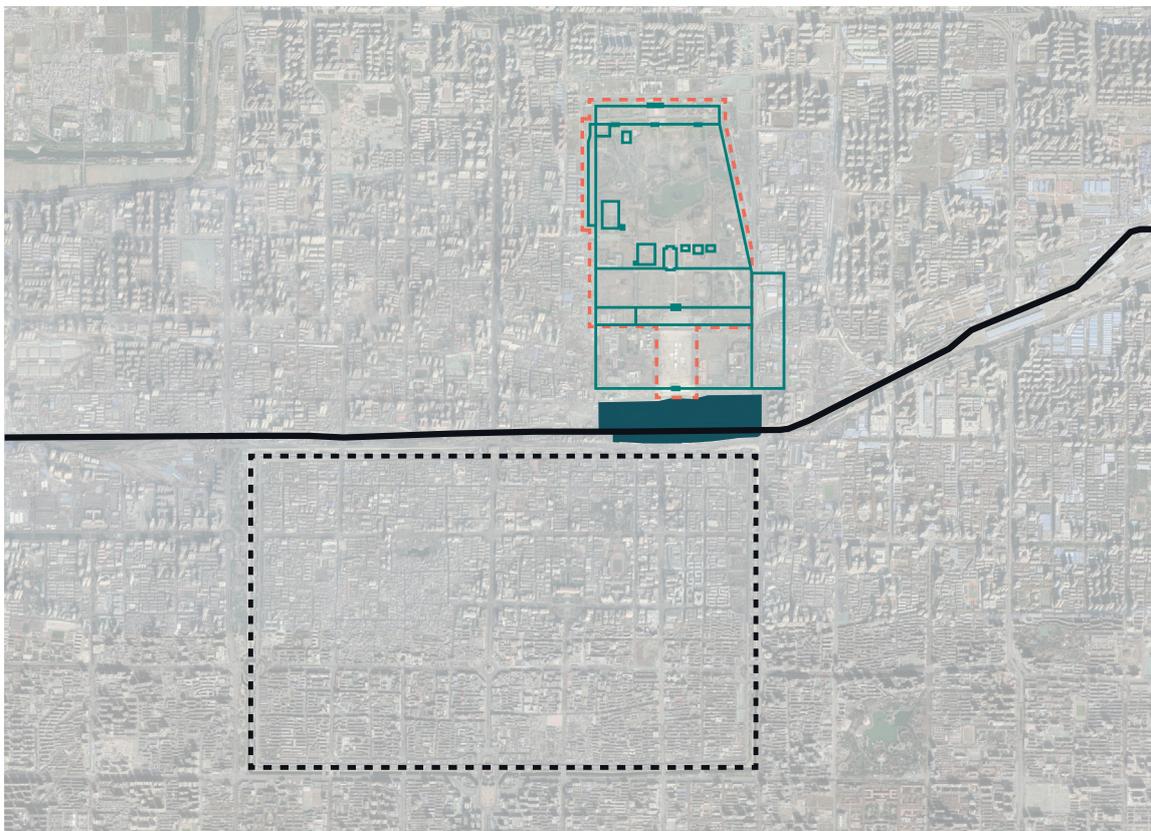
Figure 4.14 Map highlighting the railway station area between Daming Palace Heritage Park and the city walls. Source: Miriana Leo

4.2 Negative Space

The site chosen for this thesis project is the area currently dominated by the old Xi'an station built in 1935 close to the city walls of Ming heritage, near the north gate (Fig. 4.14). Xi'an Railway Station (西安 站) it is one of the two main passenger railway stations; the second, more recent, is the Xi'an North Railway Station on the northern outskirts of the city which in 2011 absorbed most of the high-speed services, including the G and D series trains of the Zhengzhou-Xi 'high-speed railway line. A new east-west high-speed station also called Xi'an South will soon be built southwest of Chang'an. Xi'an Railway Station remains to this day the main station for all conventional rail services in the city, including Z-series night express trains, T-series express trains, and all slower services. Currently it is possible to access the station by subway through the Wulukou station of line 1, despite the distance of about seven hundred meters. But, in the future, Huochezhan Station on Line 4 under construction and Line 7 will be the closest metro station serving the train station. This metro station will be open together with the extension works of the railway station. The latter are designed by the municipality of Xi'an and take place mainly on the north side of the existing station. The construction plan for the reconstruction and expansion of the Xi'an railway station has been approved by the China Railway Corporation and has currently made a clean sweep in this area, as can be seen in the sequence of temporal images (Fig. 4.15), demolishing every built form, including a large spontaneous settlement. To date, bounded by the Daming National Heritage Park and the city walls, the station remains with its tracks and all the buildings serving the functional service of the station itself. The result is a place of congestion, devoid of identity, where people converge not spontaneously, but because they are attracted by the function that this area has, without realizing where they are. However, the original Xi'an station line is located in the main urban area, right in the middle of Tang City, and limits urban construction, which is constantly expanding. This railway line, once on the edge of the Ming urban area, now has intersections with major urban roads, placing itself at the center of the densely built city. From a critical reading of the site examined at different scales (Fig.4.16), some critical issues of a certain magnitude emerge: vehicular and railway mobility are impenetrable urban barriers and do not allow any dialogue between two distinct parts of the city, specifically between Daming Palace and the historic city center, both cultural centers of Tang heritage; the lack of a consistent urban green space at the service of the city and citizens; the high urban density built up and finally the lack of a normative principle that gives identity to this central space. Hence the description of this space as "negative", since, despite being totally urban, rich in layers that time has accumulated, it is totally passive and alien to the vision of the inhabitants of the city.
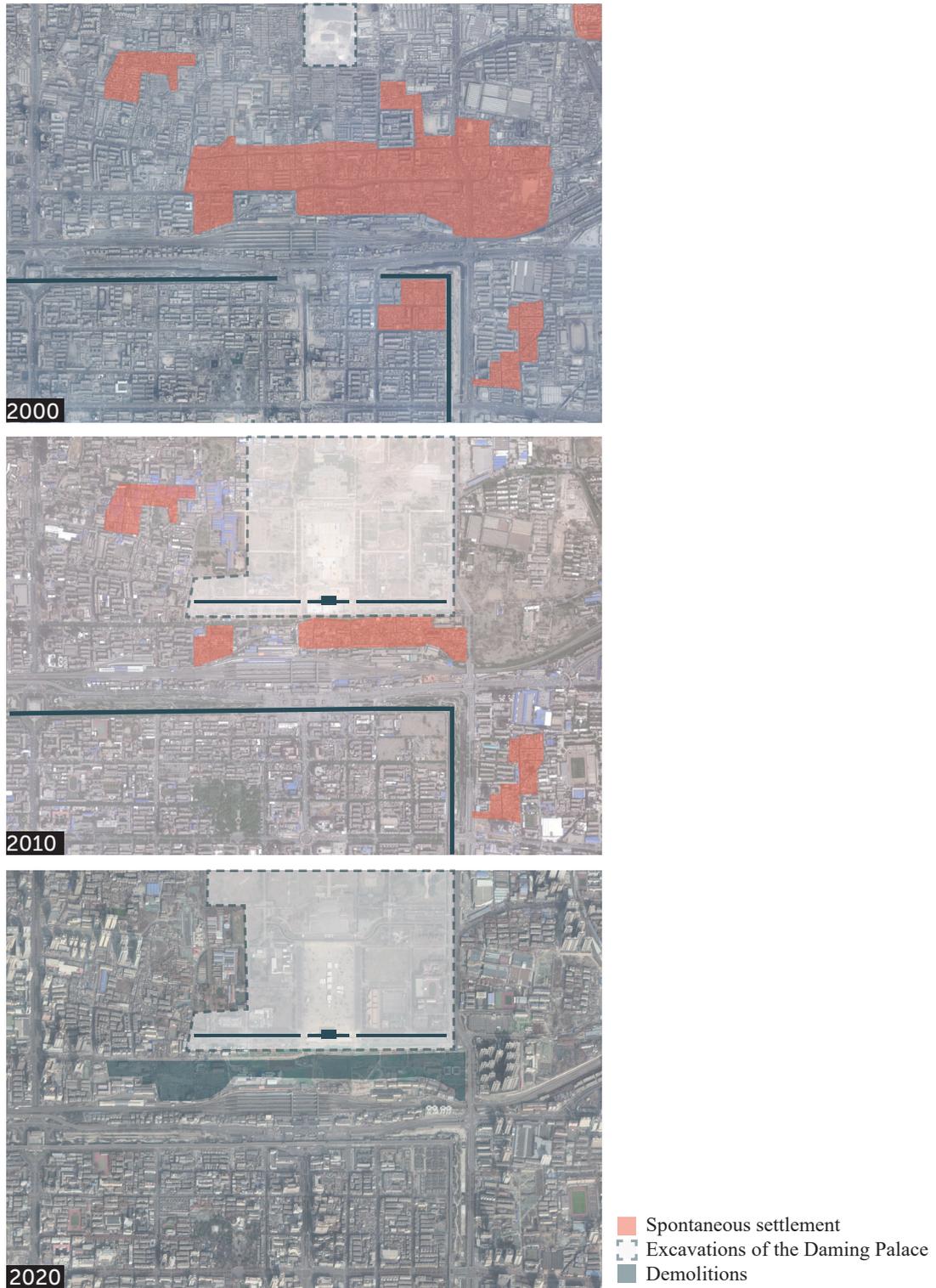
Figure 4.15 Images showing the morphological transition over time of the station area.
Source: Miriana Leo

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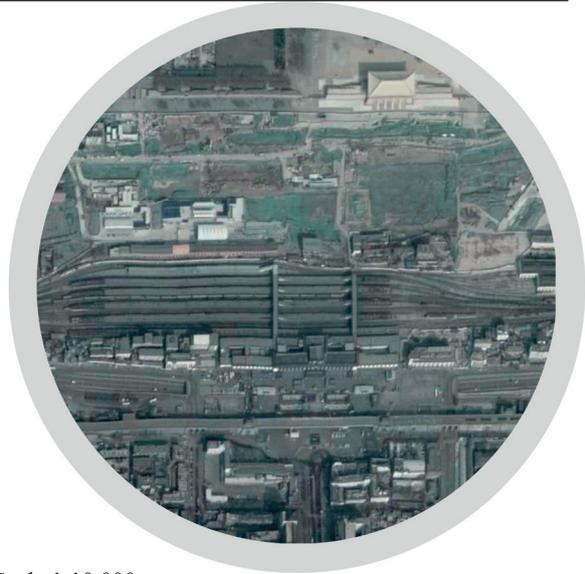
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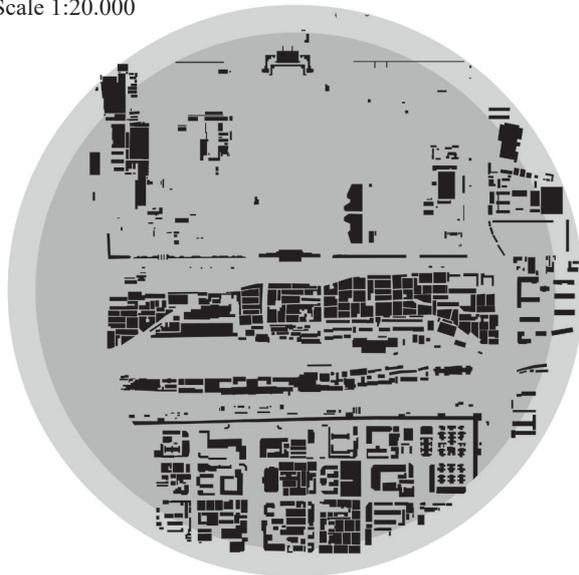
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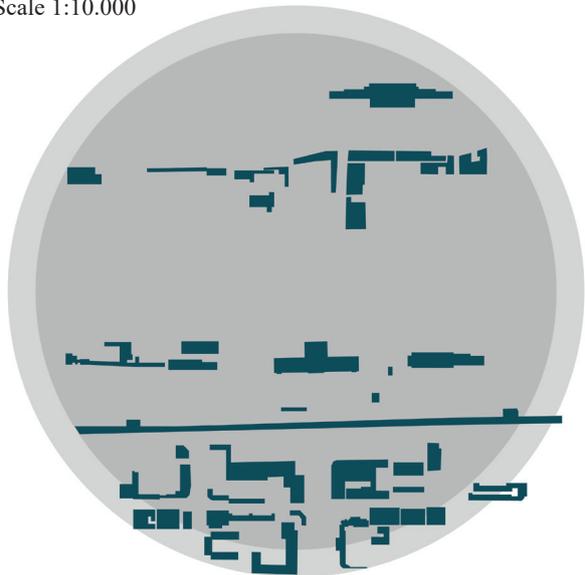
Building Of Interest
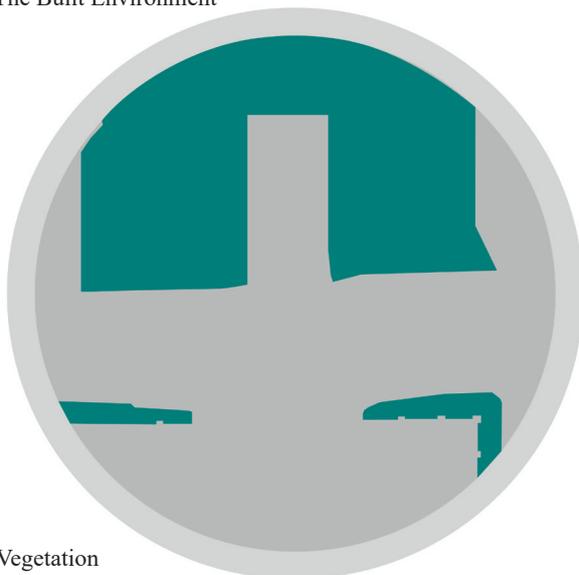
Vegetation
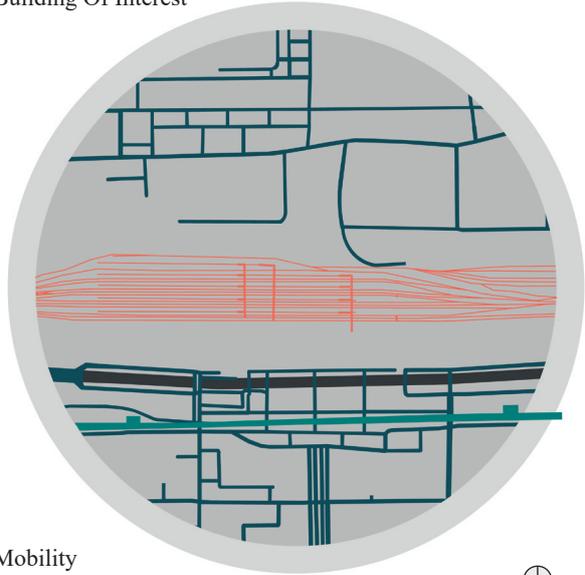
Mobility

Figure 4.16 Reading at different scales of different urban aspects. Source: Miriana Leo

Main Road
Secondary Road
Node
Landmark
High density neighborhood
Low density neighborhood
Medium density neighborhood
Margins
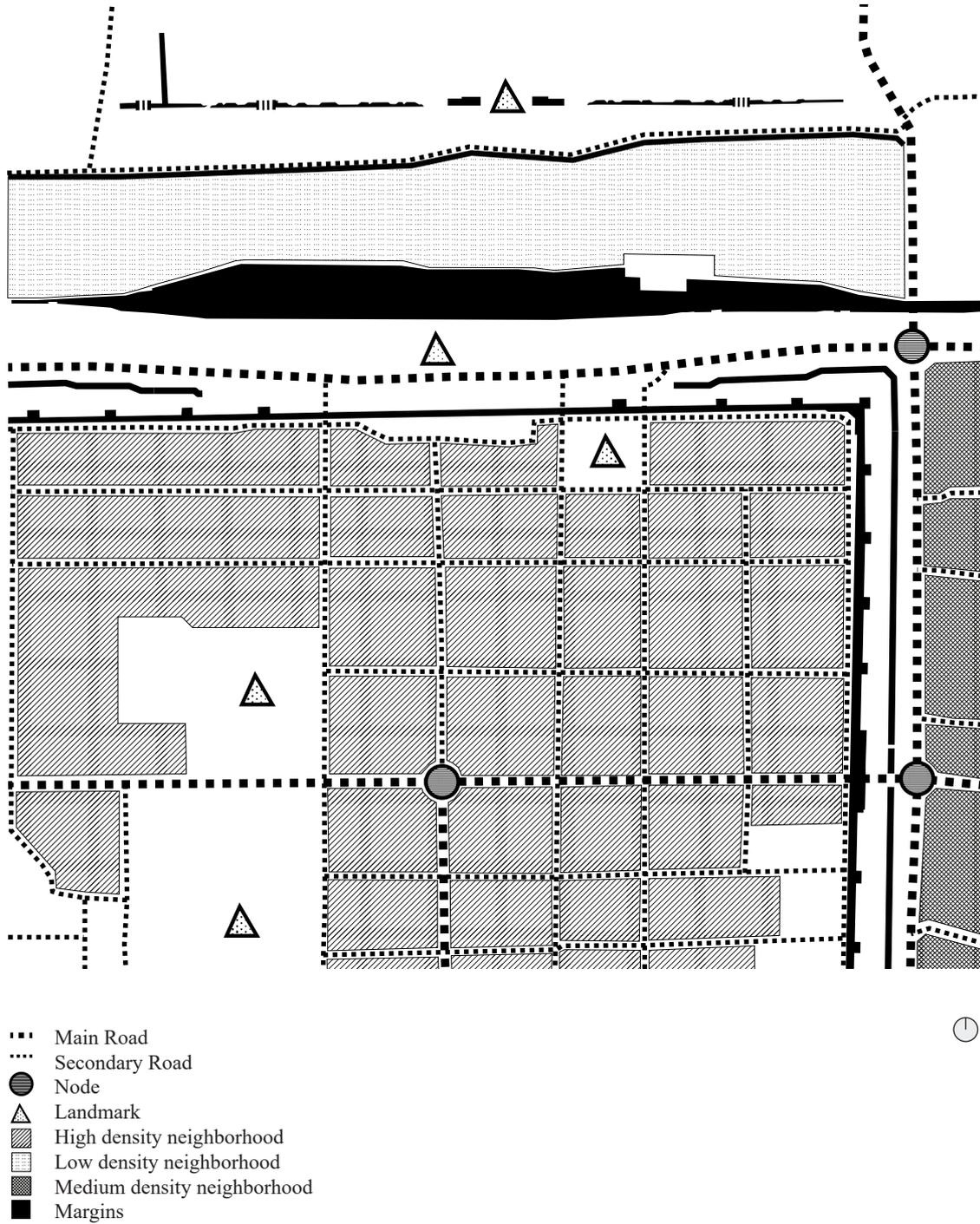
Figure 4.17 Lynchian analysis. Source: Miriana Leo

4.3 The City of Barriers

In the historic city of Xi'an, spaces with the formal, spatial and material qualities typical of cities surrounded by city walls emerge. In fact, a sort of collision occurs between the walls and the adjacent building, or more generally in the space between barriers, which becomes a fundamental aspect of the site. This collision produces objects, which in turn produce spaces, which do not belong to any typological order, therefore, a generic architectural language is produced whose common datum is architectural objectivity itself (Aureli, 2011). This language is also interesting from the point of view of spatial perception, which creates a sort of identity of the place with non-repeatable spatial formulas. For an analysis of the barrier element from the point of view of perception, K. A. Lynch comes to our aid with his mental mapping (1960) which shapes the perception of users in urban environments. The mind map (Fig. 4.17) analyzes the five elements present in the Lynch's theory of analysis: the paths, roads, sidewalks and other channels in which people travel; the margins, borders perceived as walls, barriers; neighborhoods, relatively large sections of the city with a certain identity, character or density; the nodes, focal points, intersections; and finally the landmarks, easily identifiable objects that act as points of reference. From what emerges, the area enclosed between the walls of the Daming Palace Heritage Park and the urban walls of the city of Xi'an has in turn another series of barriers within it, more understood as impassable fences, which make the extremely difficult site to interpret and above all to cross, both visually and physically. In fact, ideally along Jiefang Road from south to north to infinity, one encounters a series of barriers, fences, walls that interrupt the path and narrate a new urban episode (Fig. 4.18): first we meet the Historic city walls, a city wall well preserved which was rebuilt in the 14th century during the first Ming dynasty and was based on the inner imperial palace of the Tang dynasty; followed by the element of the railway tracks that marks the area with its presence, followed by numerous fences that delimit the houses in the spontaneous urban settlement created during the years of construction of the railway station (around 1930); ending with the walls of the Daming Palace, built in 663 and now an urban archaeological park open to the public in 2010. So here, in this urban area by architectural objectuality we mean the architecture that manifests itself through the composition of volumes that shows the possibility of living in space, also proposing a grammar to organize the city in ever-different ways.

