THE CONTEMPORARY PROJECT
SOCIAL SPACE TRANSFORMATION IN BARCELONA : NEIGHBORHOOD SPACES

UTOPIA ON THE ROOF

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UTOPIA

Abstract: In the ideal city of Cerdà, all the controls are rational and beautiful, but with time passing by, urbanization and industrialization have increased the population. The neighborhood courtyard that originally belonged to each Manzana disappeared, buildings of various uses gradually fill up the center of manzana. The government has made efforts to restore part of the inner garden, but it is far from enough. People's outdoor activities are forced to gradually move away from their residences, onto the streets or further squares. The neighborhood space in Manzana is different from the larger social space. Similarly, the buildings inserted in each manzana are also different from ordinary buildings. The free social space that should be facing the neighbors has become a monotonous roof. Now, sharing these roofs can contribute to the social networking of the entire neighborhood.Follow Cerda's will to carry Utopia to the end.

The neighbors got rid of the constraints of the city and reached the roof

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CHAPTER ONE
Ideals and Plans

Barcelona people said: "Barcelona grew out of Cerdà's head."

The goal of Cerdà plan is to design a city that serves the ideal society in his heart. Cerdà first conceived the ideal social life for urban residents, and then gave them a blueprint for the city.

CERDÀ'S FOUNDATION OF THOUGHT

As a highly educated European senior intellectual, Cerdà first obtained a degree in philosophy at the learning stage. Therefore, traditional Western philosophical thinking has become an important foundation of his thinking, and Cerdà's thinking is a self-development based on traditional philosophical thinking.

The source of Cerdà's "Utopia" is also contained in the development of European philosophy. And European philosophy has been thinking about the happy life of society and residents from its source, Greek philosophy, and this thinking eventually formed the Cerdà plan, which is an important foundation of it. Cerdà plan is based on his understanding of a happy life in the city, and finally completed the new city plan of Barcelona under his guidance.
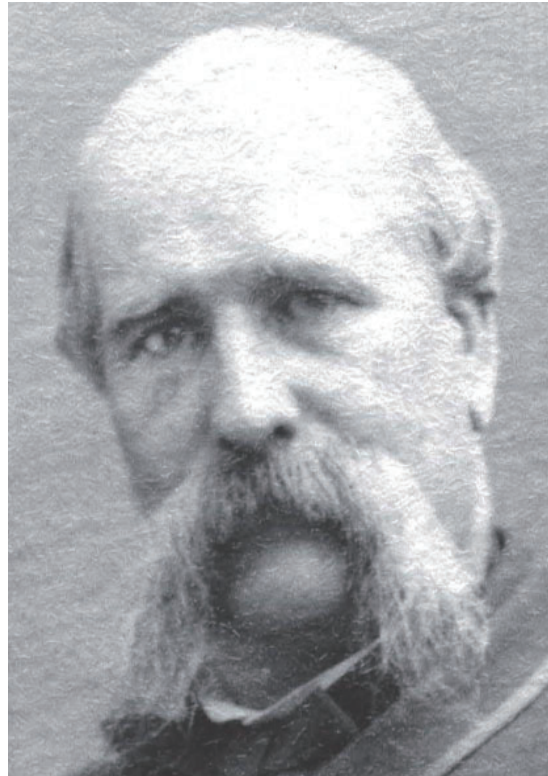
[1.1] Ildefons Cerdà

THE REPUBLIC

THE REPUBLIC was written by Plato, one of the three ancient Greek philosophers, and it is an important work on society and humanities in the West.

In his eyes, the "justice" of the country is the happiness of all people, so Plato emphasized that people of each class must perform their own duties. Only when everyone does their own tasks can the country be prosperous and harmonious, the people can enjoy the same benefits.

THE REPUBLIC is the philosophical essence of the ancient Greek city-state period, representing the design and yearning for social life of the top intellectuals at that time.

Ancient Greek philosophy, as the source of the entire Western thoughts, proposed and established that "the happiest of all people" is the ultimate goal and aspiration of establishing a country. This has played a decisive role in the development of philosophy in the entire West and set a lofty goal for the development of Western thought. With the exception of

[1.2] Plato

medieval theology occupying the mainstream of thought, Western philosophers mainly continued to enrich and develop under this premise.

The greatest happiness of all residents is the lofty goal that Cerdà has pursued throughout his life. The source of this goal is inherited from the thoughts in Plato's THE REPUBLIC.

PENGUIN CLASSICS

PLATO

The Republic

With an introduction by MELISSA LANE

[1.3]The Republic, Plato Melissa Lane (Introducer) Desmond Lee (Translator)

UTOPIA

[1.4] Thomas More

Thomas More first proposed this concept in his book Utopia. It is the first work on utopian socialism in Europe. It describes the picture of utopia completely for the Þrst time. In the history of socialist thought, it criticized the crime of primitive accumulation of capital for the first time, and proposed the principle of public ownership and equality based on organized production and universal labor, laying the foundation of utopian socialism and providing valuable ideological materials for the future development of scientific socialism.

The social relationship described by More in Utopia is a new type of interpersonal relationship that prevails in equality, mutual assistance, harmony and friendship. Family ethics is of great signiÞcance to utopian society. The entire utopia is a big family.

The ultimate foothold of Utopia is the happy life of the residents, emphasizing that the relationship between people should be as close as family. The policies of equal wealth and political equality are used to bring the residents together to maintain social harmony.

But in utopian city planning, utopia is a defensive attitude to the outside world, and it can be placed on the sea in isolation, with the consideration of blocking communication with the outside world. That is a passive and defensive attitude in foreign relations.

The social relationship is a new type of interpersonal relationship that prevails in equality, mutual assistance, harmony and friendship. Family ethics is of great signiÞcance to utopian society. The entire utopia is a big family.

[1.5] Map from the 1516 edition of Utopia

"Anyone who knows a city knows all cities, except for the nature of the soil, these cities are so the same." (Thomas More, 2004)

The relationship between cities and cities on the island is not close, and the biggest exchange is to move more people to places with fewer people. There is little personnel exchange and no difference between cities.

"Utopias love their gardens, and their enthusiasm to do a good job in gardens is constantly being encouraged by the struggle among the neighborhoods. At first sight, gardens are the most affordable and entertaining thing for the people of the city." (Thomas More, 2004)

"Buildings are in long rows, connected by biscuits, just like the buildings on the opposite side of the street. The fronts of the houses of each section of the building are separated from each other, and there is a 20-foot (6m) wide road between them. The back door leads to the garden, and the garden is surrounded by the back of the building." (Thomas More, 2004)

As for the traffic and greening system, from this description we can see that the buildings in the Utopia are placed in rows. At this time, Mohr began to combine urban streets and greening organizations to consciously serve the residents.

Utopias are given different interpretations in some authoritative dictionaries:
(Utopia) implies a place that is both beautiful and imaginary (Blairwick Dictionary of Political Science).
An ideal country whose people exist in a perfect state(Encyclopedia Britannica).
Utopia refers to any ideal place or country that reaches the perfect state(Wei's Standard Dictionary).

In summary, utopia is the description of the perfect social life state in the mind of Western European intellectuals.

[1.6] Reseña sobre el Libro Utopía de Tomás Moro

HUMANITARIANISM

Humanitarianism is a universal value that spreads kindness, benevolence and compassion to all mankind without distinction.

In the socialist thoughts that emerged after utopian thoughts, humanitarianism has added new connotations. That is equality between people is still an important proposition, and everyone's spiritual needs and personality development must be taken into consideration so that everyone can give full play to his strengths.

From the above description, we can see that humanitarianism is a conscience flowing in the blood of intellectuals. Its origin can be traced back to the ancient Greek period, and its philosophical connotation keeps pace with the times and expands over time.

As a senior intellectual in the West, Cerdà has studied and absorbed traditional Western philosophy. More importantly, he not only accepted humanitarian thoughts and benevolent, but also devoted his life to the cause of humanitarianism. This is the brilliance of humanity that transcends his knowledge and ideas. This is also the most important reason why he ultimately regards the happiness of all residents as his goal.

SOCIALIST THOUGHT

The source of socialist thought comes from More's book Utopia. The socialist concepts of the allocation of national resources and the democratic political system are consistent with Mohr's utopian thought. However, a part of the humanitarian thought is added, that is the concern for human spiritual satisfaction and the development of specialties.

All socialists have their own " Utopia" ideal society, and his own socialist political philosophy is also to realize his ideal social. It's the same for Cerdà. He is devoted and selfless in politics and planning. In fact, the essence of both is to realize Cerdà's ideal society. The former is promoted from the perspective of politics and policy, and the latter is promoted from the perspective of material and use.

INDUSTRIAL AND MECHANICAL CIVILIZATION

After the beginning of the Industrial Revolution, industry quickly replaced agriculture as the country's pillar industry. A large number of farmers were deprived of arable land and displaced. The rise of industry in cities required a large amount of labor and created a large number of employment opportunities. So it triggered a wave of migrant workers entering cities for work. Major cities in Europe have encountered similar phenomena during the industrial revolution.

The rapid increase in population is bound to bring about various urban problems. Before the Industrial Revolution, European cities were all medieval old cities. Due to the small population in the Middle Ages, the city under its jurisdiction was not large, and its municipal facilities were not perfect. After the massive increase in population, the inadaptability of the medieval city to modern industrial civilization was infinitely enlarged. The living conditions of the residents are poor and lack the necessary ventilation and lighting, Lacking of necessary municipal facilities, sewage rampant in the city, many outbreaks of large-scale epidemic diseases.

If these urban problems cannot be resolved, it will be difficult for the industrial revolution to continue. Therefore, a good urban expansion plan was the top priority of the country's development at that time.

While cities are facing huge challenges, European rural areas are also facing such huge problems. A large number of farmers are attracted by the employment opportunities in cities, and entering the cities to work has led to the "hollowing out" of the countryside. The countryside has a good natural environment suitable for people to live in, but social resources have not been allocated reasonably. Insufficient employment opportunities will not retain residents, resulting in a great waste of resources.

Cerdà has long understood the convenience and life changes brought to people by the Industrial Revolution. His utopia is inevitably completely different from More's utopia. The advantages and disadvantages brought about by the industrial revolution will have a huge impact on his utopia plan.
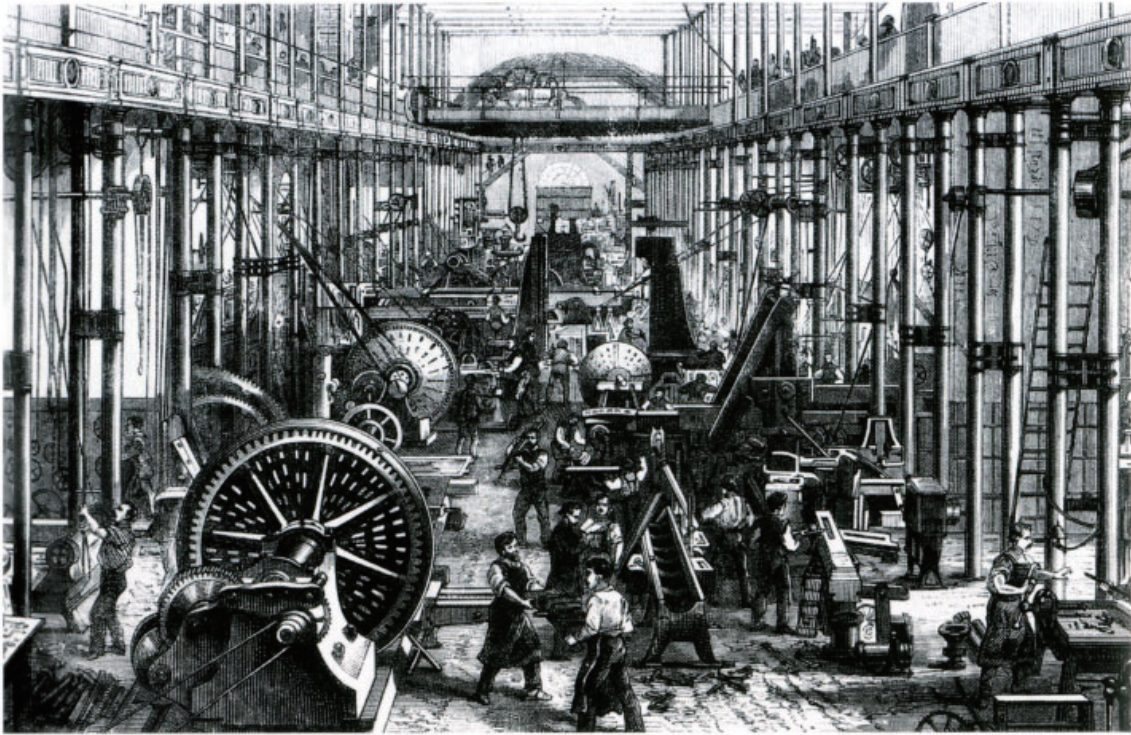
[1.7]Indian industries during british rule
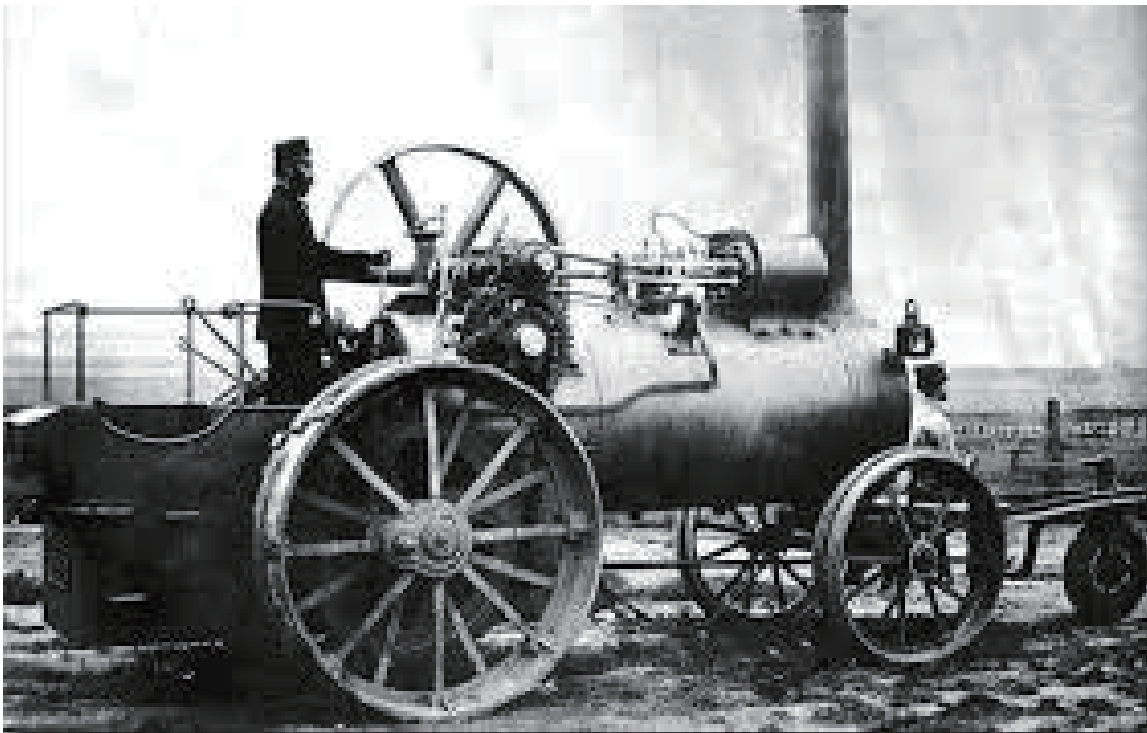
[1.8]Steam engine