Historic city walls
year of contruction **618-907**
year of recontruction **1368-1398**

Railroad tracks
year of construction **1934**

Separation walls for spontaneous settlement
year of settlement around **1930**

Daming Palace National Heritage Park
year of construction **663**
year of reconstruction and park opening **2010**
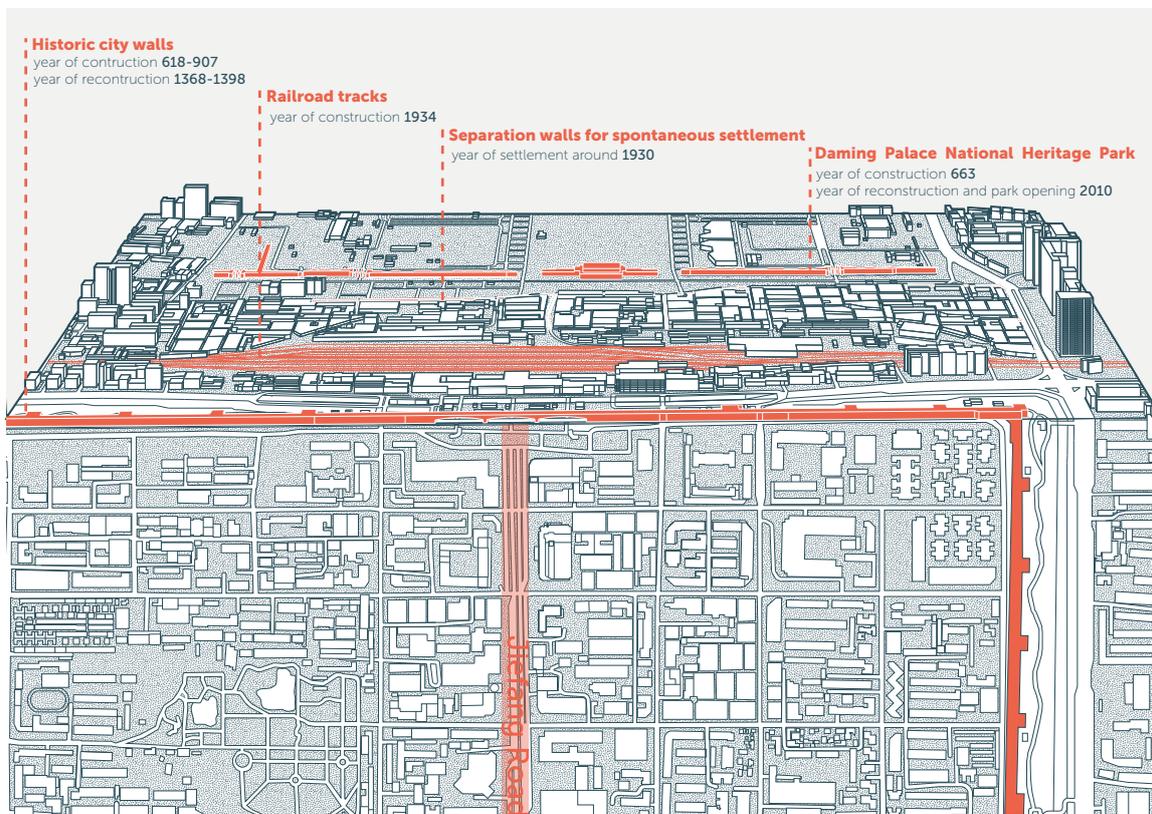
Figure 4.18 The City of Barriers. Source: Miriana Leo

4.4 Understanding the Urban Scale

One of the most important proportions in any work of architecture or urban architecture is the self-referential relationship between a distance and another distance or between one dimension and another dimension, in other words the scale. The elements of the city and their dimensions are in some relationship of scale with respect to the single human being or to some activity of the single human being. While these distances may not be easily distinguishable or may also be clouded by their large number and complex overlap, they are still primary in how people perceive a city and must therefore be primary in how a city or parts of it. a city are planned. The distances between the elements of the city are in relationship of scale with the distances that people can travel within certain intervals of attention. The distances between the elements of the city are also in relationship of scale with the distances of visual recognition. The importance of scale for our sense of place is an integral part of the sense of continuity of the urban fabric. This paragraph is based on an architectural investigation to understand the spatial dimensions of the project site with its formal qualities. The intention is to compare the project site with its dimensions with two different projects whose urban scale is known and easily assessed, so as to be able to circumvent the problem of distance from the project site and therefore the lack of inspection. The two projects compared with the project site are Central Park in New York and Tiananmen Square in Beijing (Fig. 4.19). The results of this survey are the understanding of the urban scale which becomes fundamental for identifying with the user who perceives the project.


Railway Station area, Xi'an
0,43 km²

Central Park, NY
3,41 km²
Frederick Law Olmsted (1822–1903)

Tiananmen Square, Beijing
0,44 km²
(1417)

0   210 m
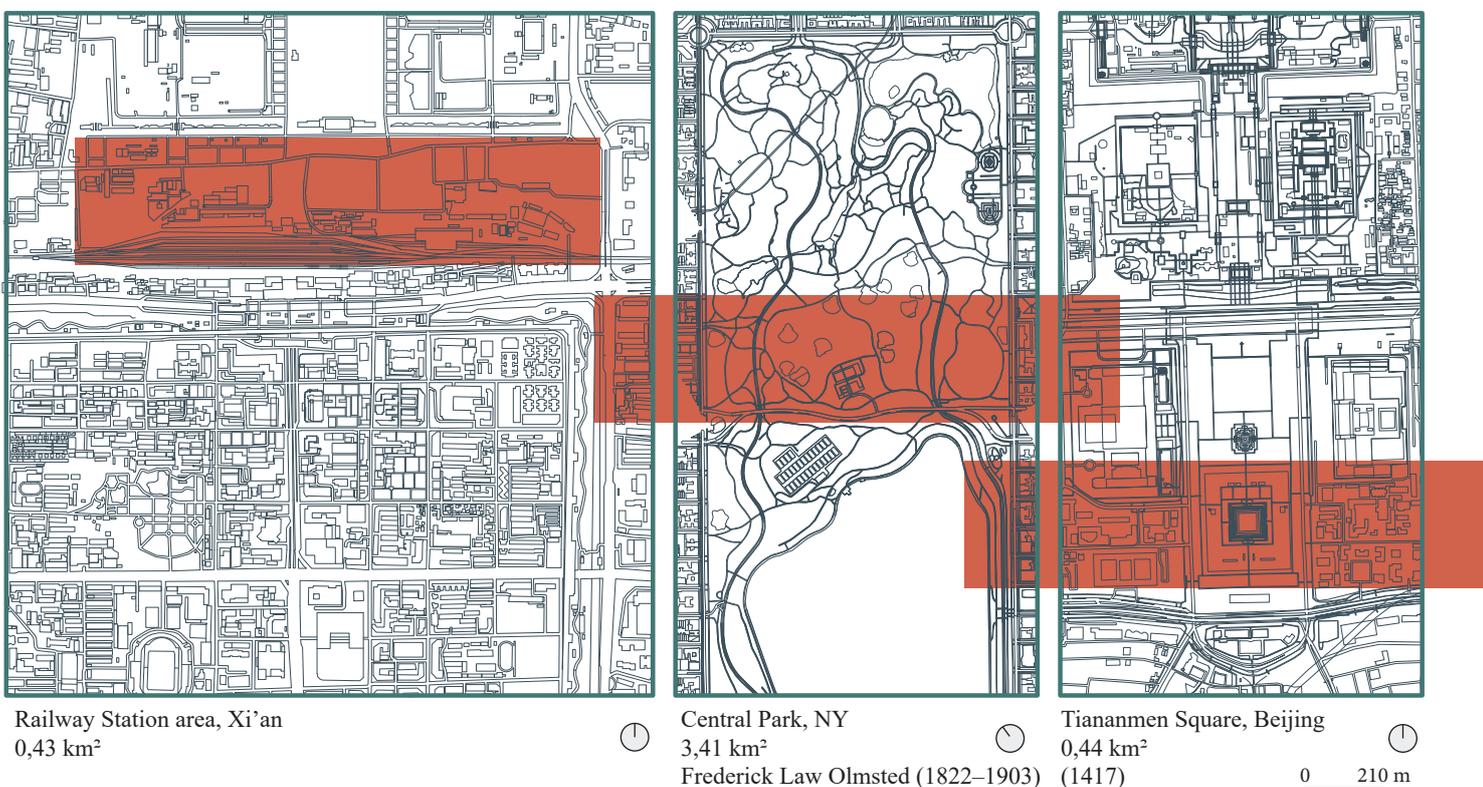
Figure 4.19 Comparison on the same scale of size. Source: Miriana Leo

CHAP_5

Design Approach

5.1 A Garden in the Fragment

The project site, following various morphological transformations, has gradually lost its identity, becoming a sheet full of erasures, full of furrows hidden by a hybrid urbanization, devoid of a setting guide, generating only impassable walls. With the extension works of the railway station, the site has become a blank sheet where any spontaneous settlement has been canceled, leaving only the purely functional buildings serving the railway station and devoid of any kind of relationship with the city and contact with the society. And if instead we tried to think of an alternative destiny, where that immense area is returned to the city of Xi'an, at the service of the population, what could that blank sheet become? The goal is to define an explicitly urban, social, collective space, so that it defines the most essential practices of the city as well as of society within the building fabric.

This is where the idea of a park was born; but since the design space is well defined by impassable margins, it would be more appropriate to speak of a garden, understood in the ancient sense of the term, from the Indo-Germanic "gardo", which means perimeter space, or clearly delimited in which something grows. Historically, the public park was born with the intention of staging, that is, of pretending nature within the urbanized territory. On the contrary, the garden does not hide its relationship with the city, it does not pretend 'nature'. The project aims to revisit the theme of the urban garden, making this white sheet an aligned series of different natural features, going beyond the idea of the space of passive contemplation of nature in favor of the garden as a space of diversity, sharing and solidarity between the inhabitants. As in the medieval garden, the contemporary garden can be a space made up of different 'rooms', with clear limits, which establish a rhythm and which follow time by changing their shape, like any natural essence. What emerges is a composition of strips of naturalness and in this composition each strip relates in sequence to the others through paths and transition limits, well defined in the plan, but almost imperceptible in the user's experience, were it not for a modification of colors, scents, shapes, climates, uses and situations: from a highly artificial soil such as that of the railway tracks, to the playing fields, to the shady forest up to the large lawn close to the walls of the Daming Palace Heritage Park. In this way, crossing the park means experiencing themed spaces, spaces characterized by possible uses and not predefined functions: from the contemplative spaces of the forest to the active ones of the fields and the large lawn.

The project becomes an escape from congestion, a clearinghouse, in which we try to soften the intense life of the metropolis, staging a natural vision, albeit organized by a design. In fact, the artificiality in the project is not hidden but exhibited, arranging the elements that characterize the garden in sequence.
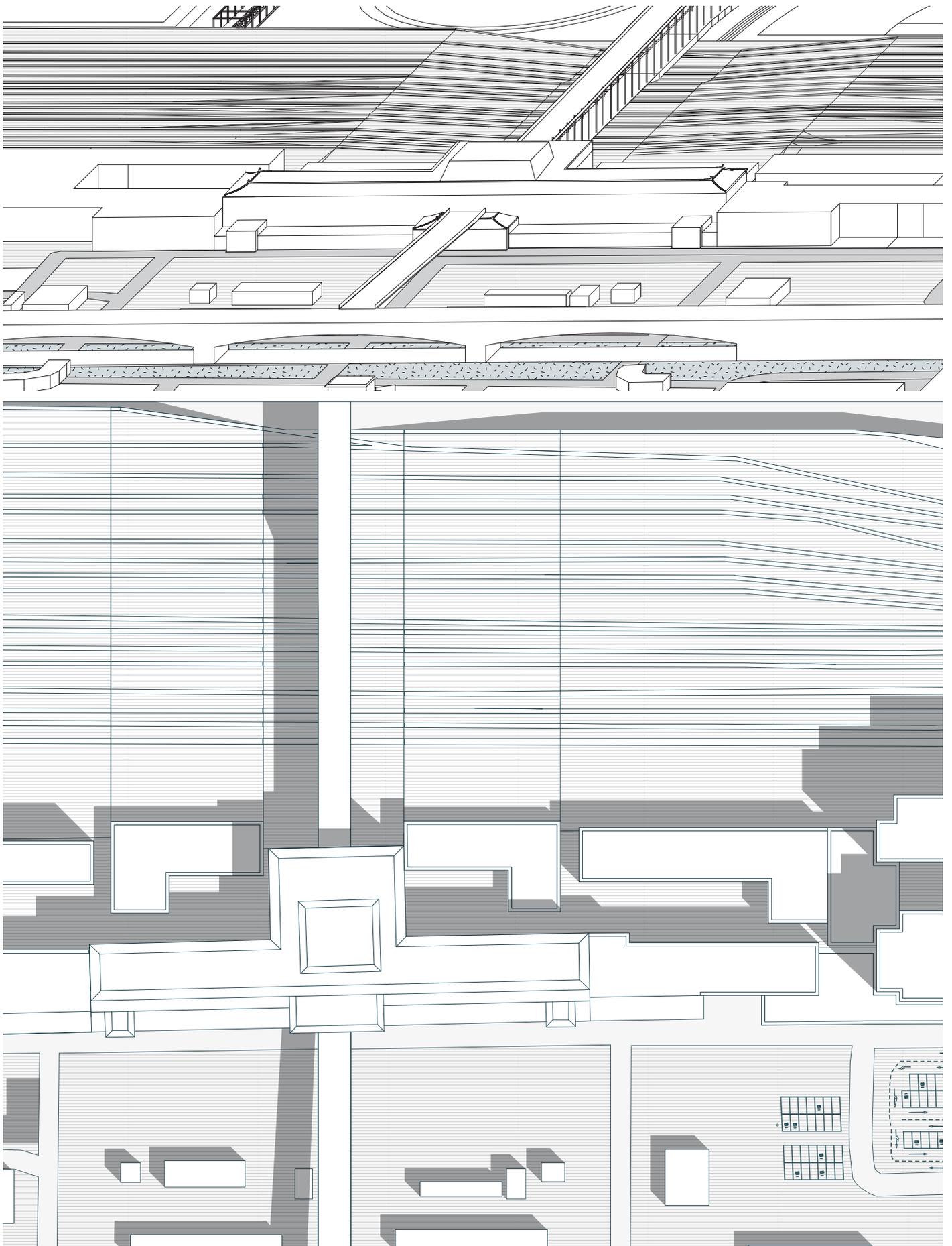
Figure 5.1 Strip of artificial soil, + 0 meters above sea level. Source: Miriana Leo
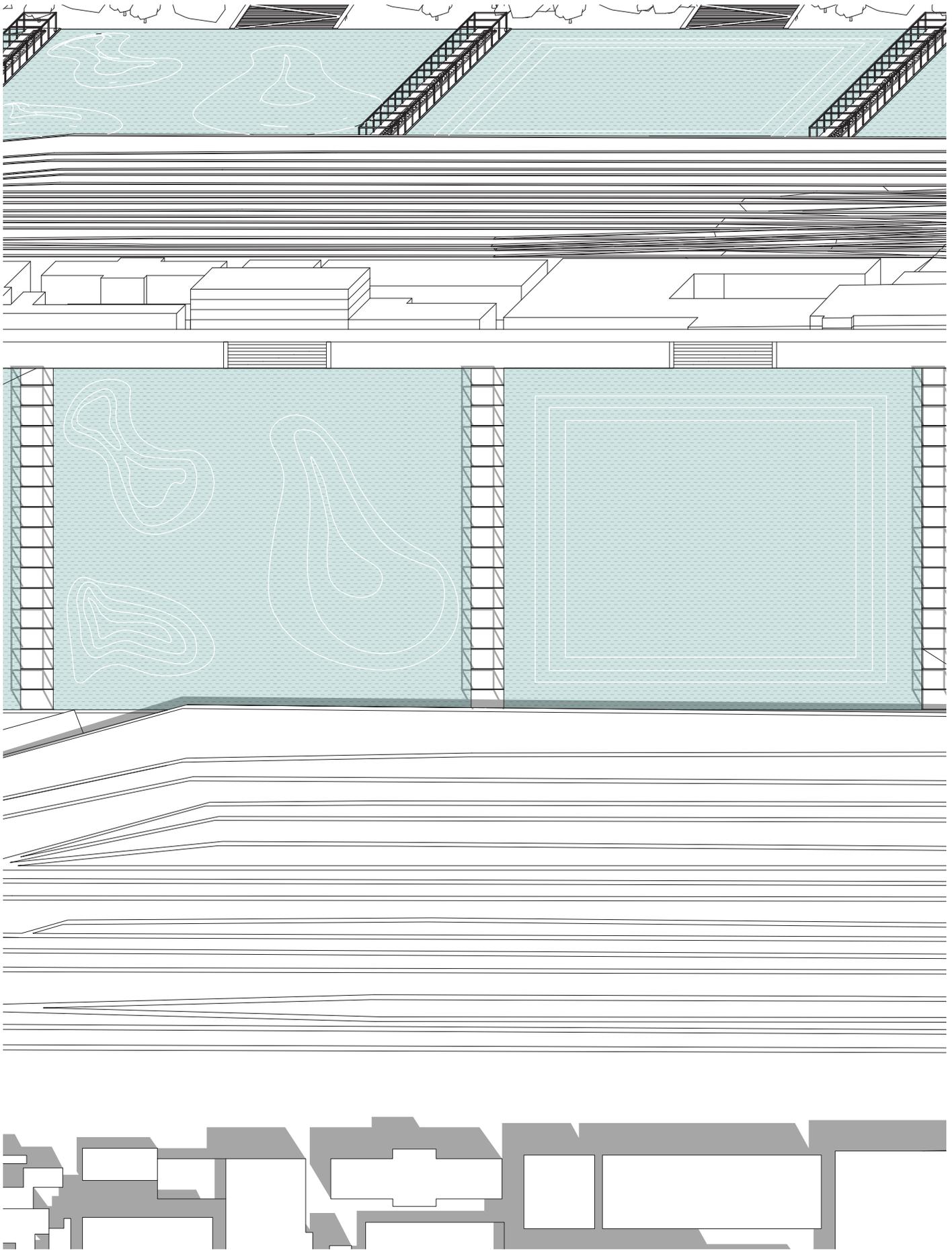
0 _____ 15 m