THE ORIGINAL INTENTION OF CERDÀ PLAN

Barcelona, an industrial city with a busy port, has not stopped its population growth due to industrialization and the high birth rate in the mid-19th century, reaching the highest population density in Europe. Because the central government did not allow houses to be built outside the old city walls since 1714, crowded people lived in the old city surrounded by medieval walls. This led to poor sanitation in the city, and the old narrow streets in the Middle Ages and the backward urban sanitation system were overwhelmed. The high population density caused the buildings in the center to be close to each other due to lack of space. The urban population reached 183,000, and the average life expectancy of the working class was 24 years.
The Spanish government finally decided to demolish the city wall to solve this series of problems.

After Cerdà absorbed socialist ideas and the thought of mechanical industry civilization, he added rules, laws, the idea of mobility and communication systemic elements to the original utopia and socialist ideal society.

Therefore, Cerdà started planning by improving the lives of residents and promoting the mobility and communication of the city.

The core of Cerdà master plan is the creation of manzana, an urban block structure that has been carefully studied and reÞned.
The grid structure in Cerdà Plan is arranged parallel to the coastline, and the streets are parallel or perpendicular to the coast. As for the direction of the block, the direction has been adjusted in the Þgure, but it is not true south and true north.

Each octagonal manzana is placed in a square grid with a side length of 113 meters, and all four chamfers are 45 degrees. The chamfering is inspired by the old city of Barcelona in which is not easy for vehicles to turn in the narrow streets. The chamfering makes room for turning and improves the ventilation and lighting problems in the narrow
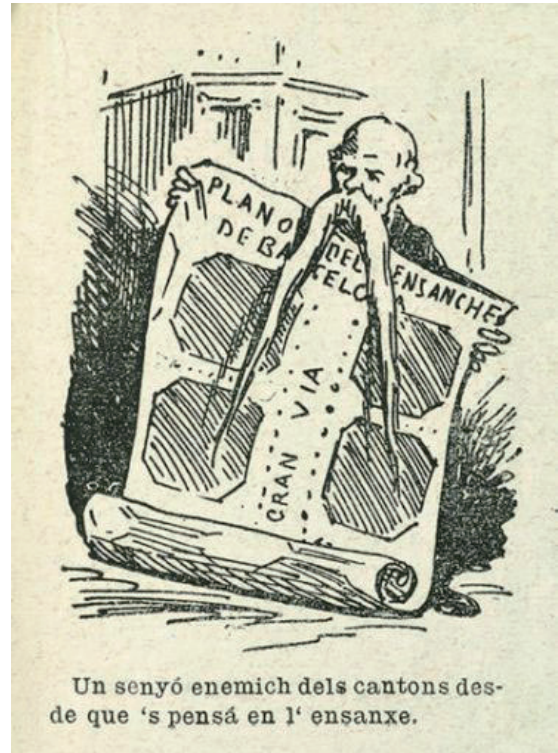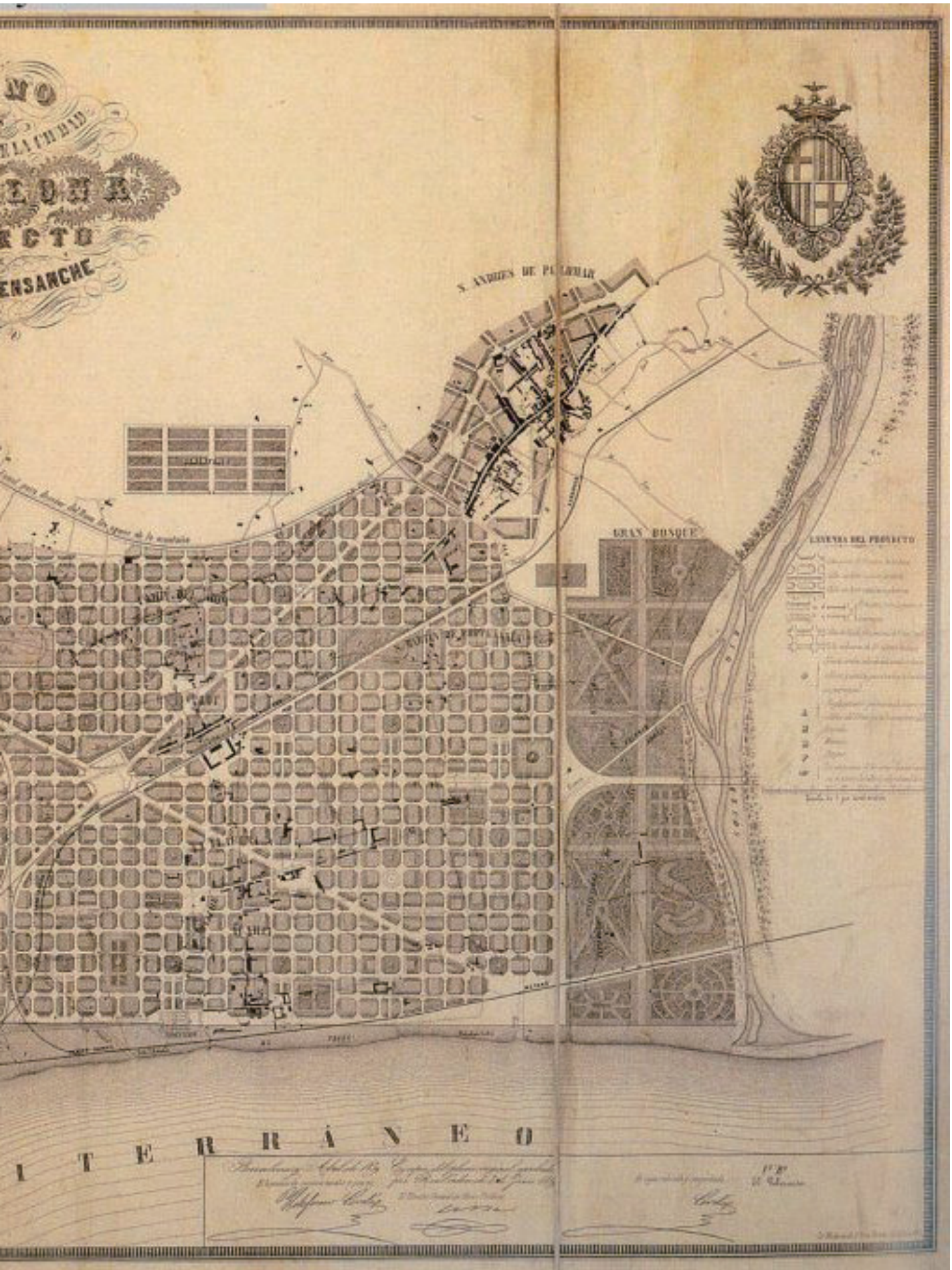
[1.9]Ildefonso Cerdà junto al Ensanche Barcelones
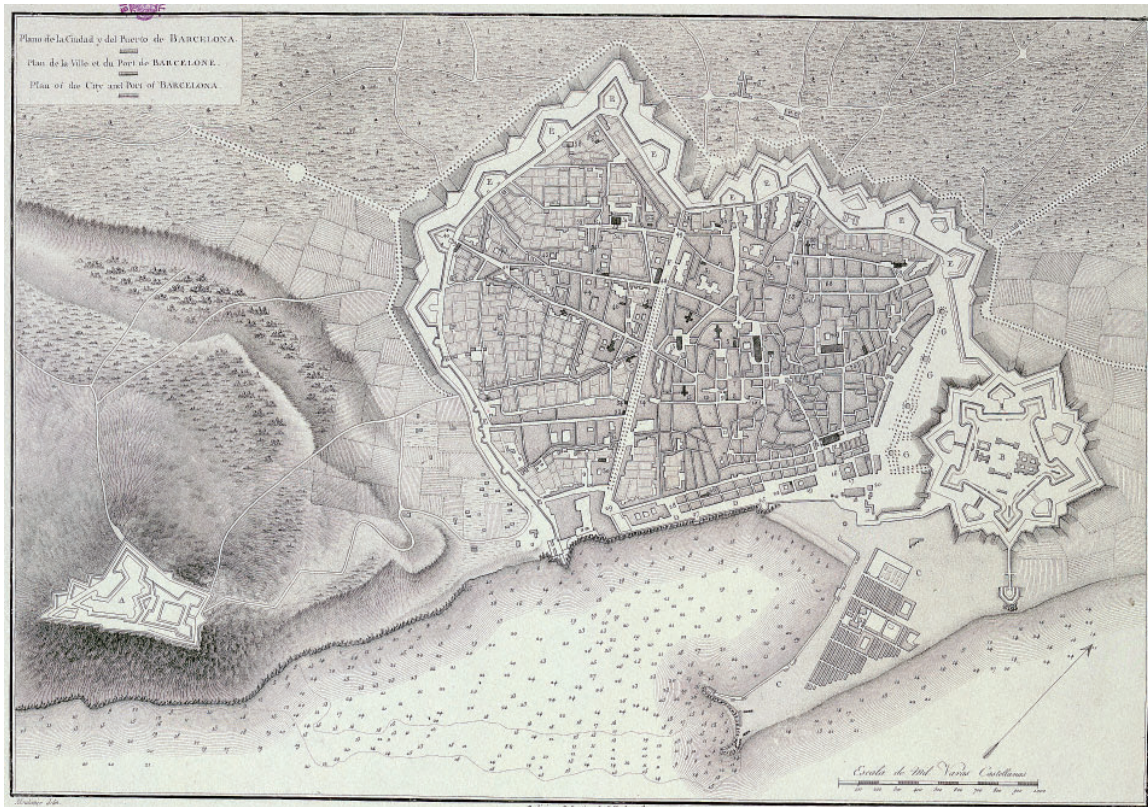
[1.10]Barcelona near the turn of the 19th century, hemmed in by a wall and watched over by a citadel

[1.11]Cerdà' s modified plan, in 1859.

streets. Also, the street corner at the cross has the meaning of a small square.

Cerdà thought of a variety of proposals regarding the interior design of the octagonal block. The most frequently mentioned one is the following picture. The gray parts are buildings, and the blank areas are green spaces and public spaces. The building only occupies both sides of the block, the depth does not exceed 24 meters, and the highest height is 4 stories. Therefore, good ventilation and lighting can be guaranteed between the buildings, and Barcelona has plenty of green space. People communicate and socialize here and enjoy life while buildings are not too dense.

The street width is limited to three sizes of 20, 40 and 60 meters, which are set under different circumstances to ensure smooth trafÞc. The streets are basically guaranteed to be perpendicular to each other, and sometimes have to make some compromises for the old roads. For example, the octagonal block is divided into two by the diagonal street.

As for why Cerdà planned the city into a nearly abnormal square shape, it was not only to satisfy the engineer's aesthetics and rational cleanliness. He believes that only in this way can the residence rights of each resident be guaranteed geographically. There is no social classification, and the area is not good or bad. On average, every few blocks should share a church, school, market, cemetery, park, and police station. The equal distribution of public facilities not only ensures that everyone has the same right to use public resources, but also improves the efÞciency of urban operations.
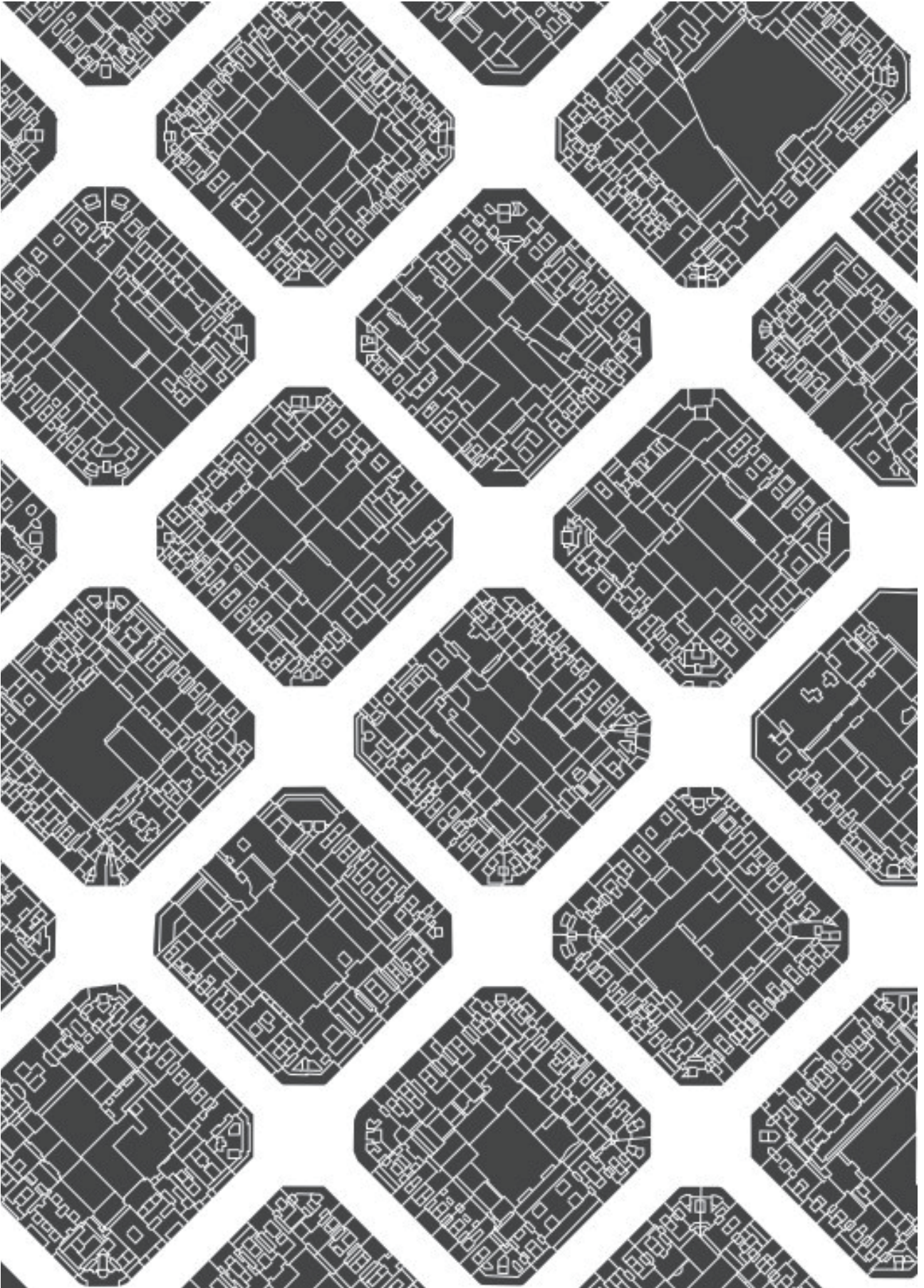
This is Cerdà's ideal city.
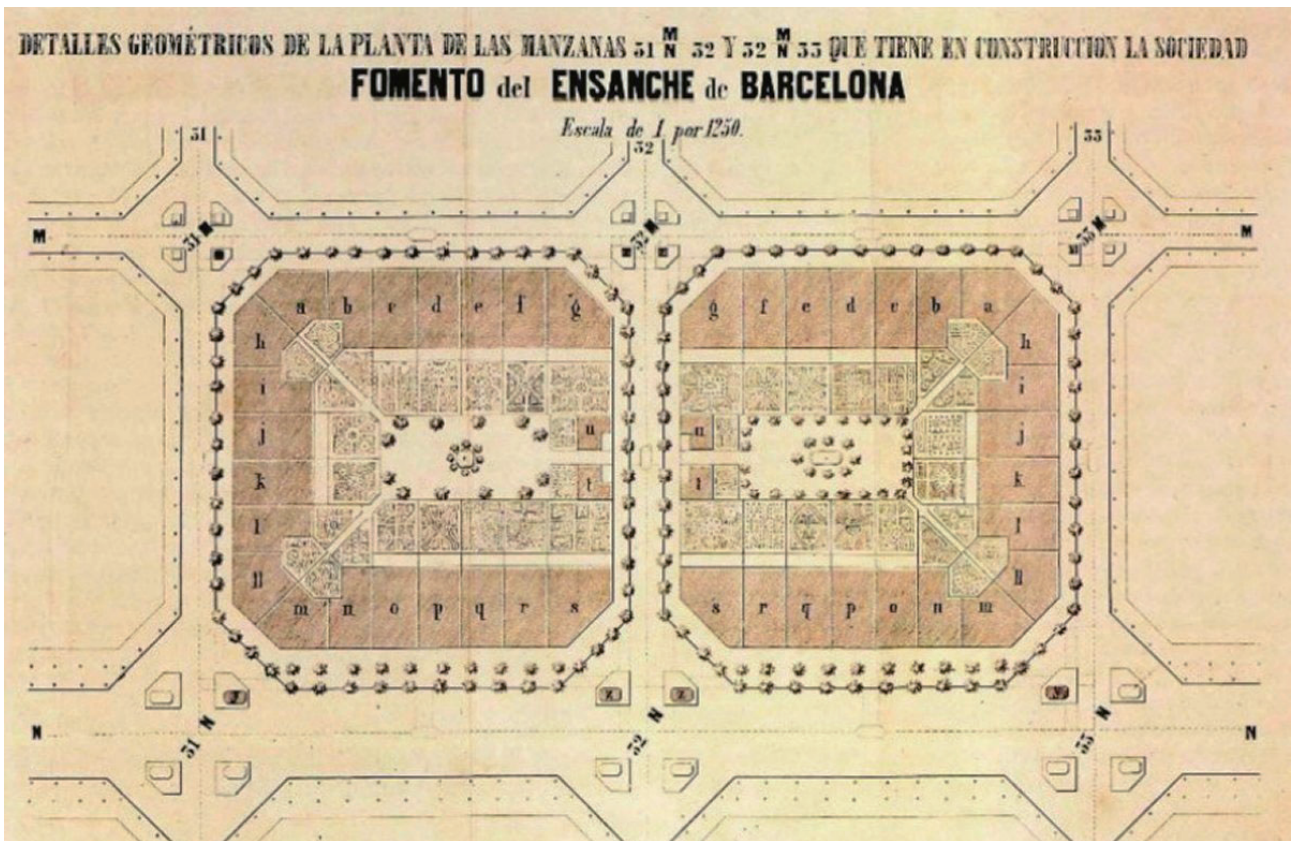