Figure 5.2 Strip of Playgrounds, -4 meters above sea level. Source: Miriana Leo
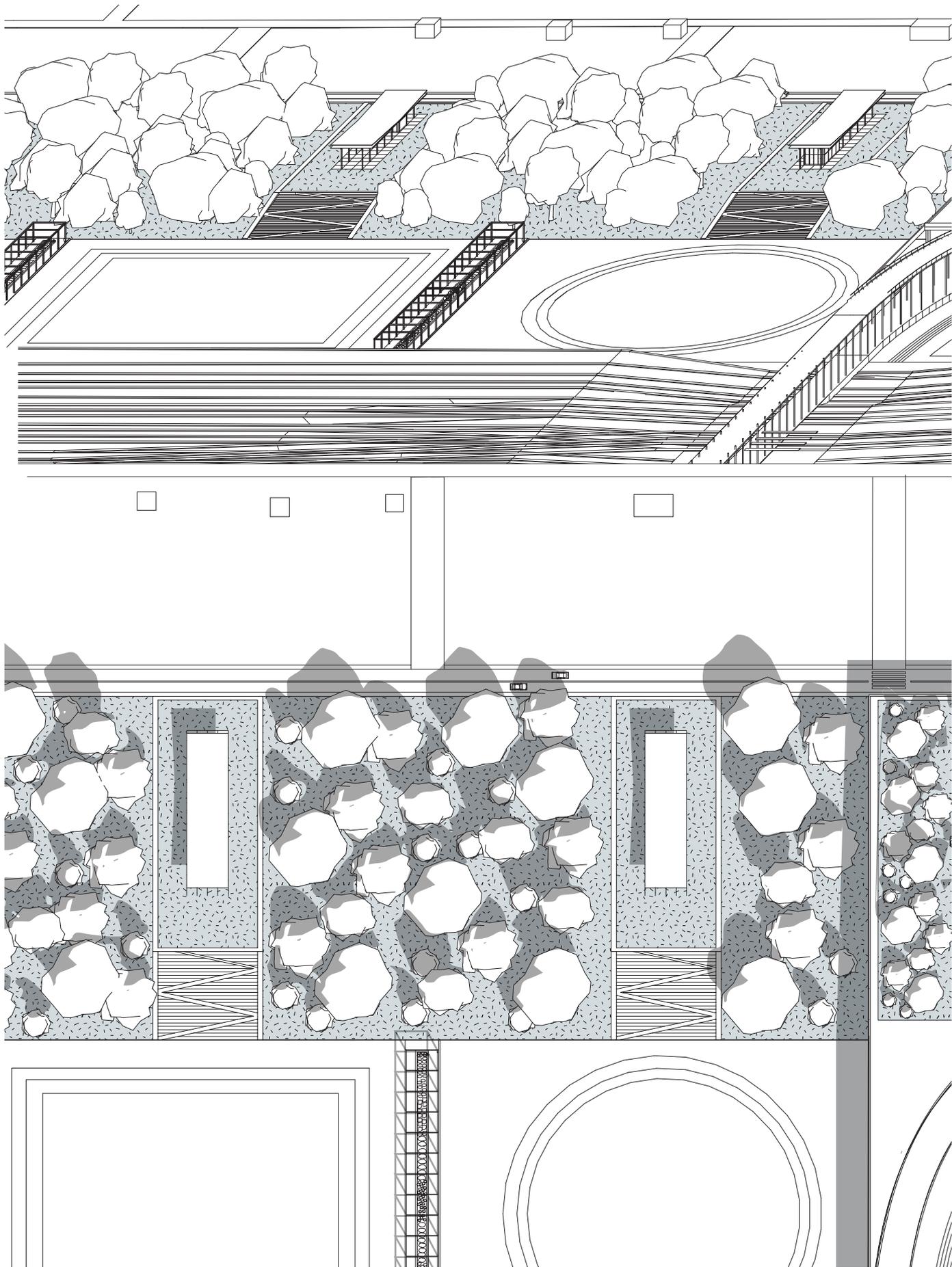
0 _____ 15 m

Figure 5.3 Strip of forest, [-4; 0] meters above sea level. Source: Miriana Leo
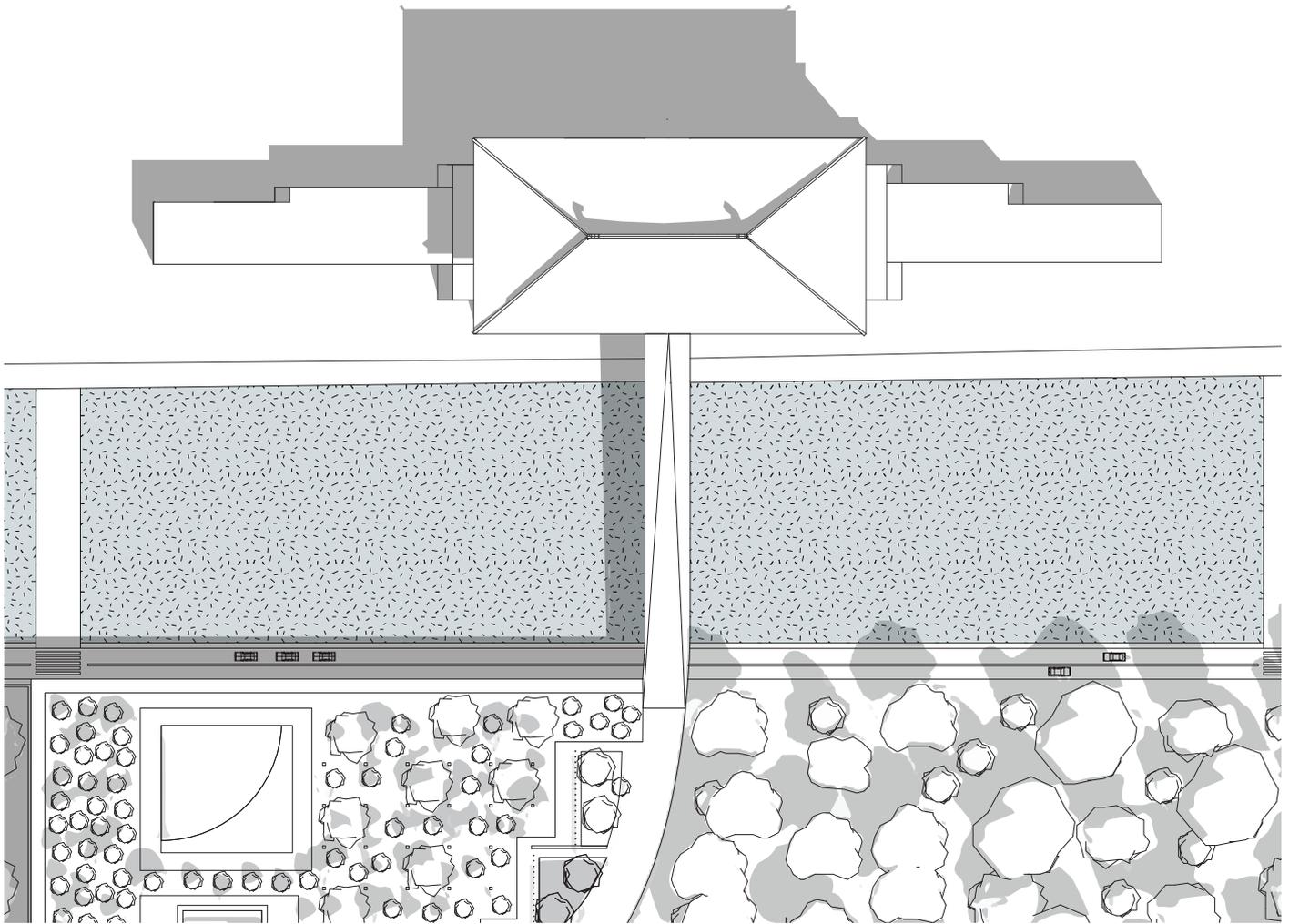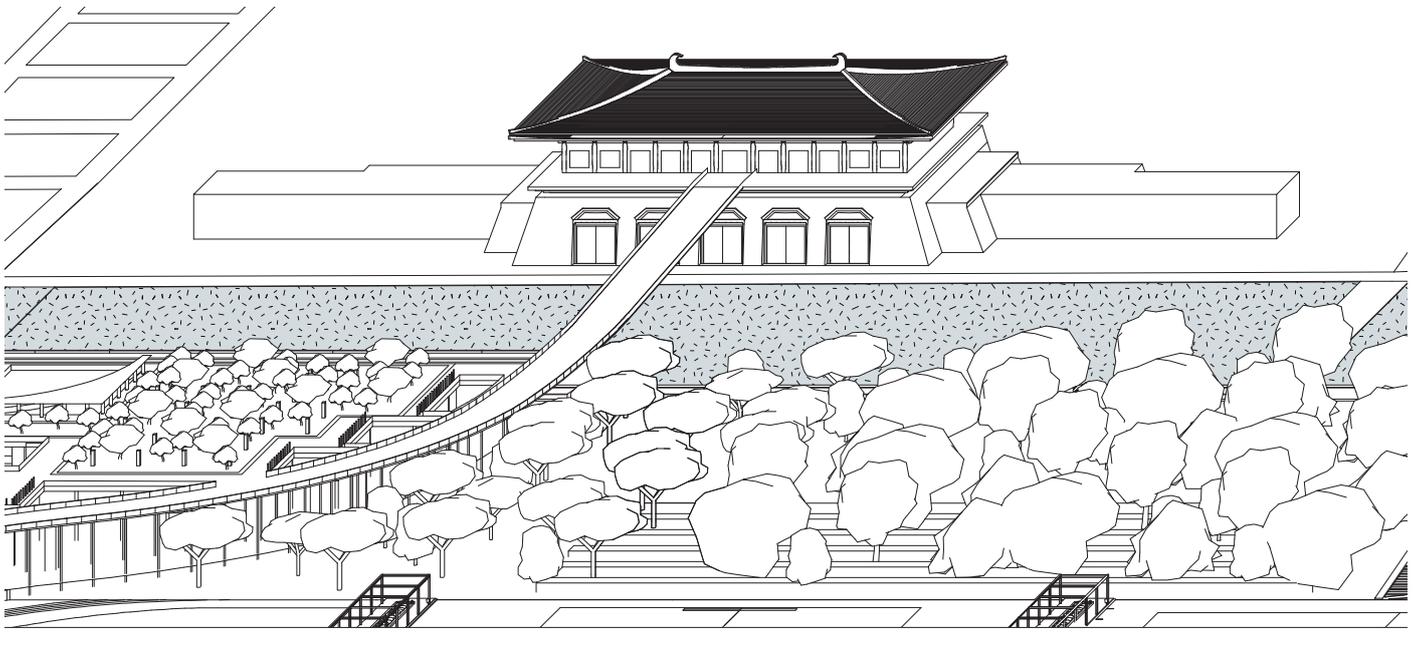
0 _____ 15 m

Figure 5.4 Strip of lawn, +0 meters above sea level. Source: Miriana Leo

0   15 m
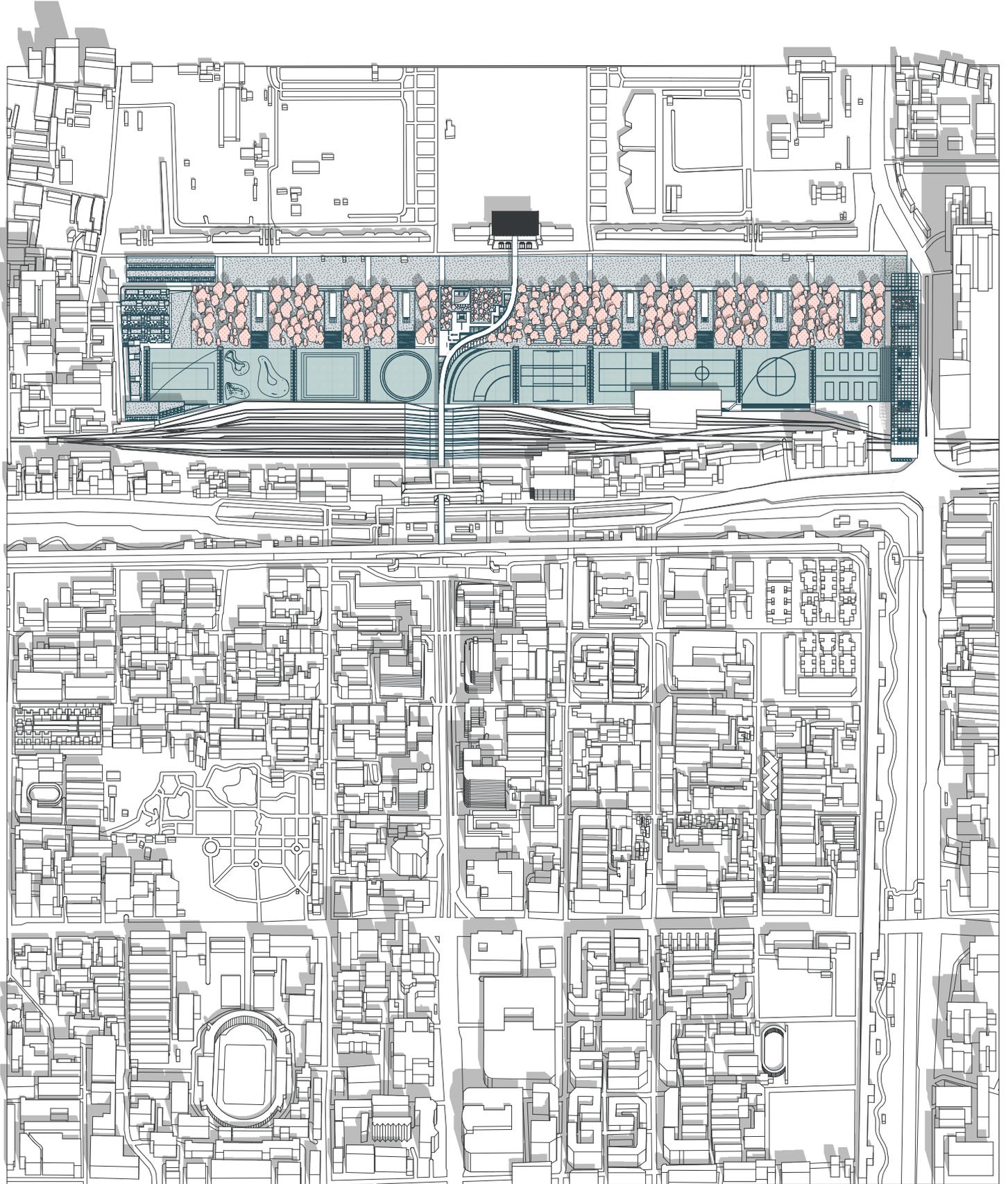
Figure 5.5 A Garden in the Fragment. Source: Miriana Leo

0 _____ 10 m

5.2 The relationship between Nature and Artifacts

In the urban contexts that surround us today, nature is confined to certain areas of the city, often peripheral, and it becomes more and more "domesticated", being regulated by the artifice that limits spontaneous growth. Our scenarios are thus increasingly guided by fixed spatial distributions which recall a feeling of protection, but at the same time do not leave us freedom to choose our movement.

In a time of dramatic environmental transformation and permanent economic uncertainty, our priorities have been slowly changing and the city requires more vegetation within its borders, witnessing a "greening" of our society; now new ways are actively sought to reconcile and combine nature and city in a harmonious coexistence.

Nature is often seen as a whole, as a concrete reality and as something unique, but human beings constantly try to satisfy their desire for nature, making it take different forms for different people. The concept then becomes somewhat simplistic: it becomes a question of understanding exactly what kind of nature is sought within a city, by reconsidering, for example, the typology of John Dixon Hunt (1996), which ranges from wild and virgin nature; to Cicero's alteram naturam, exploited by humanity to satisfy her needs, that is, the countryside; to a nature improved by art, Jacopo Bonfadio's third nature, or "terza natura". This thesis therefore seeks to combine different forms of nature by integrating them into the urban development of the city of Xi'an, questioning the contradictions that have emerged so far. The design goal is to redevelop the area of the old Xi'an station, supposedly abandoned, with a green area that functions as an ecological filter at the service of the city and society.

How can a green lung relate to the urban center historically consolidated by a grid, where mineralized soil and increasingly massive buildings dominate?

In the collective human imagination, nature symbolizes freedom and beauty and, at this moment in human history, it is in clear opposition not only to industrialization and urbanization (Stallybrass et al., 1986) but also to the city itself, which appears more than ever as the imprint of humanity's power and its ability to transform its environment. The desire for urbanity, born of humanity's desire to be with other humans, and the desire for nature, therefore, are thought of as two opposing and irreconcilable elements, devoid of common elements (Cantillon, 1755; Mumford, 1964). But considering the experience of man in a natural and artificial environment, the two realities are not so different.

In nature, man feels a sense of comfort surrounded by leaves and branches and it is man himself who decides his own path, immersed in the "Saltus". These open feelings create the qualitative values of the experience in a forest, understood as the maximum expression of disorder, a clear contrast to the order of the "Pagus", the urban center. In the latter, however, the perception is very similar, since the user is surrounded by infinite artificial pieces with which he feels protected and here too there is free choice of his own movement. Therefore, in the design concept the distance between nature and artifice, or rather forest and city becomes ever smaller, looking for a mixture of "Pagus" and "Saltus" in different layers distributed on different levels, but integrated in a single site. The goal is achieved by staging different contrasts, such as order-disorder, interior-exterior, nature-artifice, transparency and opacity that are expressed on the same scene making it a very

intriguing environment. All this does nothing but perfectly hold together the different uses and programs present on the site (Fig.5.6): from the residential function of the buildings on the west edge, to the cultural and exhibition function of the museum in the center of the area, which keeps the railway station connected to the Daming Palace Heritage Park, to the various sports areas, to the various leisure functions present in the various pavilions scattered along the forest, to the cycle path on the old tracks and on the elevated promenade, to the work space both outdoors and inside certain areas but always in close contact with nature in the Breathig Frame which constitutes the eastern edge of the project. In concrete terms, the resolution of the contrast between "Saltus" and "Pagus" takes place with the application of a grid, very similar to the one that guided the birth of the city of Xi'an, which makes clear the desire for integration and escape from congestion, although it is the greatest manifestation of artifice. Each structure inside the new park in Xi'an becomes an experiment of ephemeral revelation: the steel, used for the structures, heavy and artificial, paradoxically creates very light and transparent structures, as if they were suspended in the same way as a crown of tree, making the separation between internal and external environment become more and more blurred, thus creating dynamic and changing paths surrounded by different scenarios.