[1.12]A plan for two of Cerdà's blocks, from an 1863 booklet.

CHAPTER TWO
THE CHANGE OF CERDÀ PLAN

When Cerda's utopia faced challenges,
Barcelona chose to perfect it.

Behind the four walls, the Utopia of Barcelona
awaits a new life.

[2.1]Building outlines in the Eixample of Barcelona, today   https://videodroner.tumblr.com

FILLED MANZANA

Cerda's theoretically planned, two or three sided, 20 meters high manzana lacked profitability and with no strict government controls in place, the majority of the blocks were soon built up on all four sides while far exceeding their originally planned height. By1890, the buildings occupied an average of 70 percent of the block's area. By 1958, the total volume of space on the manzanas occupied by buildings had grown from Cerdà's envisioned 67,200 square meters to 294,771.

  Likewise, manzana blocks which were planned as public facilities (such as schools, markets and social centers) were instead developed without regard to the plan: private leasable space. Since the 1940s, under Franco's regime, the swelling population flocked from poorer areas to this rich industrial and port city, the manzana blocks were further built up, resembling something more akin to Soviet block-brutalism than a greened, ventilated, publicly accessible neighborhood. In complete contrast to Cerda's original vision, the central courtyards were often closed off and are now commonly used as a car park.
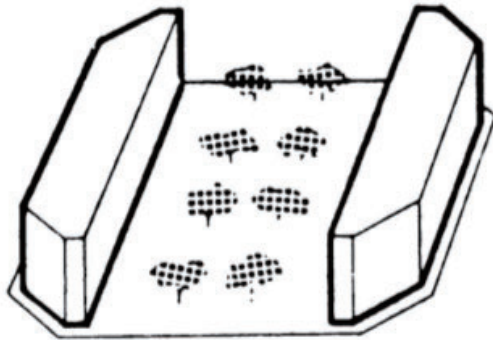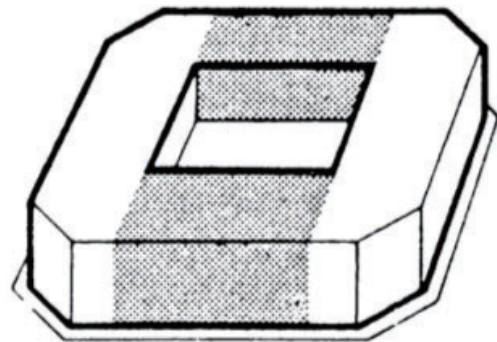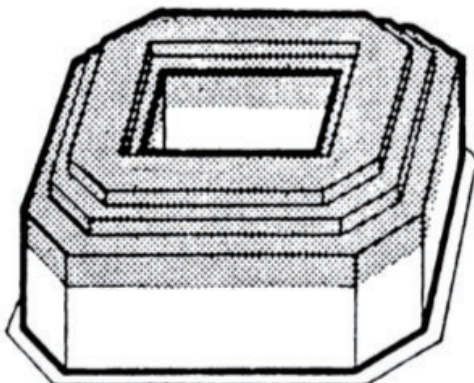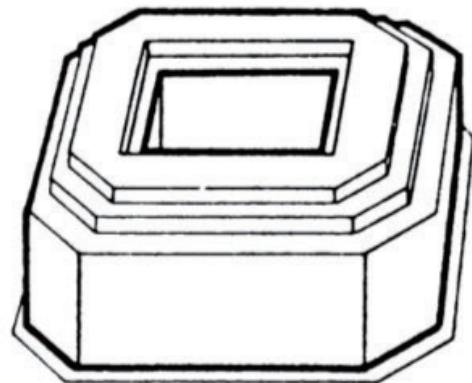
67,200 m³
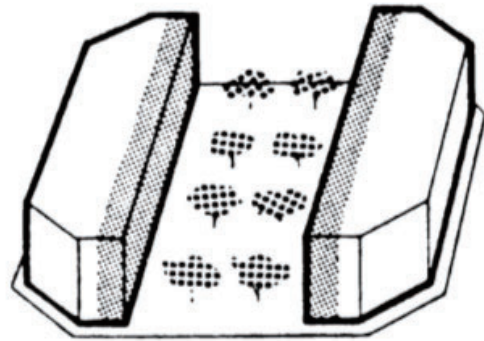
+ 29,440 m³
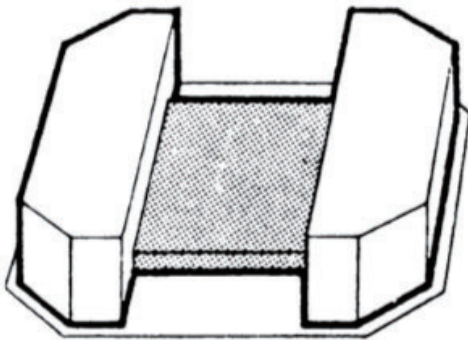
+ 18,944·41 m³

+ 52,864 m³

+ 126,323·20 m³

= 294,771·61 m³

[2.2]The infilling of Cerda's manzana (block).

GOVERNMENT'S EFFORTS: RECOVERED OF THE INNER COURTYARD

In the 1960s, in order to prevent the existing residential areas from becoming more chaotic, Barcelona built a large number of social collective housing. After the 1980s, the government was committed to restoring urban vitality and improving the quality of urban public social spaces. At the same time as the construction of urban public spaces in various areas of the city, there are corresponding plans in the Eixample area to restore the courtyards in the block blocks of the original Zelda plan as public spaces in the block.

In the early 2000s in a joint venture between the city of Barcelona and various Catalan banks, the "Pro Eixample" foundation was formed in an attempt to reinstate some of Cerda's original intentions. Pro Eixample's main directive was the recovery and conversion of the enclosed inner courtyard of the manzana into a publicly accessible, usable green space. In total, Pro Eixample attempted to recover 50 block interiors representing roughly 100,000m2 of space. In tune with Cerda's original intentions, Pro Eixample sought to transform Eixample so that one in every nine manzanas would have a public courtyard and that all residents of the Eixample would have a publicly accessible green space within a 200m radius of their home.

This policy encourages the demolition of illegal additions in the block to restore it to the internal courtyard of the block. At the same time, the government set up a website to update and announce the newly restored courtyard, introducing the courtyard design, use, and public social activities. Encourage enterprises or individuals to invest in the restoration of these courtyards and serve as a window to show a homogenized urban ideal. The intention of these actions is to return the city to Cerdà's original dream.

[2.3]Courtyard recovery locations within the Eixample neighborhoods
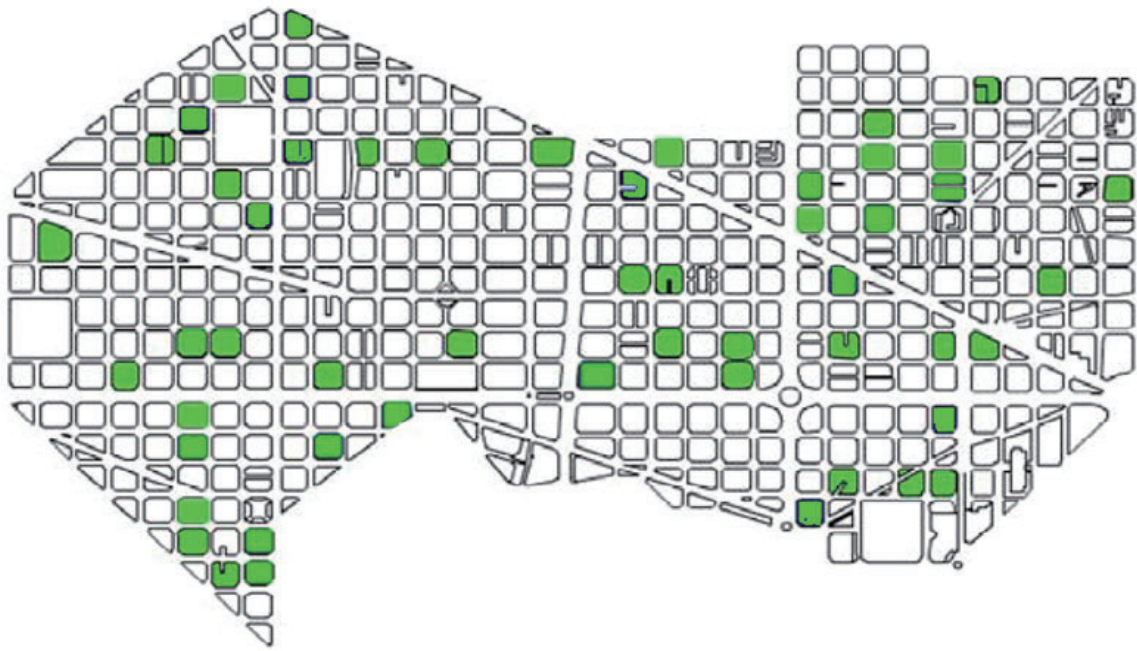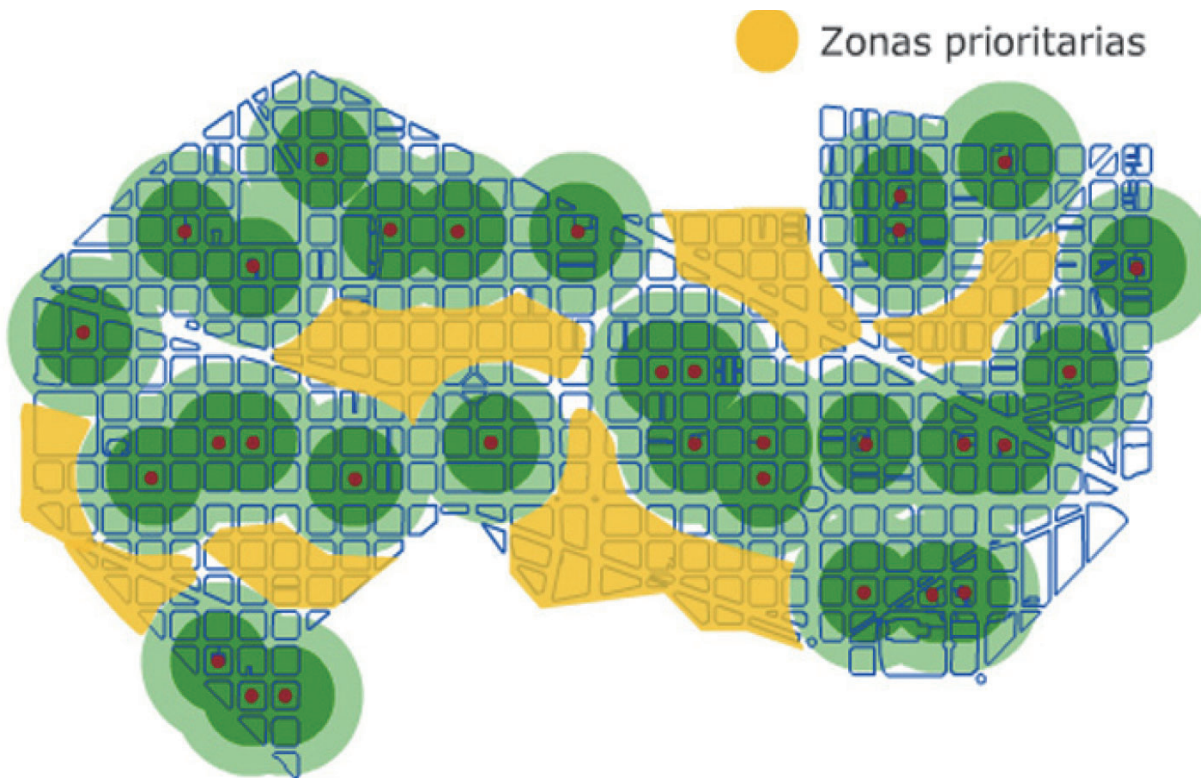
Zonas prioritarias