Another crucial point of the design concept is the union of two different scales: the architectural scale and the landscape scale. This leap of scale takes place within nature which becomes an urban landscape in a continuous transition between the architectural product and the landscape product, thus creating a new system of values in a landscape system and paths, disused tracks and ephemeral structures that become an occasion for an urban park.
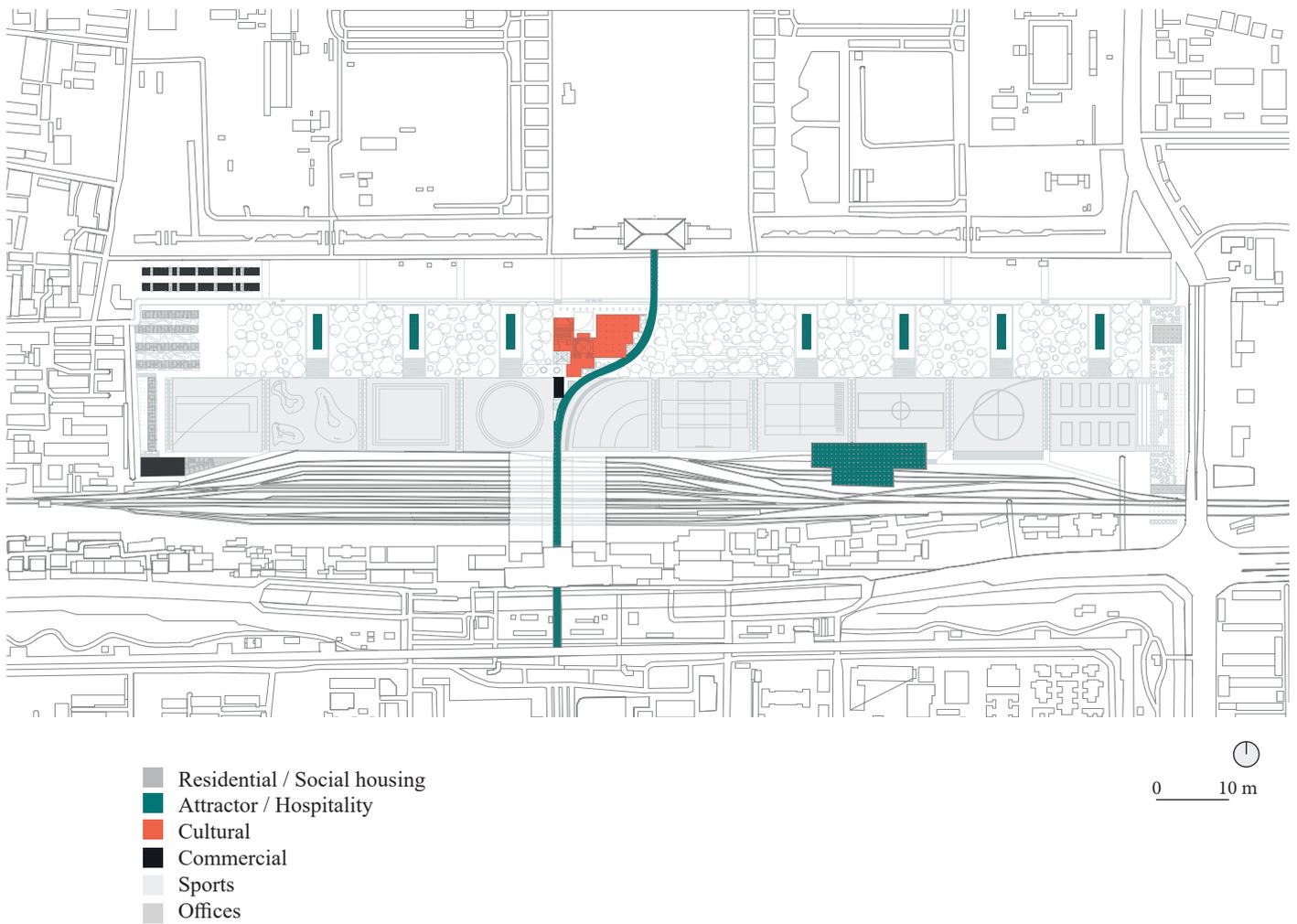
Figure 5.6 Functional categories. Source: Miriana Leo
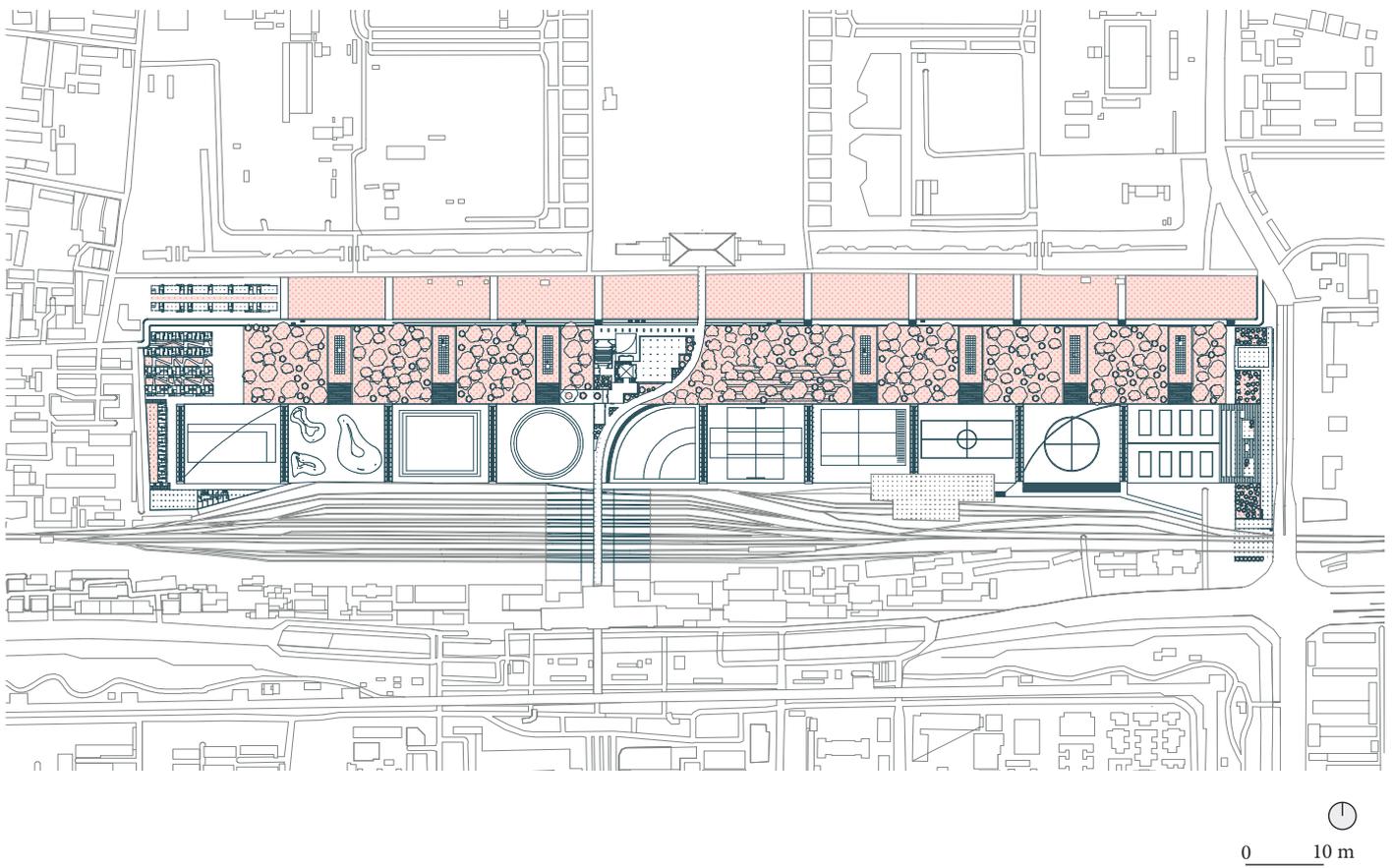
Figure 5.7 Green areas. Source: Miriana Leo

5.3 The Connecting Element

Metamorphosis Between Limits arises mainly from the desire to combine in a single project the three elements that Wu Liangyong mentions in his work The Science of Human Settlements in China: architecture, landscape architecture and city planning, all exploring the relationship between man and the environment. The hypothesis behind the project is that the building, now a railway station, loses its function, since all the railway traffic is absorbed by the north and south station, while retaining that of the subway stop. From here the area, without the function of the station, becomes a blank sheet, with no identity, since this was previously canceled with the railway settlement. This is where the morphology comes into play which, initially with the use of utopia and subsequently lowering itself into the context, redesigns an urban piece from scratch, trying to evoke the history of the place through the connection of the two cultural poles that delimit the site. The connecting element takes the form of three different elements that merge to create an urban infrastructure, the attractive fulcrum of the project: the promenade with cycle path, the museum and the raised forest. The goal is to create a connection between the outer walls of the city and the Daming Palace, crossing the body of the historic station with an urban design that gives shape to this connection, trying to re-establish a balance in a fragmented area. The connection thus becomes an object between two historical poles, an elevated walkway, which frees itself from the ground grid, placing itself on another level, and acquires organic forms to connect the two poles characterized by axes of symmetry placed on different parallel lines. One of the main challenges was to find a balance between allowing visitors to get as close as possible to the crowns of the trees and allowing them to arrive in the two poles, thus giving life to a walk that changes its path both horizontally and vertically. The promenade comes to life by connecting to the city walls and the existing cycle path, allowing the use of the promenade by riders, tourists and inhabitants who decide to enter this garden and thus reach the Daming National Heritage Park. Along the way, visitors encounter a series of experiences involving a progression of open fields, a forest and green lawn. The 615 meter long promenade becomes the main artery to cross the urban garden and offers a unique observation point from about 12 meters above the ground, becoming a walk in space, in time or in space time.

With the premise of ensuring the full visualization of the site and combining the sinuous lines of the promenade with the design of the ground, the second connecting element takes shape, the museum, which explores various themes associated with the history, culture and society of the city of Xi 'an in about eleven thousand square meters of the building. It wants to appear light, transparent, clear, punctuated by equidistant columns that almost give the impression of a floating roof. The use of glass that gives transparency to the building creates a direct connection between exterior and interior, also recalling the verticality that denotes the surrounding nature with the structure. So the building wants to be a space that defines but does not confine itself, in the constant dialectic between integration and closure, where integration is union and fusion between the nature of the forest and the internal environment that complement each other and the closure lies instead in the walls and in the boundaries that delimit the spaces in which the meeting between users takes place. From this point of view, the so-called "Core" of the museum is of great importance,

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the first access space where all the flow of visitors necessarily converges, thus becoming a "Social Place".

Thus eliminating the barrier between art and community and inviting interaction between the viewer and art, the user will feel a life-giving liberation when his gaze is captivated by both nature and art. The design concept of the museum is therefore a single roof that covers a variety of different volumes, with different heights and with different functions, which converge in a courtyard that creates a direct connection with the sky, a courtyard for outdoor leisure, a good place to meditate, reflect on your mind or look at the sky. The third element embodies the essence of the meeting point, public space, social place, since its purpose is to create an active interaction between architecture and citizenship through the reactivation and free use of a place in a site now erased and almost ignored, but rich in layers and historical traces. With this aim, a continuation of the forest on the roof of the museum is created, reachable by means of the promenade by both riders and pedestrians. In this way a balance is maintained between ensuring the continuity of the green space and providing a good environment for the museum below. This raised green space serves as a place for reflection, meeting, discussion and observation, bringing the community together outdoors and in nature for targeted interaction. As for the materials, exposed concrete, steel, glass and natural materials such as wood for the construction are used to create a garden that in its totality had a unified language, a rich space and with architectural objects similar in essence but different in the form.
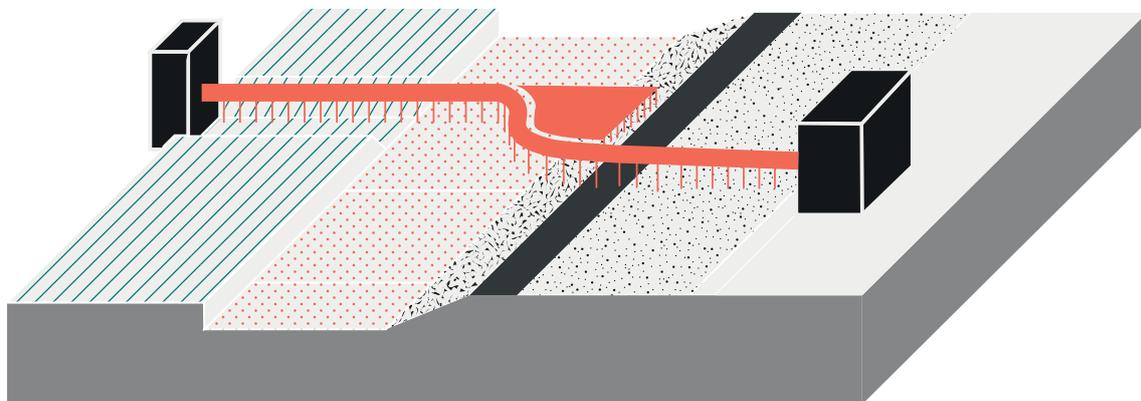

Figure 5.8 The different strips of naturalness, the bike path and Xi'an Museum. Source: Miriana Leo

auditorium
-2,20 m

main entrance

0 m

exhibition hall
-2 m

the core
-2 m

inner garden
0 m
-2 m

open gallery
-2 m

shop
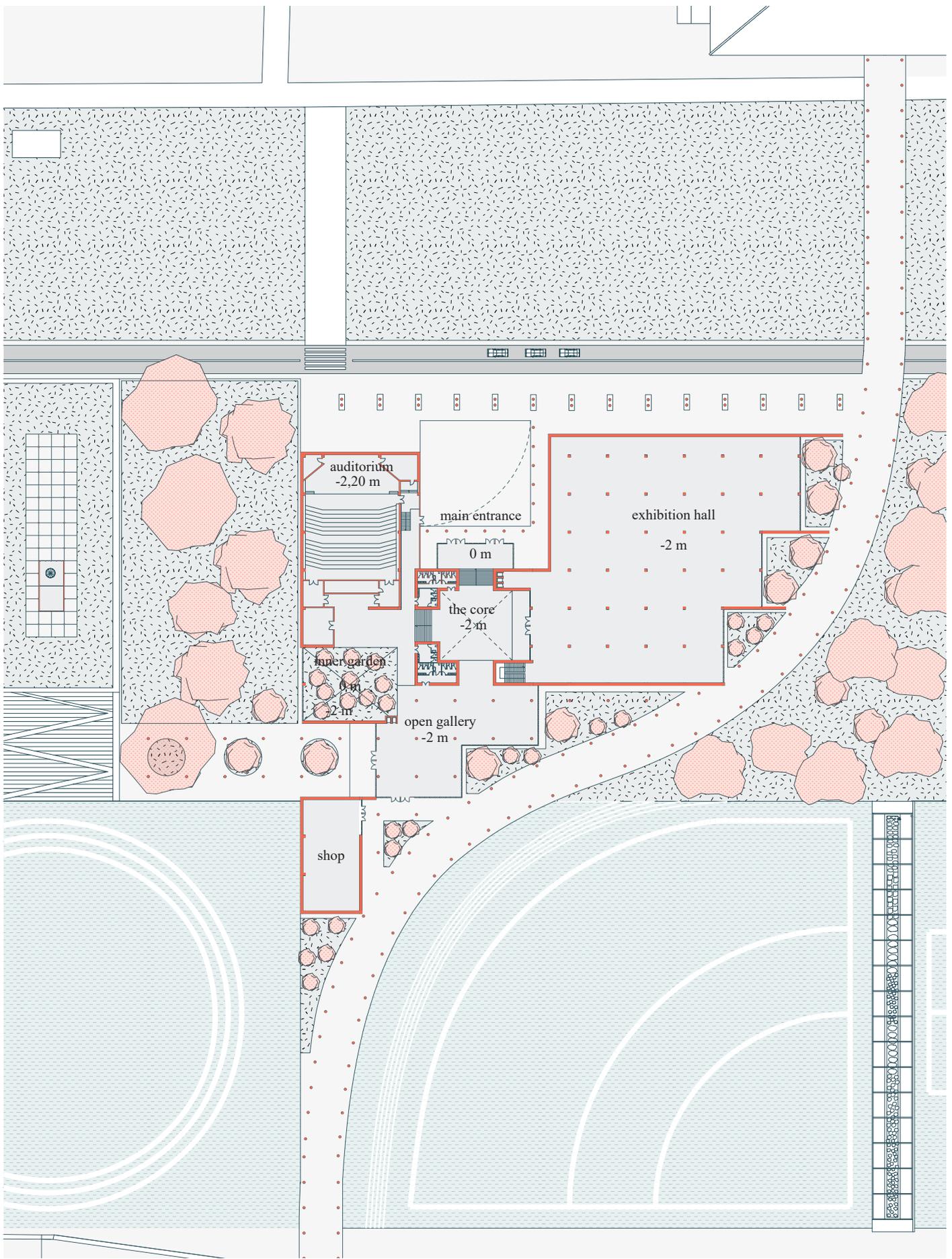
0   12 m

Figure 5.9 Plan of Xi'an Museum. Source: Miriana Leo
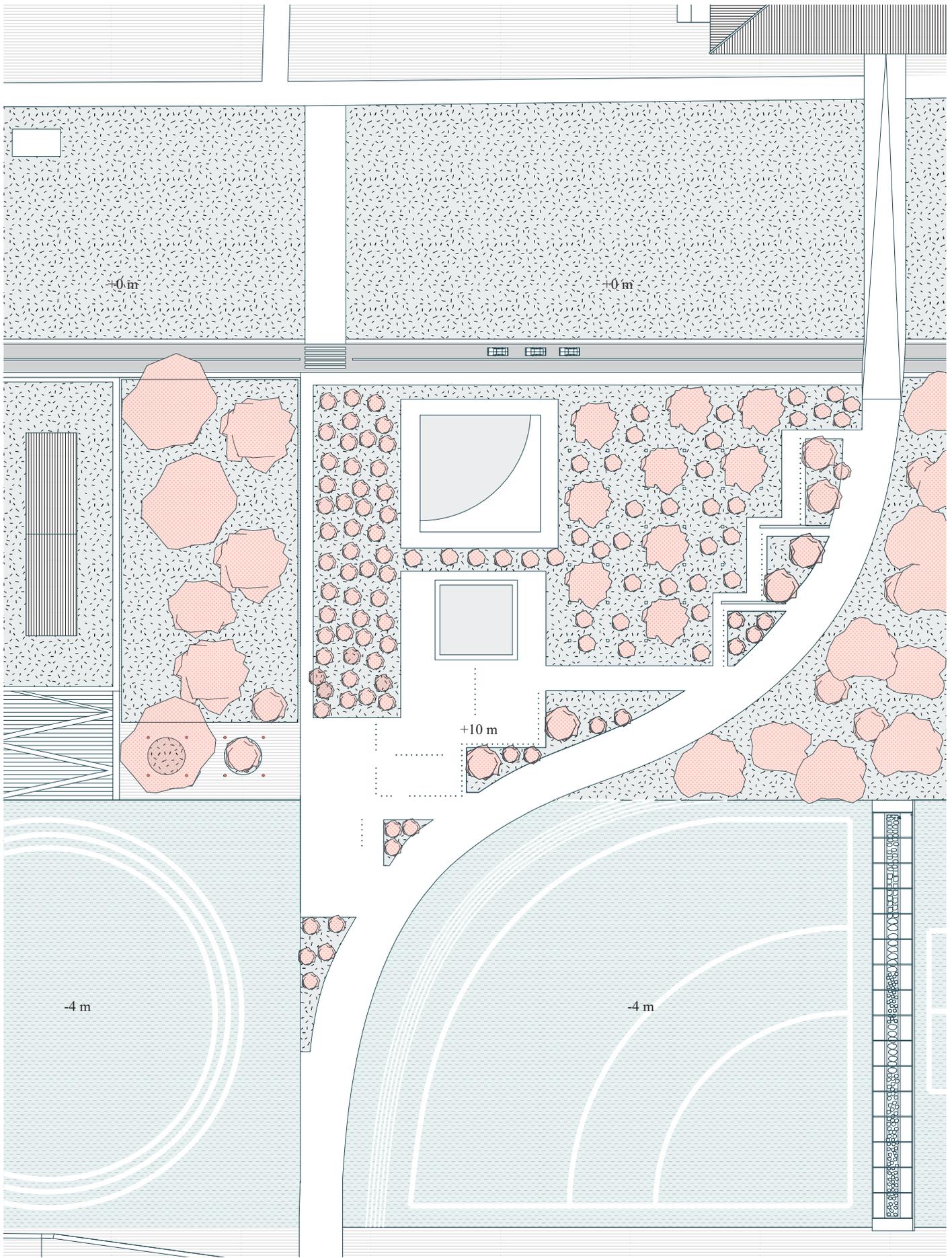
Figure 5.10 Roof plan of Xi'an Museum. Source: Miriana Leo

+0 m

+0 m

+10 m

-4 m

-4 m

0   12 m
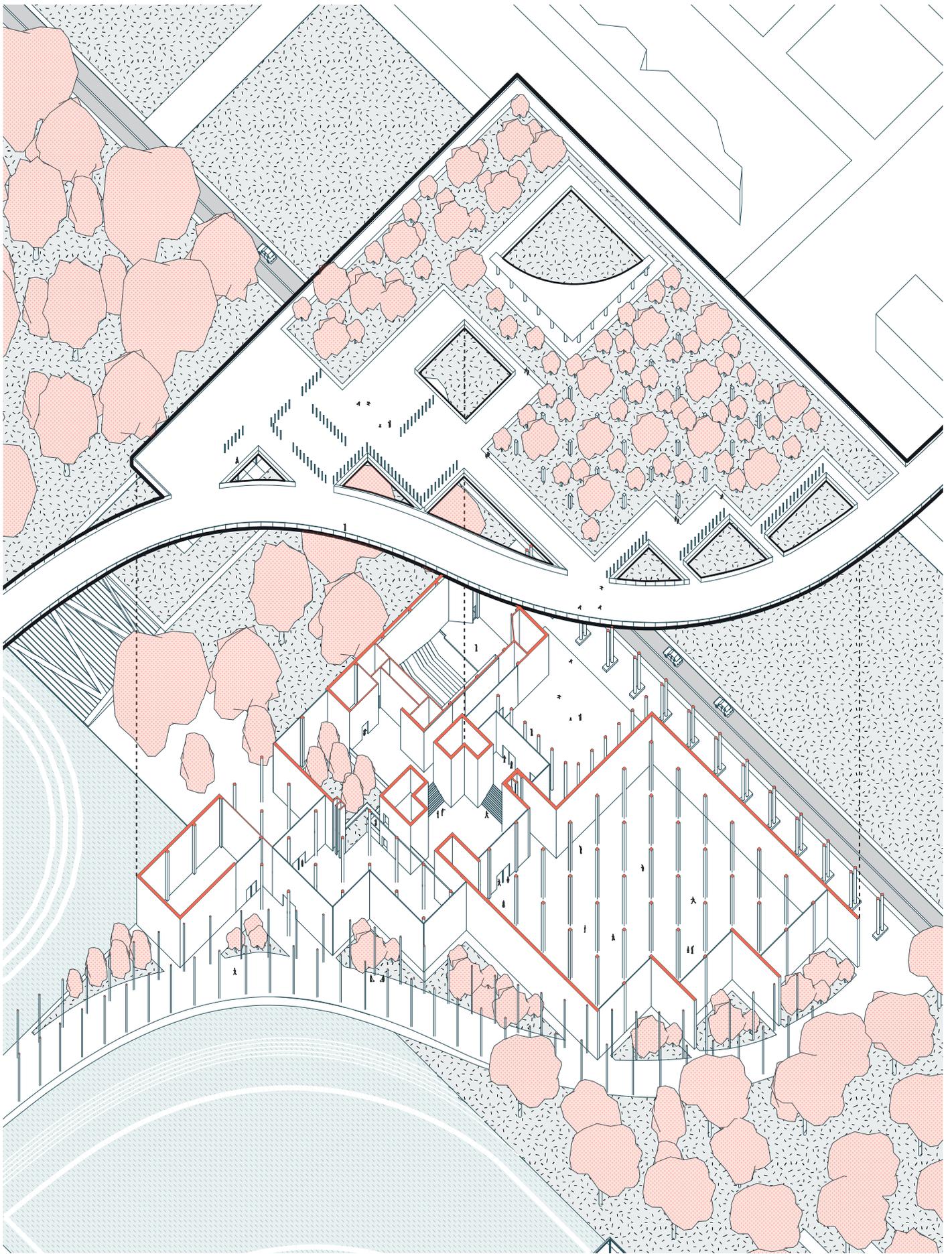
Figure 5.11 Isometric exploded view of Xi'an Museum. Source: Miriana Leo
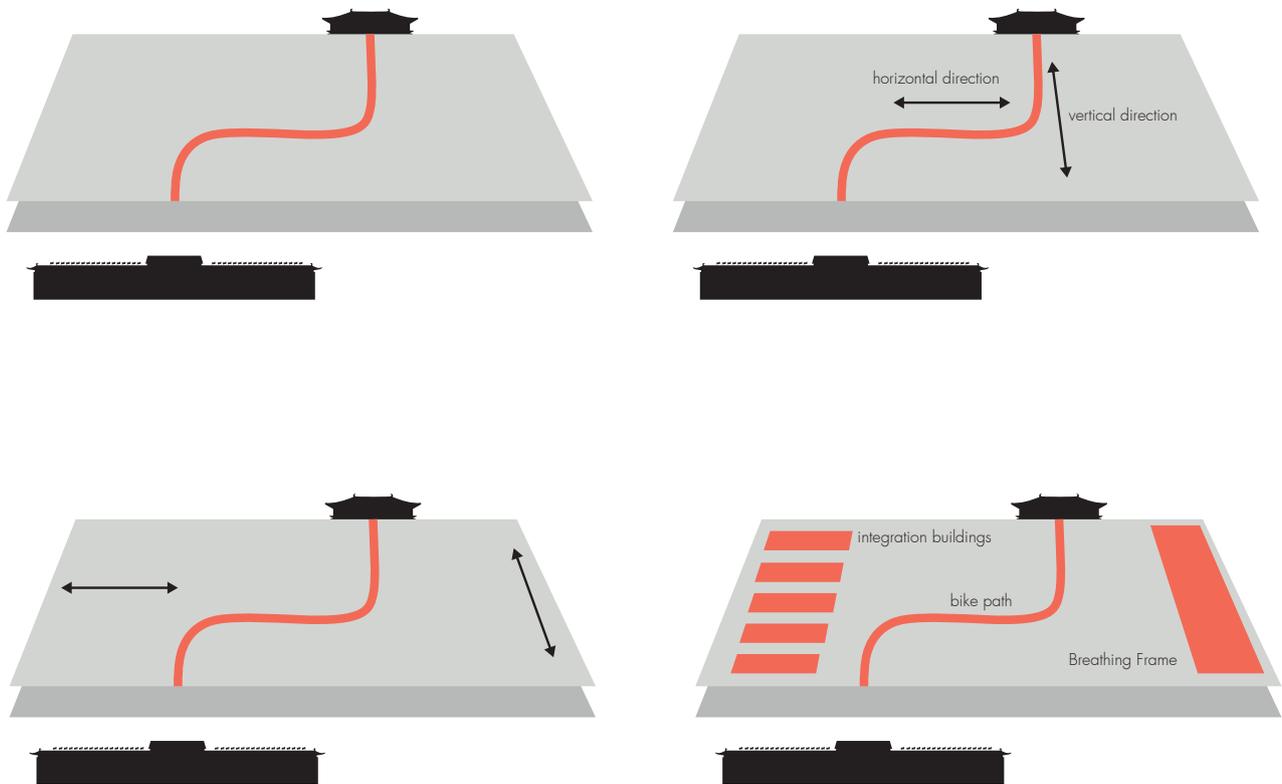
Figure 5.12 The different directions of the development of the built. Source: Miriana Leo

5.4 Matter of Margins

The settlement matrix of the project exploits the application of meridians and parallels to make a setting grid with fixed elements marking the ground tangible, becoming permeable limits: seen in plan, the horizontal direction is mainly held by the walls of the Daming Palace to the north and by the urban walls to the south that both act as margins, inside this is made explicit by the natural bands; the vertical direction is instead held by pergolas, pavilions and walkways. These limits are visible in the design, but in the user's perception these limits become very labile and permeable, denoted only by a differentiation of the nature or material or structure that surrounds the user, all in an adaptable and resilient spatial framework. At the edge of the site, these guidelines are realized with buildings that follow different settlement philosophies, expressing the desire to have fewer intrinsic characteristics with small objects that appear within the site, while maintaining a certain cohesion and coherence: to the west the residential buildings attempt a mimesis with the existing urban fabric with a development along the horizontal direction, thus allowing the insertion by bands in the garden; to the east, in the presence of the overpass that blocks the view of the user and the recently built buildings of about ninety meters, the development of the built volume follows a vertical direction, making the latter a sort of scene that closes the view. This building called Breathing Frame is a huge, very transparent and light structure, composed of a dynamic network of bridges, paths and tree walkways populated by gathering points and interactive functions, all immersed in the nature that inhabits the building, creating a variety of unexpected points of view with a platform game and nature. The will is to create contrasts, mixes and different scenarios between nature and artifice, where paradoxically nature is the "inside" and the building becomes the "outside", in a continuous relationship of comparison and balance. Breathing Frame with its transparency makes the settlement not very massive, but at the same time performs its almost basic function for the adjacent skyscrapers, almost giving the feeling of decreasing their height. Therefore, both margins are not a limit, but an entrance, a means of comparison that creates a relationship with the urban context through voids and transparencies.
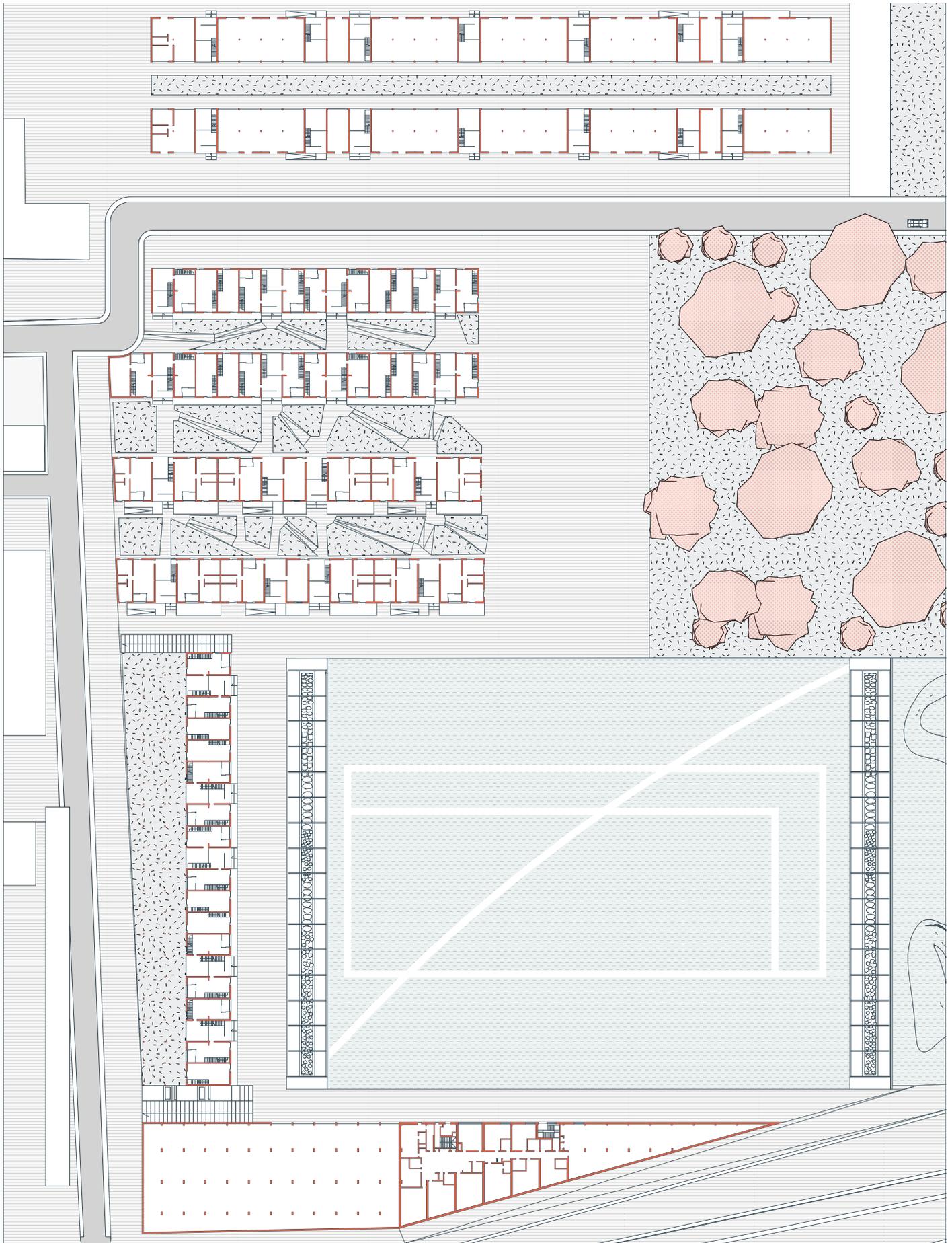
Figure 5.13 In the Playgrounds. Source: Miriana Leo
Figure 5.14 Residential Buildings. Source: Miriana Leo
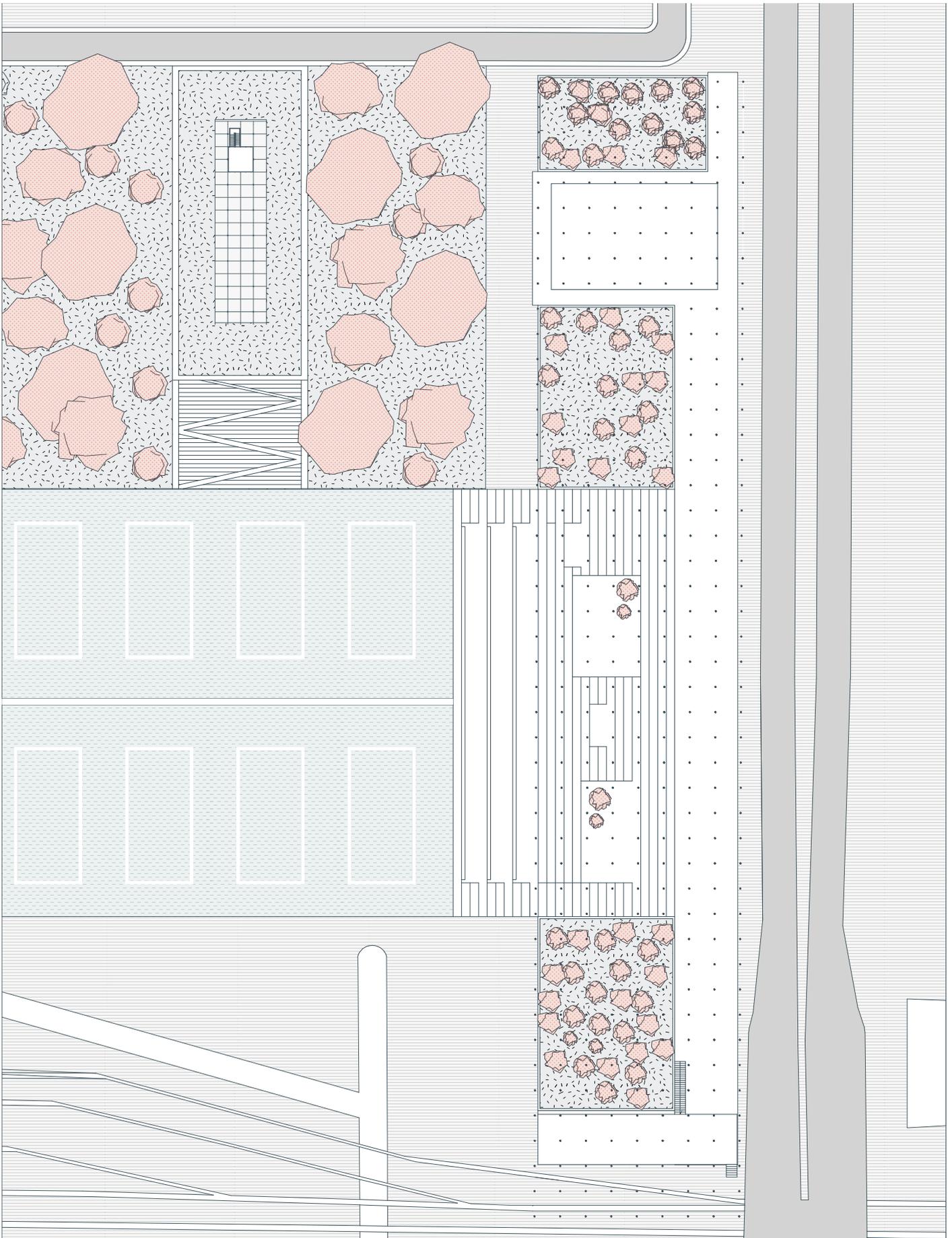
0   12 m

Figure 5.15 Social-Place. Source: Miriana Leo
Figure 5.16 Breathing Frame. Source: Miriana Leo
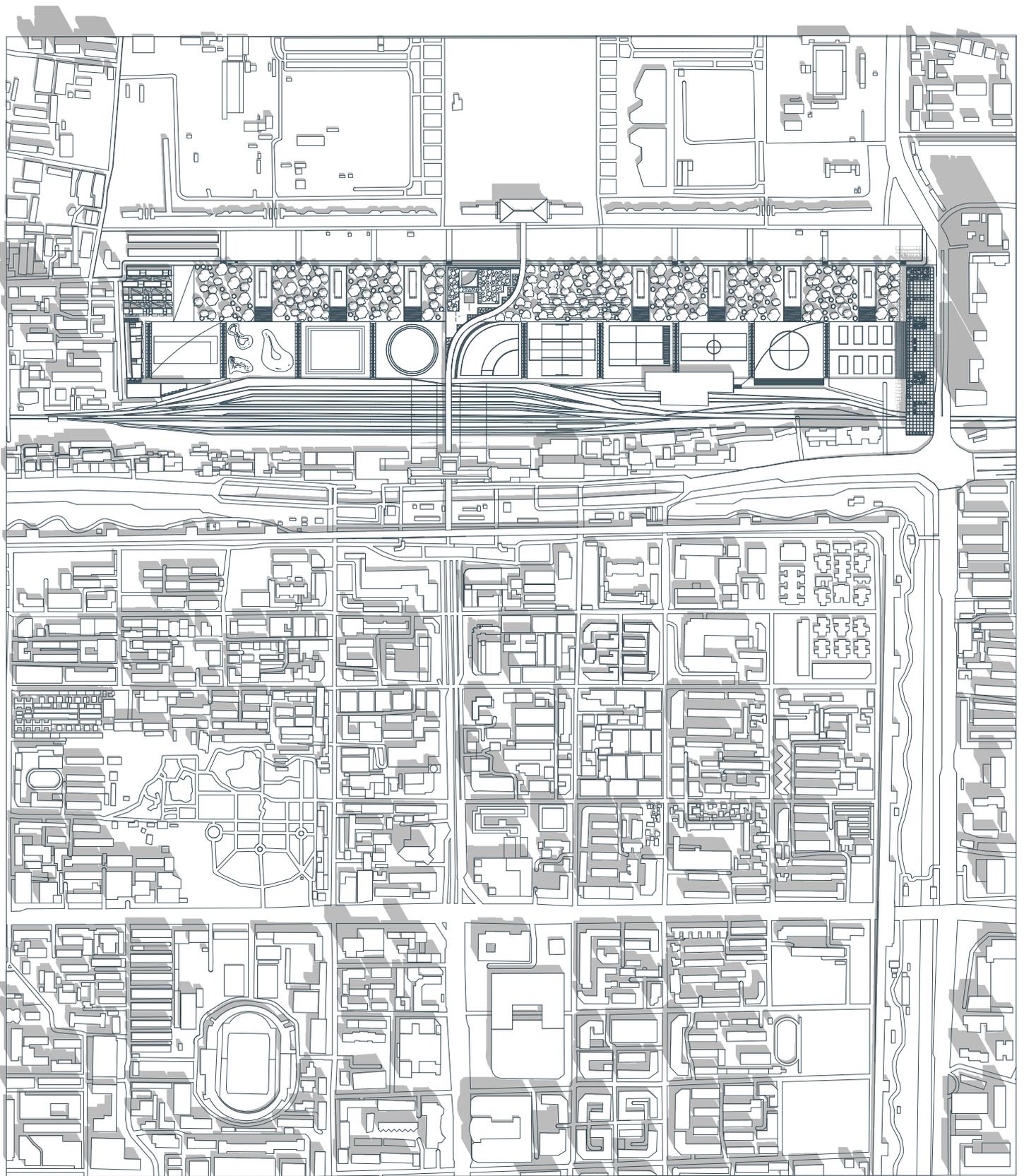
0 _____ 12 m

Figure 5.17 Planimetry. Source: Miriana Leo

5.5 A set of attractive places

Metamorphosis Between Limits consists of a landscape system and paths with a composition that holds together various uses and programs with the art of balance. This garden made of two-dimensional volumes and limits reintroduces a spatiality in which movement is freed from the predestined trajectories of the streets. The ways in this context are what connects creating contact, not just pure movement. The slopes present in the project do not force movement, but enable it, introducing in a much more subtle way the movement of bodies following predefined spatial organizations. The whole site appears as a hollow with a depression in correspondence with the belt of the playing fields, a meeting place, where the maximum concentration of bodies is expected. Even the tracks, which become an element of recall to the memory and identity of the place, follow the orographic change, taking on the function of guided routes for riders and runners within a linear park. The forest with its slope becomes an instrument of mediation between the difference in height between the playgrounds and the asphalt road, thus also becoming a natural acoustic insulator. In addition to the masterplan, the project includes the design of seven pavilions as a sort of system of dispersed covered spaces that support different cultural and recreational activities and overlap with their windows and the development of their roof to a system of lines that emphasizes the north-south movement through the park. The pavilions become an essential element in the spatial definition of the places inside the garden. They host in their very flexible interior space, dictated by a module of six meters per side, a series of leisure functions, such as reading room, bar, exhibitions, concerts, workshops, games and competitions (Fig. 5.8). The roof, repeated in all seven pavilions that differ only in the function and articulation of the module, was designed very large to provide a covered area for aggregation. Finally, the pavilions are on a sort of podium that regularly interrupts the expansion of the forest; this configuration in height attracts the user to be able to enjoy an unprecedented experience inside the garden. In the project, the limits are clear, what lies in between is indefinite: different development intervals that vary even with time.