[2.4]Abajo mapa de zonas prioritarias, aquellas que no tienen espacios libres interiores a menos de 300 m.

COURTYARD STATUS

These courtyards, far away from the main public spaces of the city, are located inside the manzana. Due to their location and ownership, these spaces are somewhat between public and private. The street provides access to the courtyard to attract people from outside the community. The neighbors of the community face it every day. This makes the transformed garden also between the urban garden and the private garden.
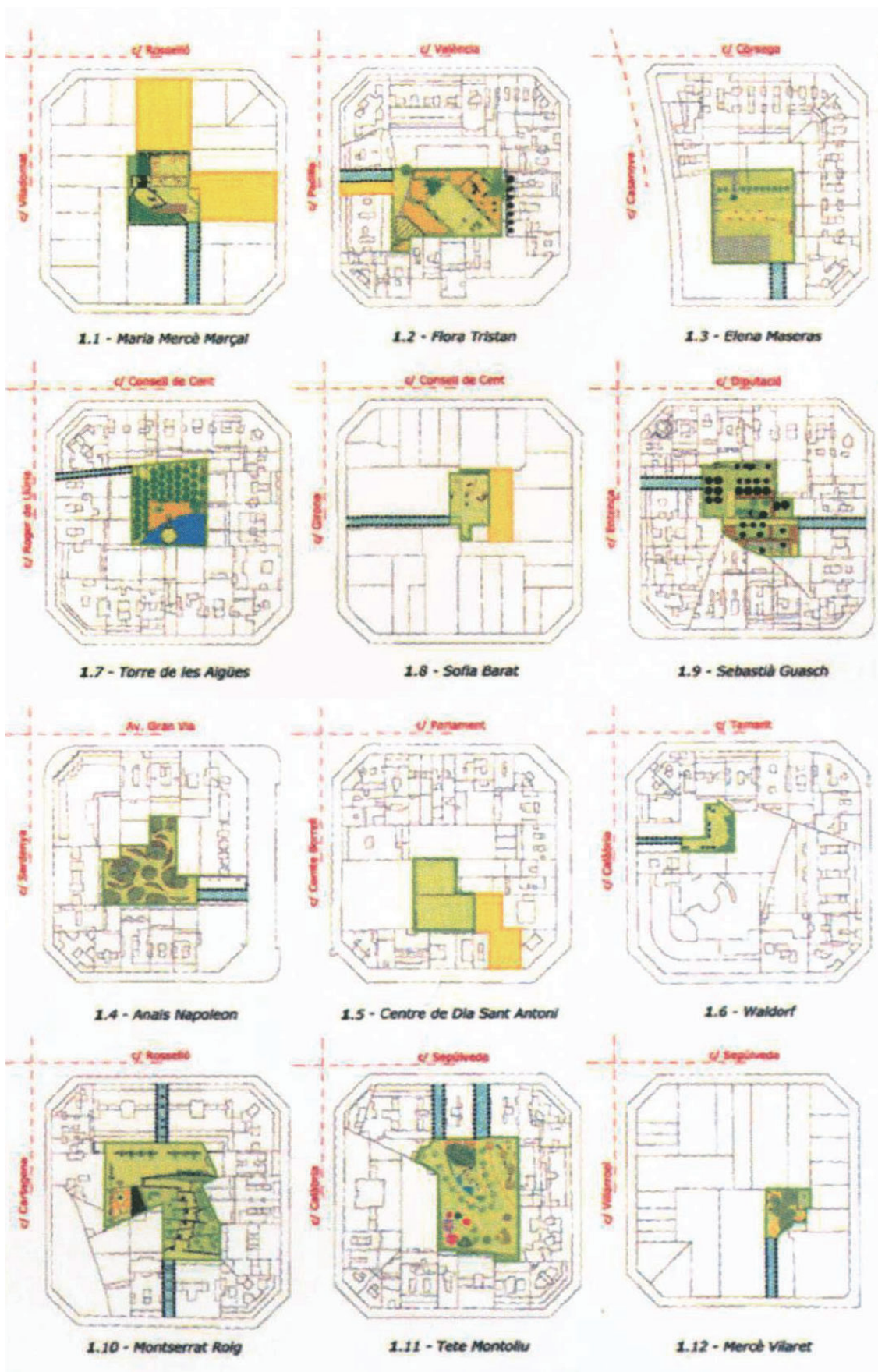
These remodeled courtyards occupies a small area. This so-called public social space is actually enclosed on three or even four sides, with only one or two passages connecting the public street. In actual situations, their influence on the manzana community is much greater than that of the neighboring manzana community, let alone within 200m and 300m. In fact, Most of the recovered inner courtyards cannot meet the demand for outdoor activities from a total of 9 adjacent manzana, most of the people who enter the courtyard are residents of the same Manzana community.

Many recovered courtyards lack excellent landscape or architectural design motivation and cannot be positioned as ideal public event destinations. Even if the yard was reclaimed to allow nearby Manzana residents (rather than the general public) to enjoy the local small-scale interventions, many of the alterations did not seem to have much effect in providing actual shaded green space.

Because of the ownership of property rights, there is not much space that can be used to open to residents. In actual cases, it is often only one third or less of the courtyard area. They are connected to the outside streets through narrow passages, and it is difficult for you to make people willing to come from a little bit far away.

These recovered courtyards are still not an ideal social space because they are too few, too far, and not easy to enter.

1.1 - Maria Mercè Marçal

1.2 - Flora Tristan

1.3 - Elena Maseras

1.7 - Torre de les Aigües

1.8 - Sofia Barat

1.9 - Sebastià Guasch

1.4 - Anaïs Napoleon

1.5 - Centre de Dia Sant Antoni

1.6 - Waldorf

1.10 - Montserrat Roig

1.11 - Tete Montoliu

1.12 - Mercè Vilaret

[2.5]Some cases of recovered courtyards

CHAPTER THREE
FOLLOW THE "UTOPIA" OF CERDÀ

A good neighbor relationship depends on whether the neighborhood space can be truly utilized and the maximum connection between people can be obtained through spatial media.

Neighborhood space is a small branch of social space. It lies between public space and private space. Neighbors show most of their interactions with each other. The communication activities that occur in the neighborhood space are mainly spontaneous and social activities that are greatly affected by the external physical space environment. Therefore, a reasonable and harmonious space environment design can more stimulate the interaction between residents and close the relationship between neighbors.