lawn
road
forest
playgrounds
artificial soil
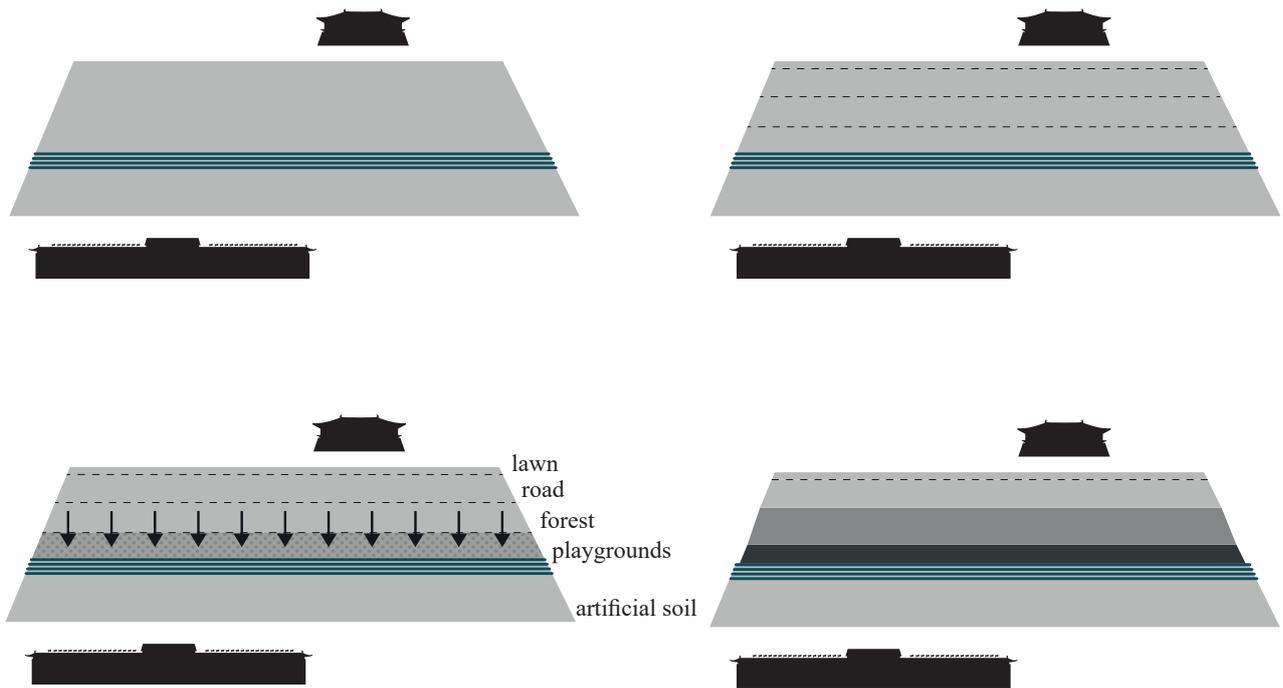
Figure 5.18 The different strips of naturalness. Source: Miriana Leo
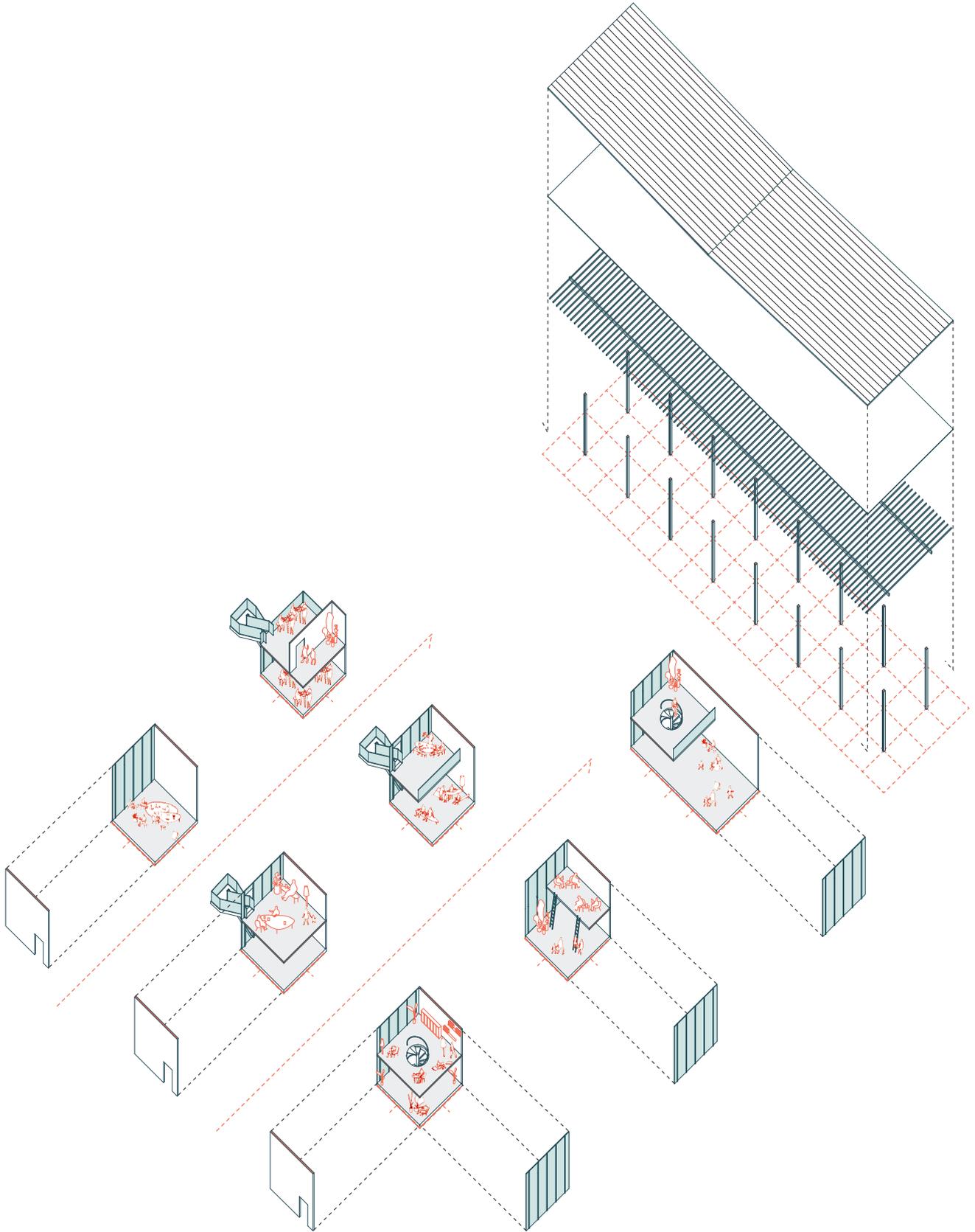
Figure 5.19 Development of the pavilions with cubic module. Source: Miriana Leo
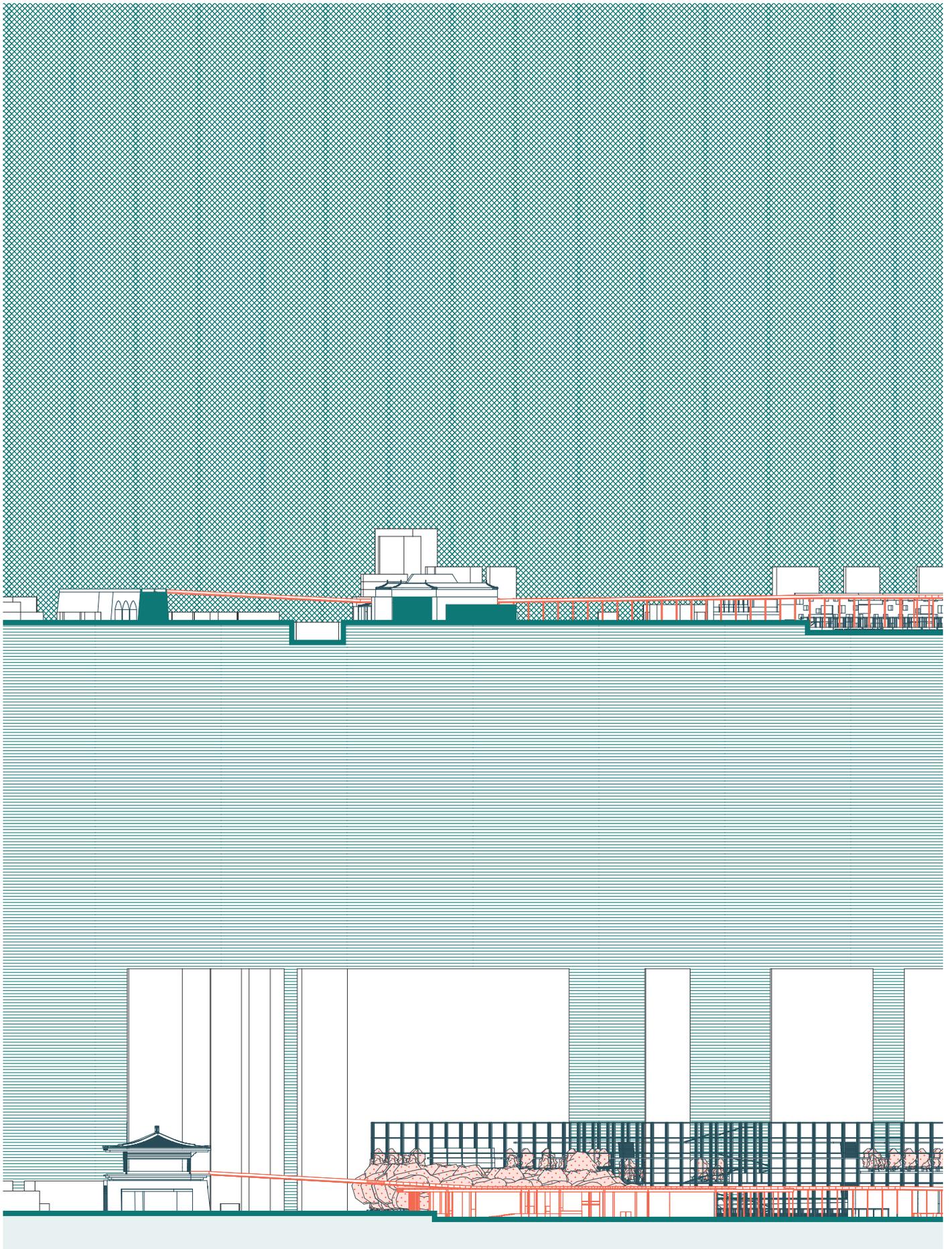
Figure 5.20 Longitudinal sections. Source: Miriana Leo
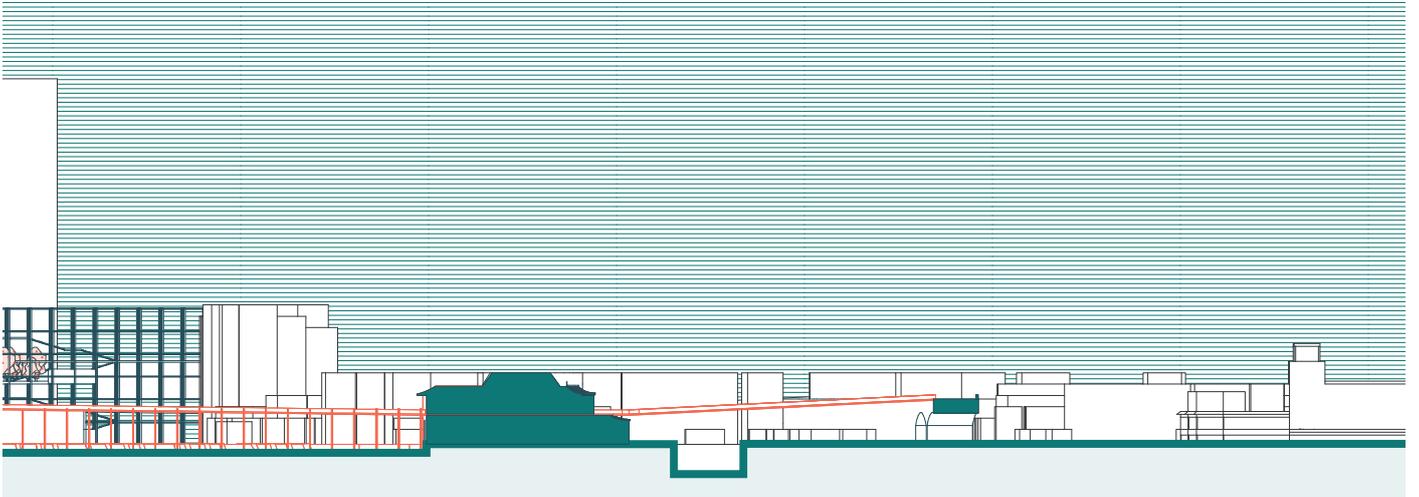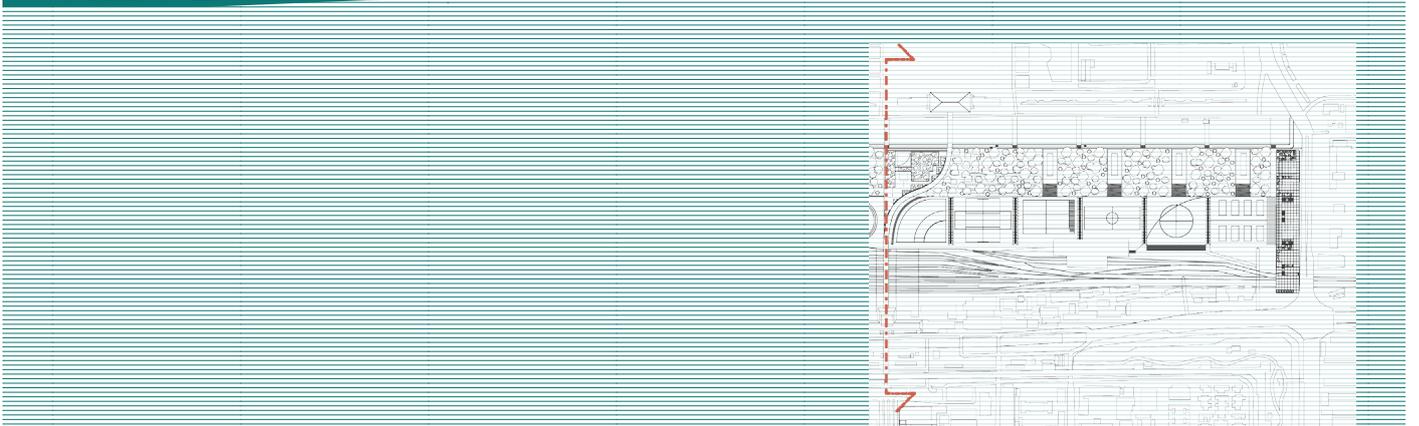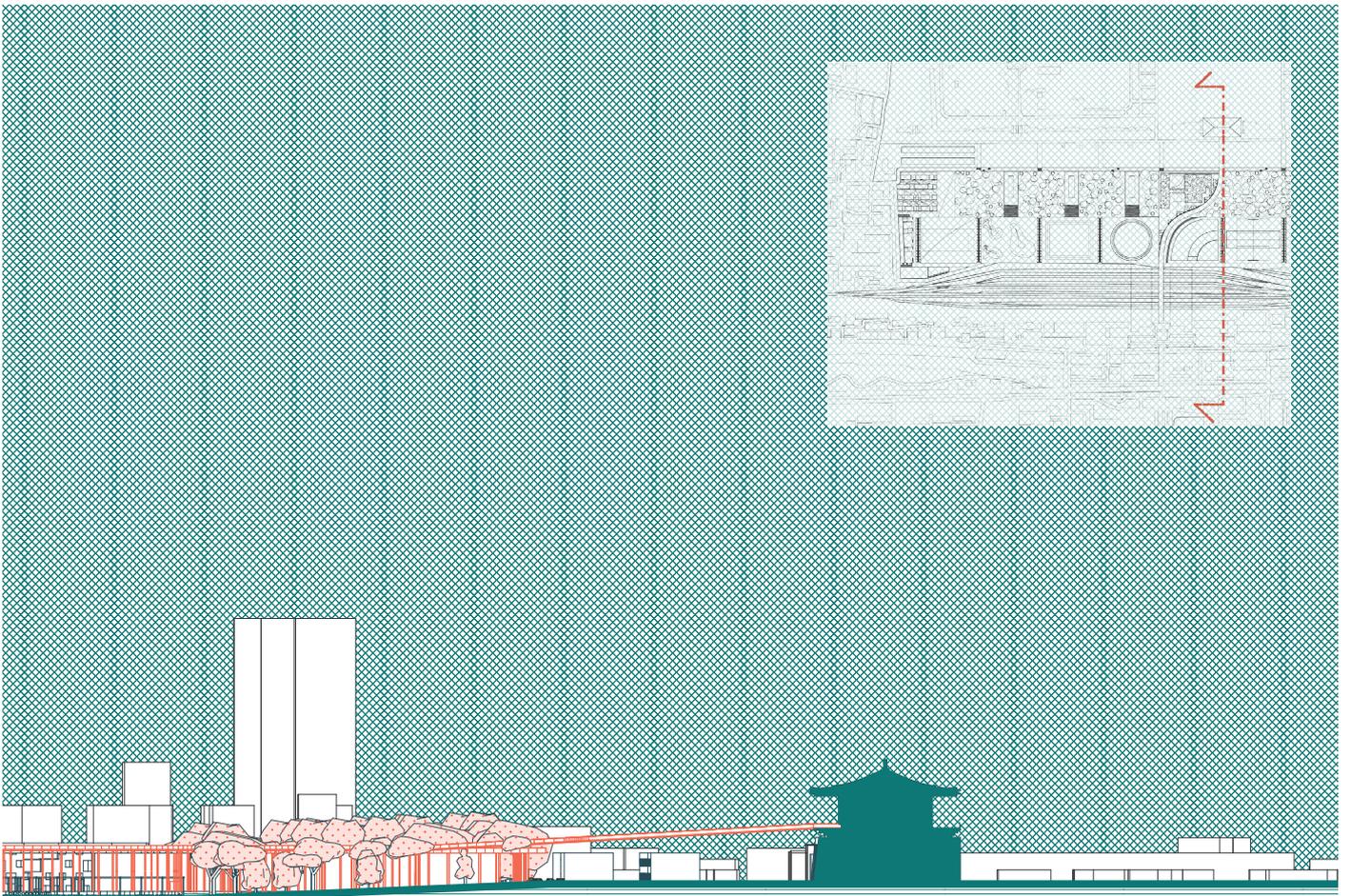
0   20 m
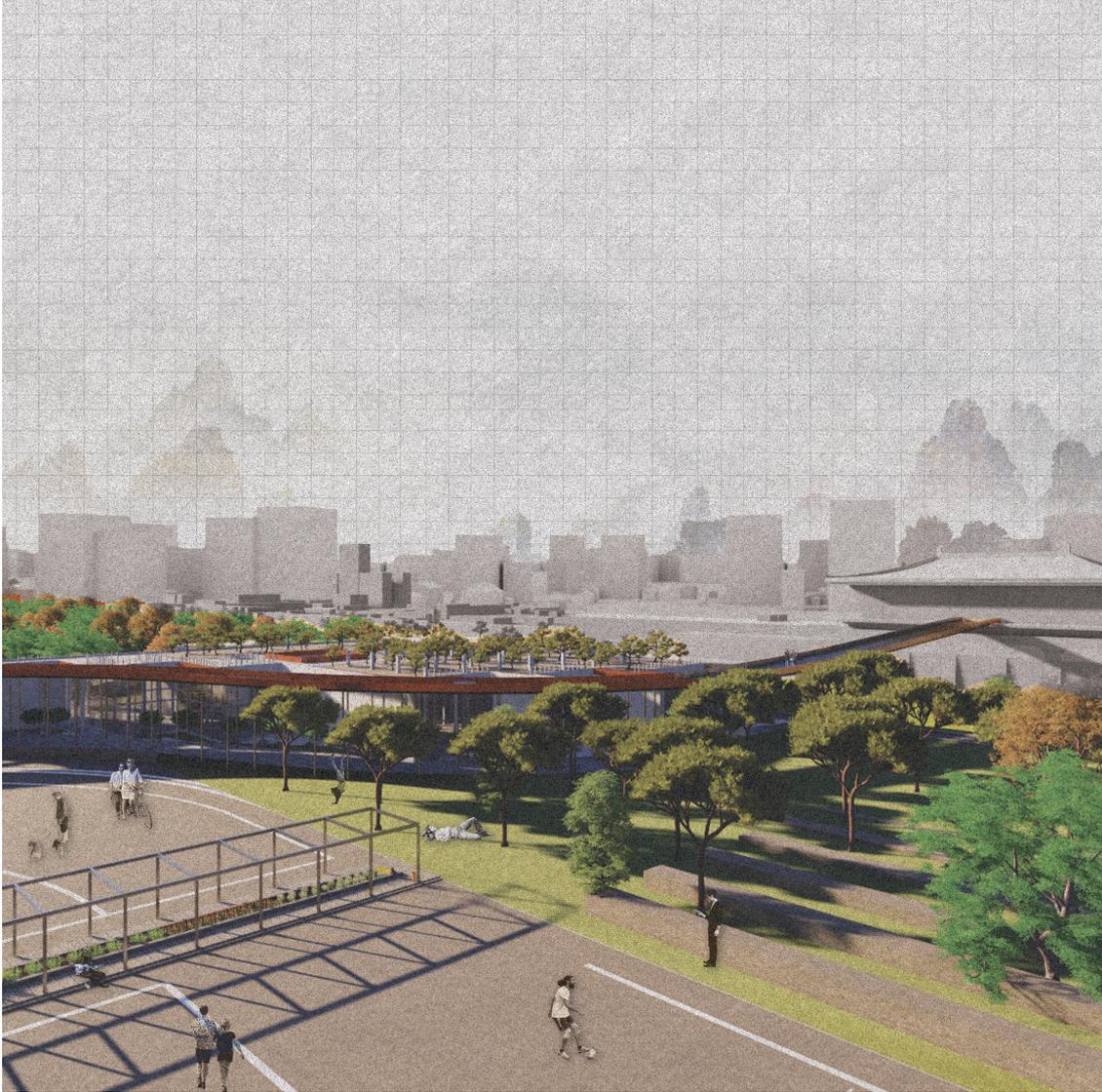
Figure 5.21 View of the museum roof with Danfeng Gate. Source: Miriana Leo
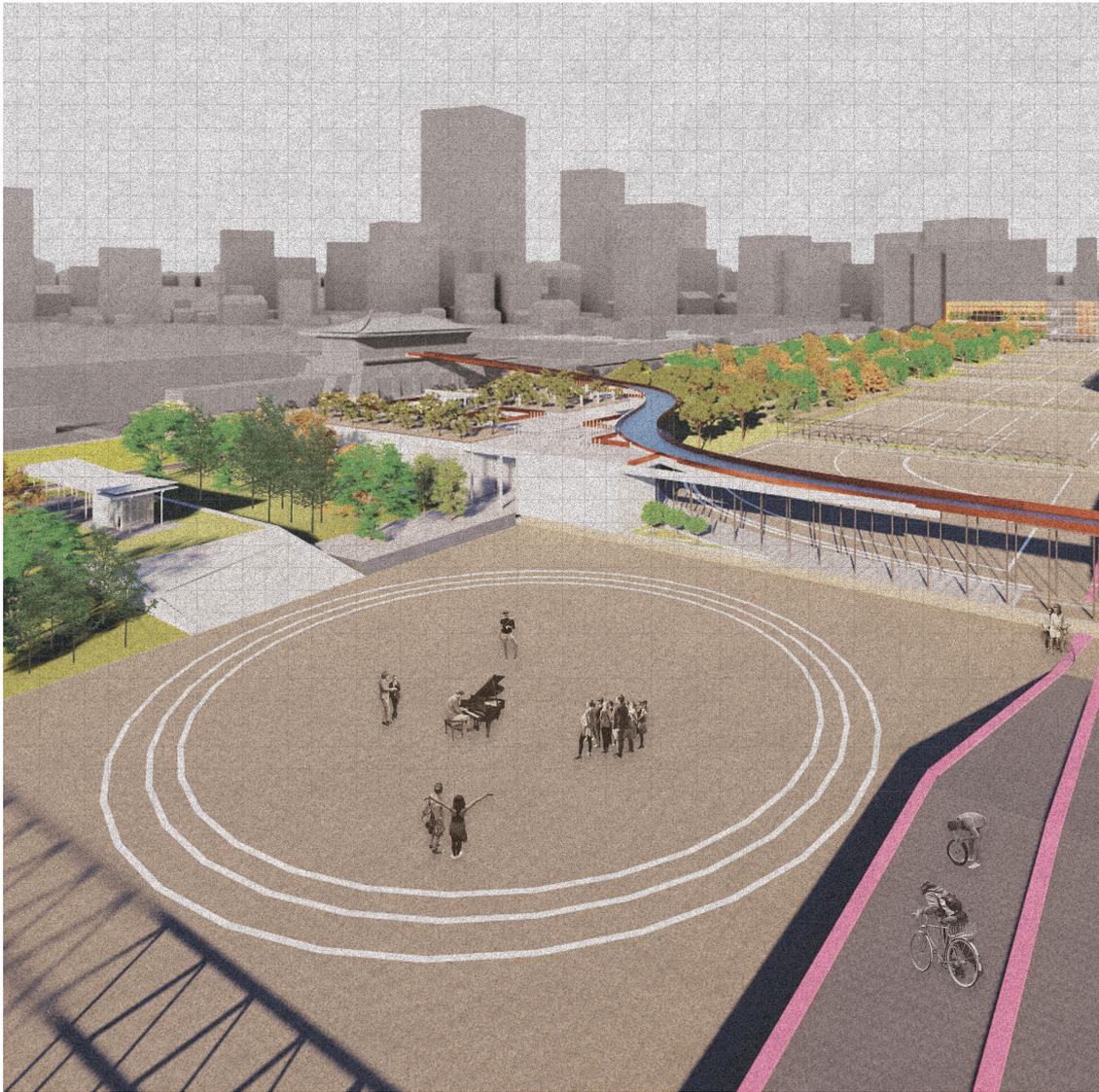
Figure 5.22 Piano concert in the Playground. Source: Miriana Leo
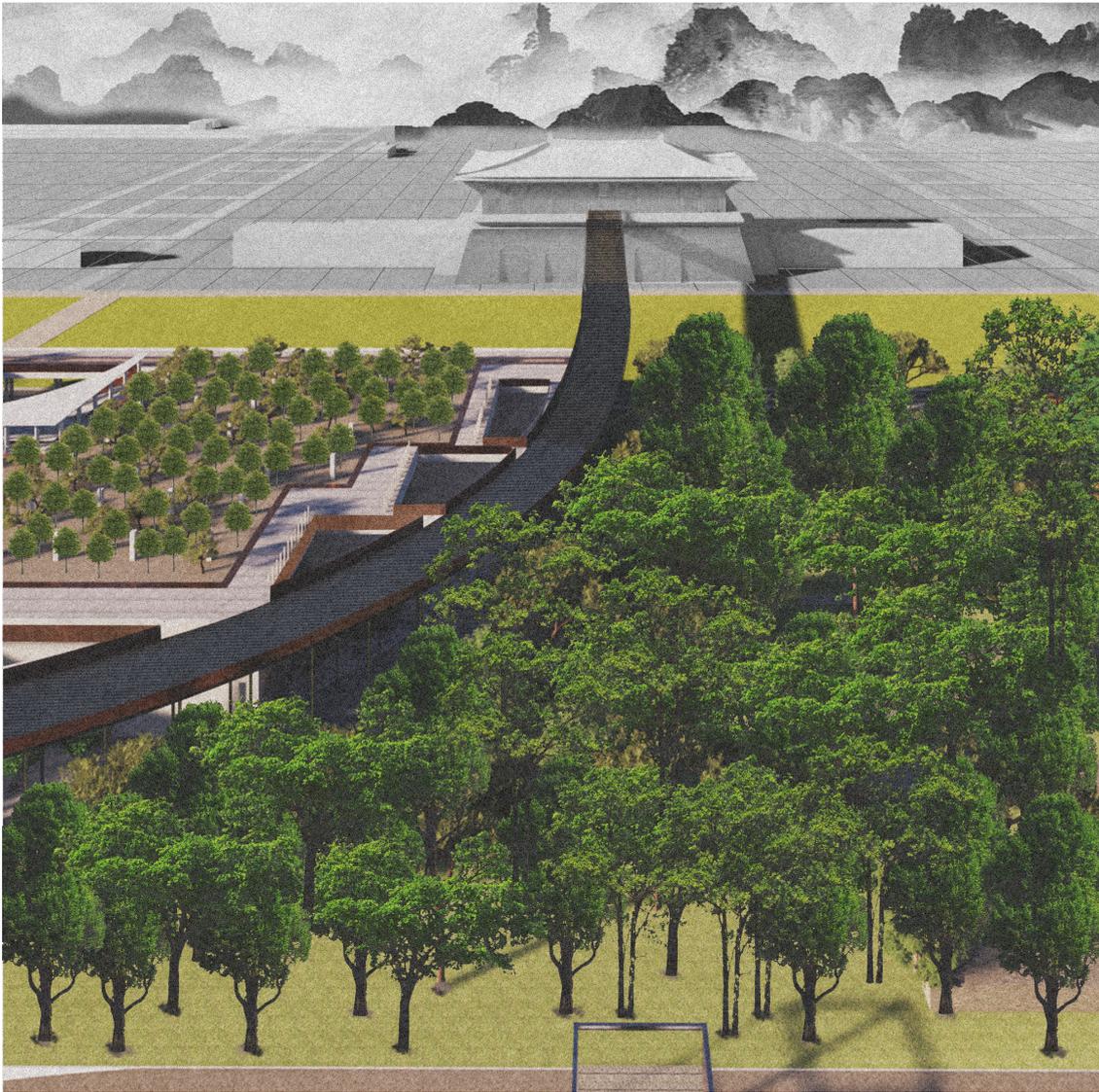
Figure 5.23 View of the forest with the roof of the museum and the Danfeng Gate. Source: Miriana Leo
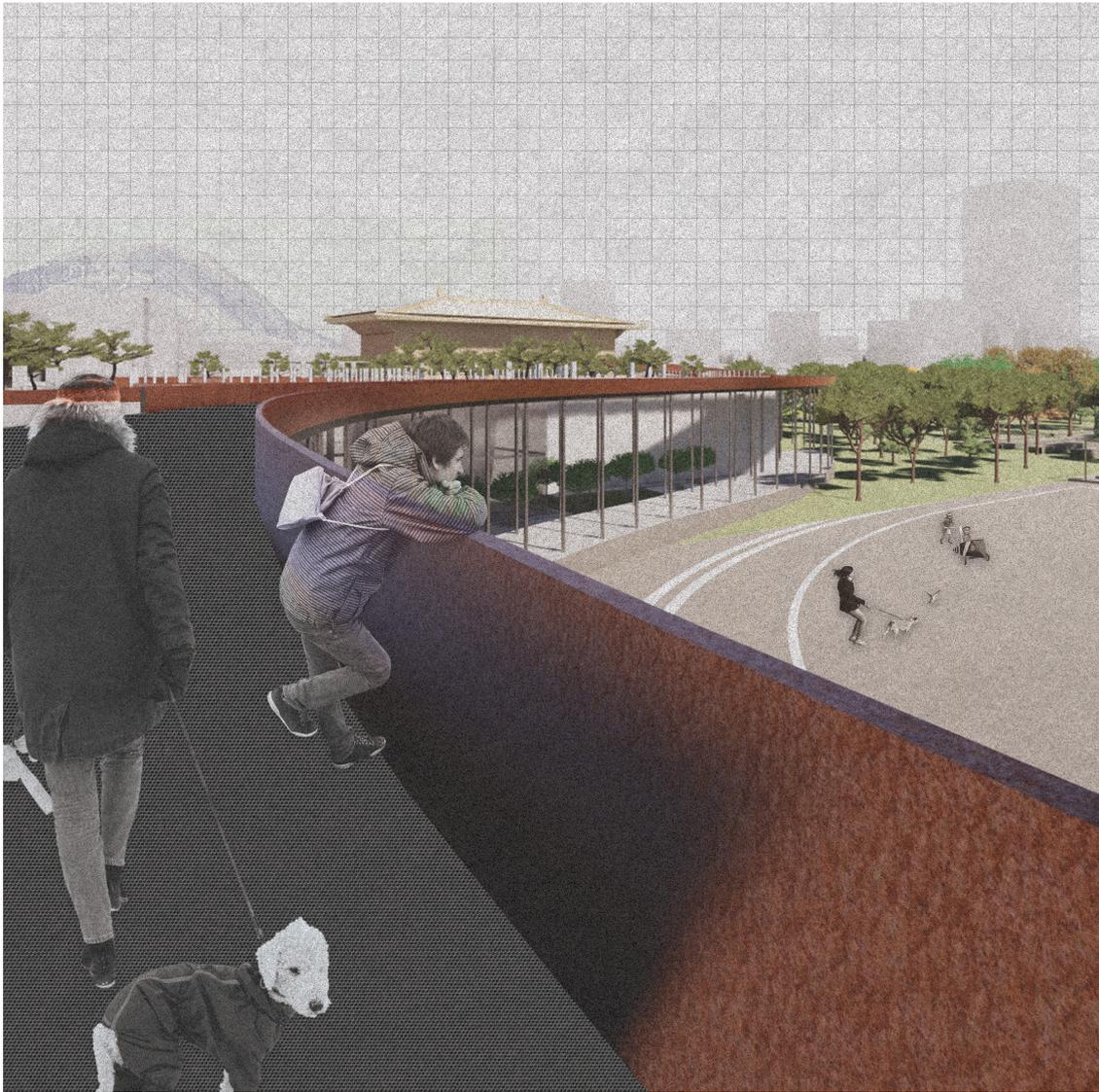
Figure 5.24 Walking along the Promenade. Source: Miriana Leo
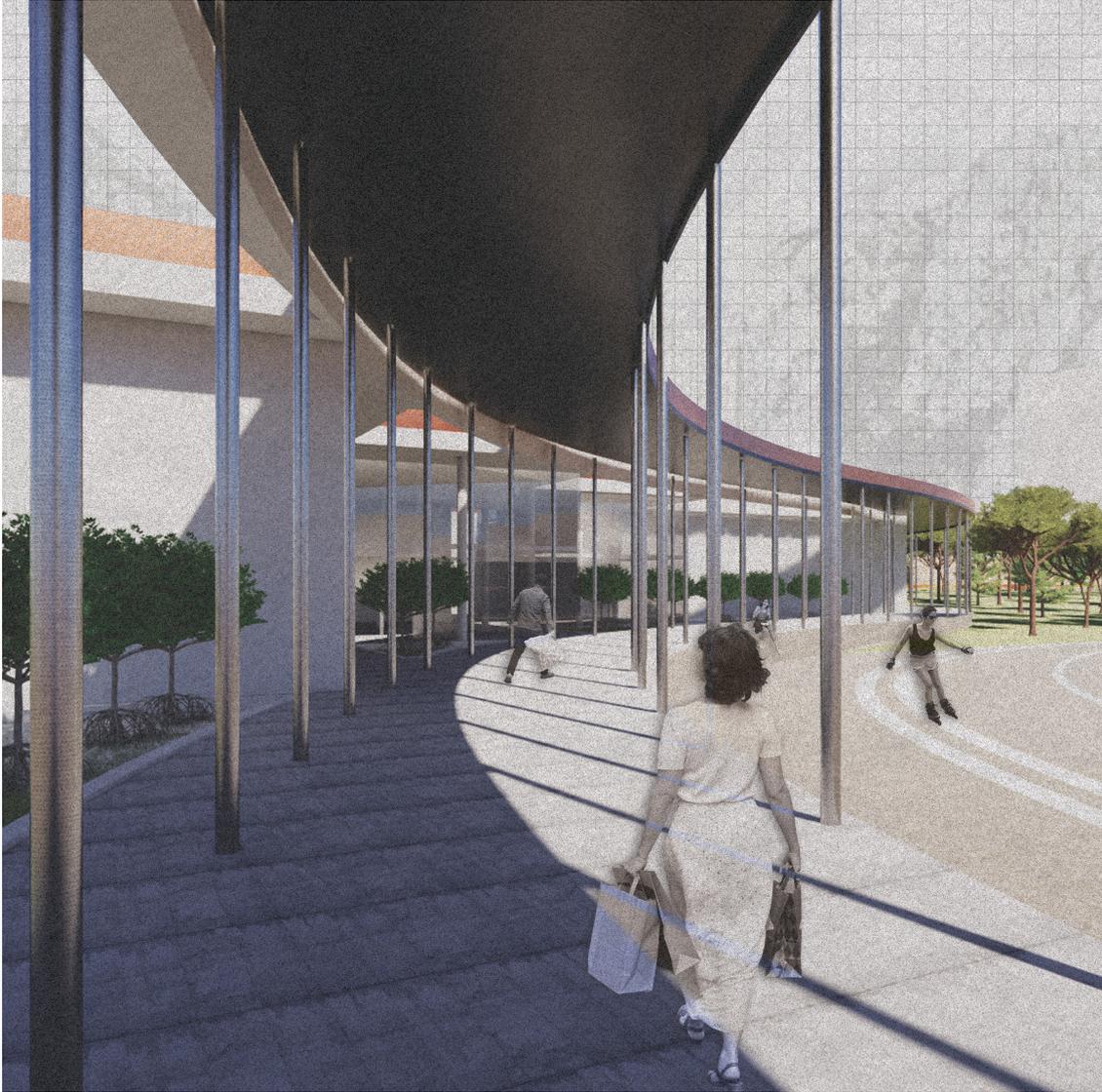
Figure 5.25 Walking under the Promenade. Source: Miriana Leo

Figure 5.26 Walking under the Promenade. Source: Miriana Leo

Figure 5.27 View from the Promenade of the main entrance of the Museum. Source: Miriana Leo
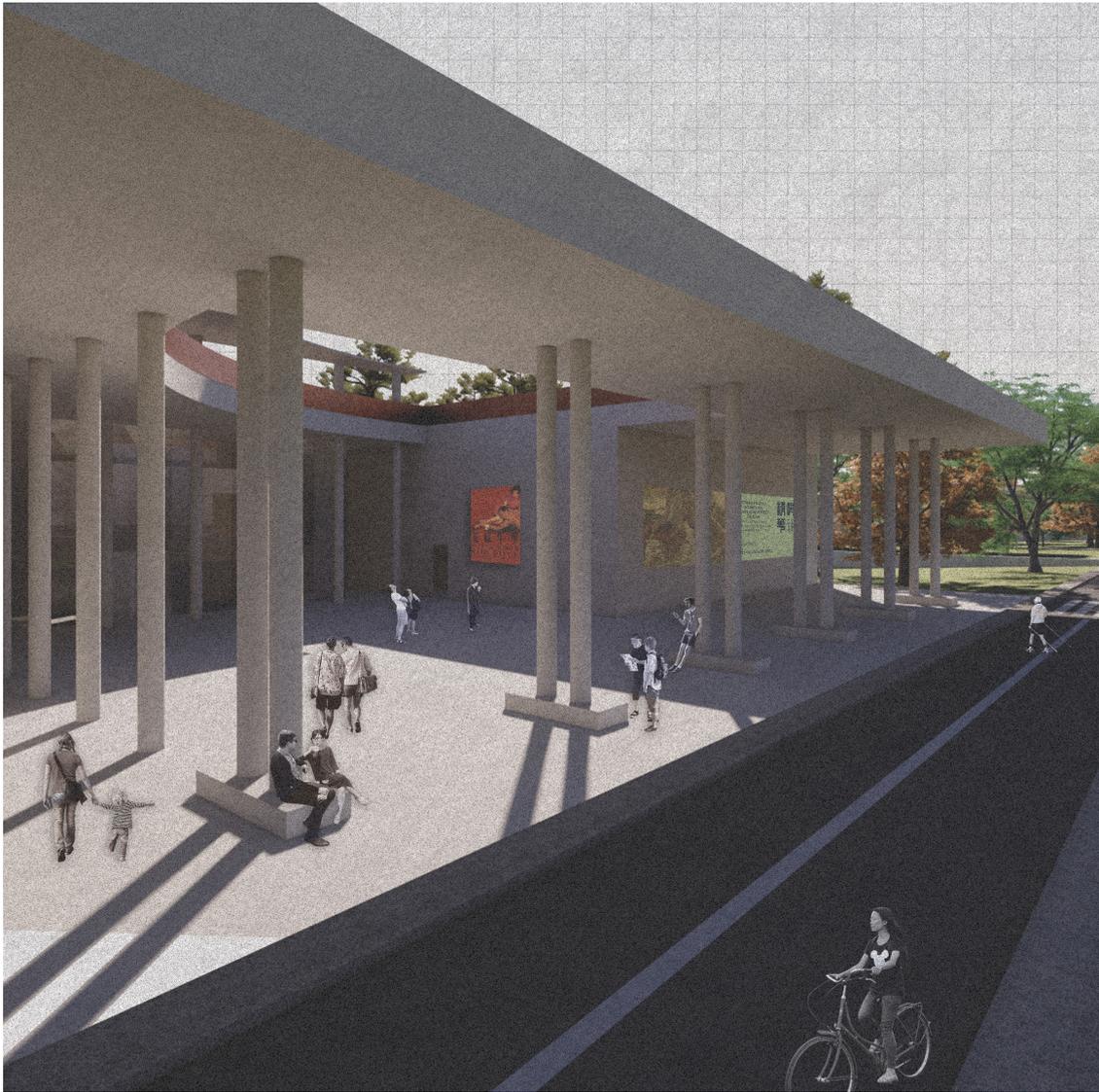
Figure 5.28 Main entrance of the Museum. Source: Miriana Leo

Figure 5.29 The Core. Source: Miriana Leo

Figure 5.30 Exhibition Hall. Source: Miriana Leo
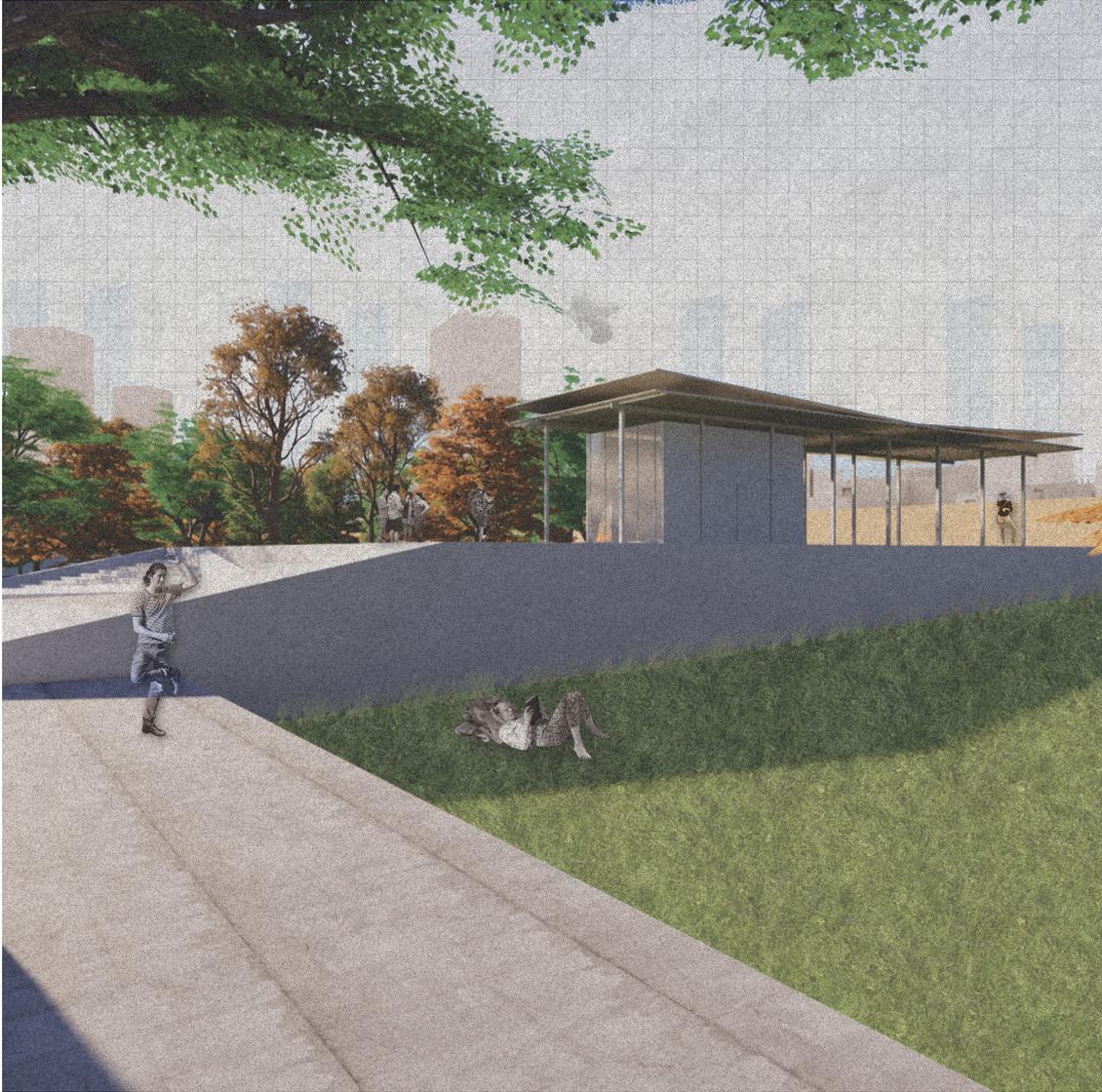
Figure 5.31 View of the Pavilion on the podium. Source: Miriana Leo
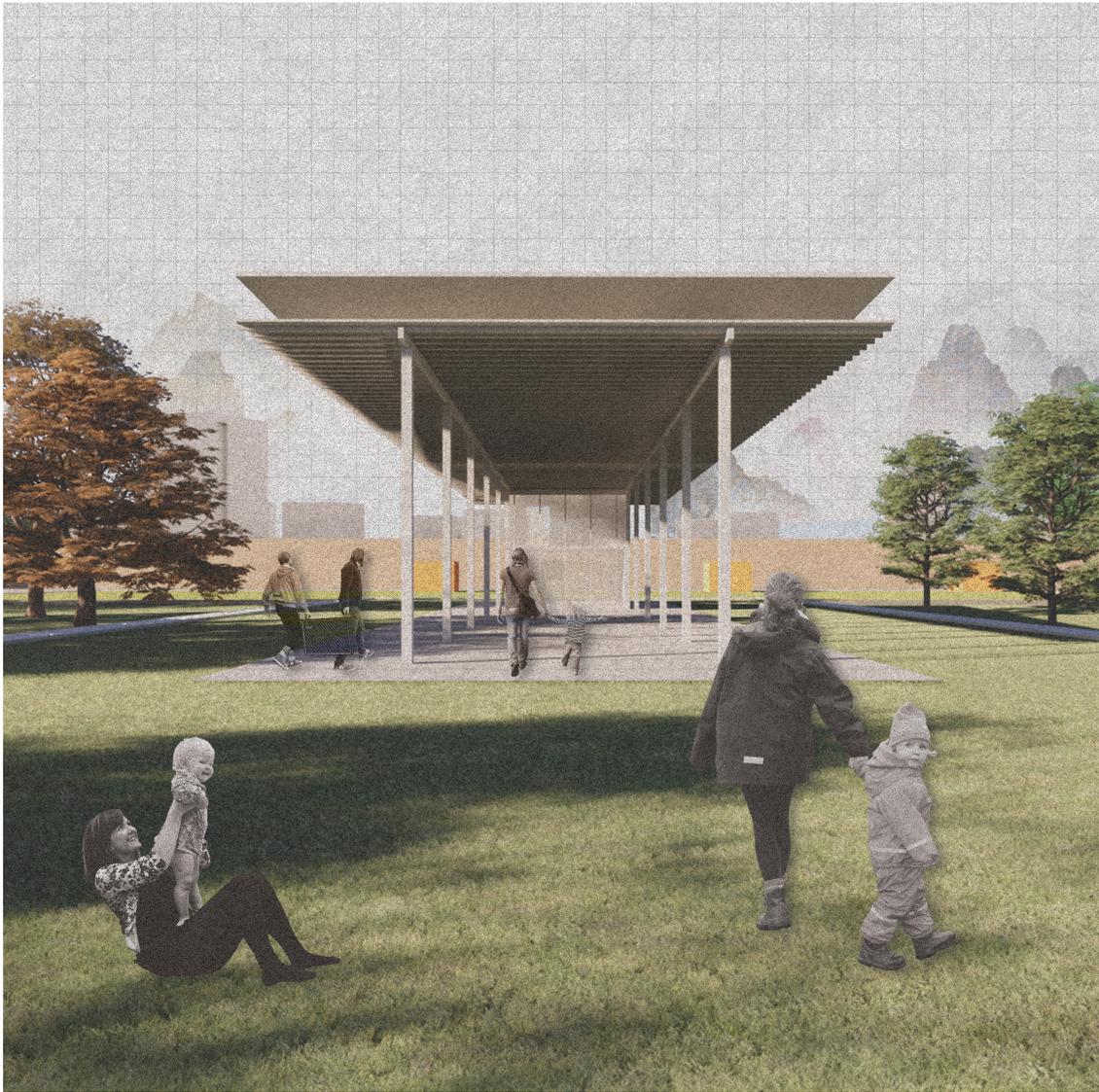
Figure 5.32 The Pavillion. Source: Miriana Leo

Figure 5.33. Life in the Playground. Source: Miriana Leo

Figure 5.34 Under the Pergola. Source: Miriana Leo

CHAP_6

Conclusion

6.1 The Guiding Element

The world is changing and this is perceptible in all aspects that surround us such as the financial system, social and cultural values, political processes and environmental conditions. Over the years the link with nature has gradually disappeared and this change is very visible in large cities with the design of buildings and infrastructures. In the urban context, however, we often find ourselves faced with urban voids in search of identity and definition; and much more often these voids are surrounded by a defined and densely populated city. What can the architect do in this context? The architect and professor Martijn de Geus in an academic lesson defined two possible future scenarios: the first is the one that humanity is currently projecting where we consume all resources, where ego-driven architecture makes all cities equal; and the second scenario is the varied and inclusive one in which ecology is central rather than consumption, where processes are more evolutionary than destructive (2020). Therefore it is by reinvesting in the architectural project that we try to establish a main order through which to frame and build the new forms in this urban piece. But how do we model our artificial form and our space more efficiently and interestingly? For Professor Li Xiaodong very important in the choice of an architectural form are the actions that the user performs inside it. This defines what is called cultural identity. Taking the Chinese garden as a reference, the indispensable elements are: the rocks, the trees, the body of water, the wood and above all the corridors. The latter are the elements that most allow you to experience the garden itself, so they will never follow a straight line, but will often change direction precisely to differentiate the garden experience (2020). Understanding the historical, social and cultural context therefore becomes fundamental before defining a settlement grid within a space to be designed. Hence the idea of extracting an element that characterizes the project area, abstracting its definition, reaching the concept underlying the element and making this a sort of guide for the entire project. The guiding element of this research work was the limit. The richness and multiplicity of meaning in the concept of limit finds its origin in the ambivalence of the simple act of marking a limit. If the concept of limit represents the beginning of every human settlement, it is also, as Carl Schmitt affirmed in his fundamental work on the "jus publicum Europaeum", the genesis of every form of jurisdiction. Marking the land and tracing the boundary are not only the primordial forms to establish the form of the settlement; their consequences extend to the possibility of coexistence of people and power formations of all kinds, which are always "grounded in new spatial divisions, new enclosures and new spatial orders of the earth." The architectural form functions as a strategy simply by existing; it is there to advance its context, not itself. It does not offer infinite and blurry possibilities, but it does set limits.

Figure 5.21 Metamorphosis between Limits. Source: Miriana Leo

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APPENDIX

Xi'an Chronology

Dynasties

11th century to 256 BC	Zhou Dynasty
221-207	Qin Dynasty
206 BC-220AD	Han Dynasty
220-265	Wei Dynasty
265-316	Western Jin
317-589	Northem and Southern Dynasties
581-618	Sui Dynasty
618-907	Tang Dynasty
907-960	Five Dynasties
690-1279	Song dynasty
1264-1368	Yuan Dynasty (Mongols)
1368-1644	Ming Dynasty
1644-1912	Qing Dynasty
1912-1946	Republic of China
1949-	Popular Republic of China

Five years national plans and Xi'an overall master plans

1953-1957	Xi'an 1st Overall Masterplan 1953-1972
1958-1962	Xi'an Masterplan, 1959
1966-1970	
1971-1975	
1976-1980	
1981-1985	Xi'an 2nd Overall Masterplan 1980-2000
1986-1990	Xi'an protection plan of the Ming city, 1989
1991-1995	
1996-2000	Xi'an 3rd Overall Masterplan 1995-2020
2001-2005	Xi'an 4th Overall Masterplan 2004-2020

ACKNOWLEDGEMENT

Here I am at the end of this thesis and these six splendid years of university life, in which I became more aware of the person I am, both as a professional in that great passion of mine that has always accompanied me since I was a child, which is Architecture, but above all as an individual inserted in a social context. There are many encounters that I have made during this journey, the friendships that I have cultivated, the relationships that I have formed, but also undone.I would like to fill this blank page thanking all the people who have always supported me, both in times of difficulty, but above all in happy and carefree ones. I would like these thanks to contain both the arrival and the beginning point, as I hope to be able to reach new goals in my life with all the people mentioned still by my side.

First of all, I would like to thank my two supervisors who made it possible to achieve this goal. A special thanks goes to Professor Marco Trisciuoglio, whose figure guides me since the Talents program of the second year of the bachelor's degree, seeing me then undertake the choice of the Double Degree and following me, with his infinite availability, in every step of the realization of this work. Thanks also to my co-supervisor Professor Li Xiadong for his valuable advice and for promptly suggesting the right changes to make to my thesis.

I infinitely thank my father and my mother, the foundation of all my experiences. I owe this trophy to you, as you have always been able to absorb my every load, giving me love and pride. Thanks to you, Simona, for supporting me with the love of a sister in all these years spent away from home, with a distance interval ranging from one thousand to eight thousand kilometers, and thanks to you, Davide, without your teachings and without your support, this thesis work would not be completed now. I sincerely thank my dear grandparents, who although distant, I always feel them close to me.

My immense gratitude to those who have been and still are a constant presence in my days of university life is necessary. Thanks Sofia, for always being there, for your constant support together with Arianna, who was able to make me a more aware and loving person, and Angela, for making me more crazy than I already was.

A special thanks goes to Riccardo, friend on adventures, but more than misfortunes. Without you I would not have had the strength I have today to celebrate this much-suffered goal. Thank you for inspiring me throughout our time together.

Thanks Mattia, for having contributed with your suggestions and intuitions, architectural and otherwise, to give a touch of originality to this work.

I thank the Second Floor of the Collegio Einaudi, my home all these years. The fantastic people I have met over all these years have been instrumental in my personal growth path. A special thanks goes to Nausicaa, Eva, Lino, Domingo, Gianluca, Andrea, I Mitici, Erminia e Stefano for the shining smiles that we have exchanged all these years, until a few minutes ago.

Finally, thanks to Michele, colleague, but above all friend and perfect companion for trips to lands rich in wine and rice, and to Chiara, a sure presence with whom to share a few bottles of wine while gossiping; thank you for sharing with me the joys and hardships of these years spent together.

Without you I would certainly have had a healthier liver.

Thank you all. 谢谢。

RINGRAZIAMENTI

Eccomi giunta alla fine di questa tesi e di questi sei splendidi anni di vita universitaria, nei quali sono diventata più consapevole della persona che sono, sia come professionista in quella mia grande passione che sin da bambina mi ha sempre accompagnato, che è l'Architettura, ma soprattutto come individuo inserito in un contesto sociale. Sono tante le conoscenze che ho fatto durante questo percorso, le amicizie che ho coltivato, i rapporti che ho stretto, ma anche disfatto. Vorrei riempire questa pagina bianca ringraziando tutte le persone che mi hanno sempre sostenuta, sia nei momenti di difficoltà, ma soprattutto in quelli felici e spensierati. Vorrei che questi ringraziamenti racchiudano in sé sia il punto d'arrivo che d'inizio, poiché spero di poter raggiungere nuovi traguardi nella mia vita con tutte le persone menzionate ancora al mio fianco. Vorrei ringraziare in primo luogo i miei due supervisor che hanno reso possibile il raggiungimento di tale obiettivo. Un ringraziamento particolare va al professor Marco Trisciuoglio, la cui figura mi guida sin dal percorso Talenti del secondo anno della laurea triennale, vedendomi poi intraprendere il percorso di Doppio Titolo e seguendomi, con la sua infinita disponibilità, in ogni step della realizzazione di questo elaborato. Grazie anche al mio correlatore professor Li Xiadong per i suoi preziosi consigli e per avermi suggerito puntualmente le giuste modifiche da apportare alla mia tesi. Ringrazio infinitamente mio padre e mia madre, fondamenta di ogni mia esperienza. A voi devo questo trofeo, poiché siete stati sempre capaci di assorbire ogni mio carico, trasmettendomi amore e orgoglio. Grazie a te, Simona, per avermi sostenuto con l'amore di una sorella in tutti questi anni trascorsi lontano da casa, con un intervallo di distanza che va dai mille agli ottomila chilometri, e grazie a te, Davide, senza i vostri insegnamenti e senza il vostro supporto, questo lavoro di tesi non sarebbe ora concluso. Ringrazio di cuore i miei carissimi nonni, che seppur distanti, li sento sempre vicini a me. Necessaria è la mia immensa gratitudine a chi è stato ed è tutt'ora una costante presenza nelle mie giornate di vita universitaria. Grazie Sofia, per esserci sempre, per il tuo supporto costante insieme ad Arianna, che è stata capace di rendermi una persona più cosciente e affettuosa, ed Angela, per avermi resa più pazzoide di quanto non lo fossi già. Un ringraziamento speciale va a Riccardo, compagno di avventure, ma più di sventure. Senza di te non avrei avuto la forza che ho oggi nel festeggiare questo traguardo tanto sofferto. Grazie per avermi ispirato durante tutto il tempo passato insieme. Grazie Mattia, per aver contribuito con i tuoi suggerimenti e le tue intuizioni, architettoniche e non, a dare un tocco di originalità a questo elaborato. Ringrazio il Secondo Piano del Collegio Einaudi, la mia casa in tutti questi anni. Le persone fantastiche che ho incontrato durante tutti questi anni sono state fondamentali nel mio percorso di crescita personale. Un ringraziamento particolare va a Nausicaa, Eva, Lino, Domingo, Gianluca, Andrea, I Mitici, Erminia e Stefano per i sorrisi splendenti che ci siam scambiati in tutti questi anni, fino a pochi minuti fa. Infine grazie a Michele, collega, ma soprattutto amico e perfetto compagno di viaggi in terre ricche di vino e riso, e a Chiara, presenza sicura con cui condividere qualche bottiglia di vino, spettegolando. Grazie a tutti voi per aver condiviso con me gioie e fatiche di questi sei anni trascorsi insieme. Senza di voi avrei avuto di certo un fegato più in salute. 谢谢。

STATEMENT

　　本人郑重声明：所呈交的学位论文，是本人在导师指导下，独立进行研究工作所取得的成果。尽我所知，除文中已经注明引用的内容外，本学位论文的研究成果不包含任何他人享有著作权的内容。对本论文所涉及的研究工作做出贡献的其他个人和集体，均已在文中以明确方式表明。

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指导教师学术评语

  论文以交通枢纽的升级换代为契机，融入城市振兴的整体战略，选题有现实意义。

  论文通过西安火车站区域的城市设计，以连接为主线，把本来相对隔绝，分散的城市功能加以整合，从而达到振兴城市的目的。

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