The roof design inside Manzana can win back the courtyard. It wits the original idea at the beginning of Cerdà Plan for the community, that is every residents have right to enjoy outdoor space near their house. The concept of homogenization and equality represented by the courtyard is Cerdà's "Utopia".

[3.1]Utopia filled

Resident life in ideal society

In a utopian society, residents are free to enjoy urban space and do whatever they want, without arguing or disputes over interests. Using urban plan to create a social service that brings happiness to the residents is an effective way.

Cerdà try to procide an realistic living environment for residents which must have sufficient ventilation, lighting, and be able to be in close contact with nature and green. Therefore, every house must have a tree-lined yard, and there must be enough greenery on the road for pedestrians, also the green coverage of the city must reach 50%. These greening and open spaces bring more social space. It is convenient for people to travel, close interpersonal communication, and distance is no longer an obstacle to communication. People are good at using the convenience brought by industrialization, and large-scale travel and communication have become the object of encouragement.

In Cerdà's planning theory, he believes that the city should develop in harmony as a whole. The coordination here includes the harmony between the city and the countryside, the harmony between the city and the surrounding cities, the harmony between the city and nature, and the harmony within the city development.

Through frequent social communication between people, the invention of new ideas and new technologies is promoted, and education is popularized on a large scale. People live in harmony with each other whom are no longer divided into different levels by rank, wealth, blood relationship, etc. The urban areas coordinate with each other, complement each other's advantages, and develop together. Only harmonious development between each other can create a harmonious social state.

From the above, we can conclude that in the ideal city of Cerdà, ßexible social spaces and intimate social relationships between people are an important part of utopia.
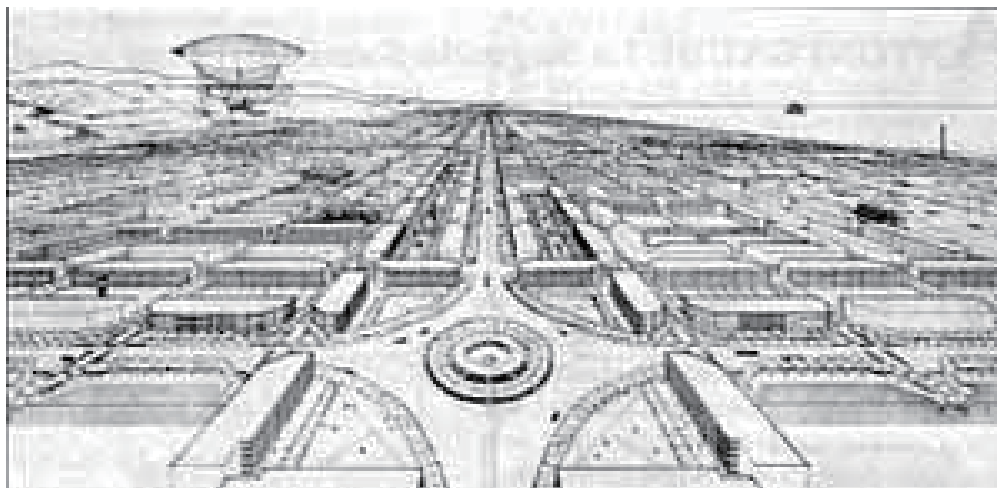
[3.2]El Plan Cerd à para Barcelona es de una incre í ble anticipaci ó n de futuro
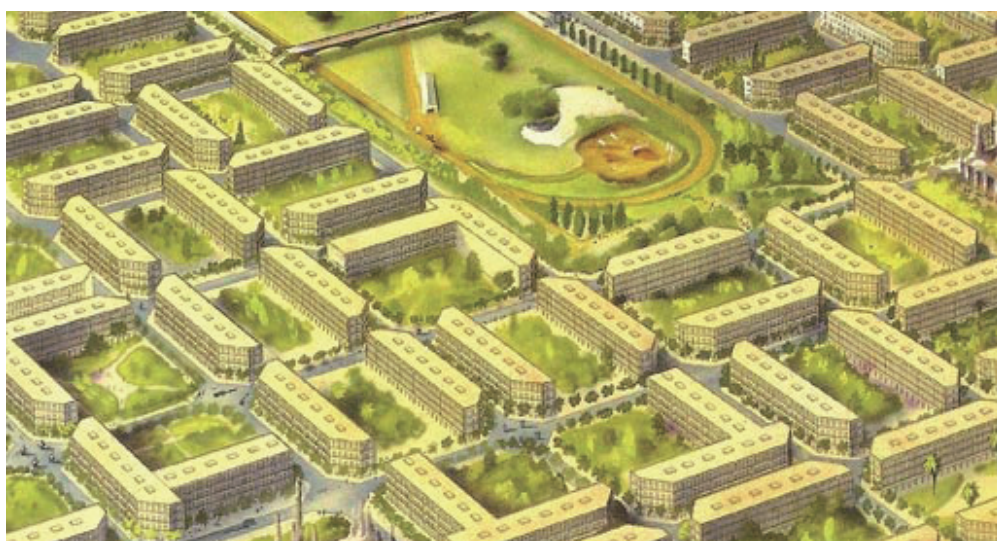
[3.3]Perspective of the Barcelona Expansion Project of 1859

Neighborhood space
Where is neighborhood of Barcelona ?

The concept of neighborhood

In environmental behavior, the neighborhood refers to a collective family base, which is a geographical space. People will feel at home when they enter the neighborhood. As an individual, the home is the center of the neighborhood. Most people are more flexible about the image of the neighborhood than the neighborhood where their house is located. Neighborhoods are rooted in the past. At that time, towns based on handicrafts and commerce were often divided into different areas and houses. Ancient Chinese urban residential areas were prevalent before Chang'an in the Tang Dynasty. Each square had its name and surrounded by rammed earth walls, which gave it a strong sense of neighborhood.

[3.4]Neighborhood of Chang'an

Generally, neighbors should maintain a balance in two aspects: First, the residence must have its own privacy; second, the residents should have mutual contact and support under the premise of mutual respect for their privacy. Neighborhood relationship means that each household is a member of the neighborhood and participates in some common activities in the neighborhood.

In the context of sociology, neighborhood is a kind of social group. The families that make up this group live next to each other, communicate with each other, watch and help each other, and have a sense of identity in psychology, thus forming a geographical group that is tight and loose. The formation of this kind of geographical group is the product of the development of human society to a certain stage. As early as the primitive clan system, there was no neighborhood in our current sense, and members of the same clan lived together. Later, with the development of society and economy, private ownership and monogamous individual families emerged. The emergence of individual families gradually broke the living space of the previous

clans and tribes, began to migrate and live together, forming a rural commune. The families in the rural communes are not necessarily related by blood, and they often belong to different blood lines. In order to make a living, they cultivated the public land around the place where they lived together, and neighboring households also frequented and helped each other in their lives, and gradually formed neighborhoods in the current sense. Entering the age of civilization, with the emergence and development of cities, neighborhood activities and neighborhood relationships in urban communities have become more and more complex and diverse.

In the field of architecture, the idea of "neighborhood" has formed an important concept in modern urban planning, a neighborhood unit, as defined by Clarence Perry in 1929, which refers to a relatively small, recognizable city, Low-level units, in which the community has service facilities to meet daily needs, and exists between residents' houses and the city.

From the above point of view, the hundreds of Manzana in Exiample are neighbourhood communities

that cerda has planned long ago. All neighbors of same Manzana share one courtyard, everyone's houses are built close to each other, and the public areas are roughly the same.
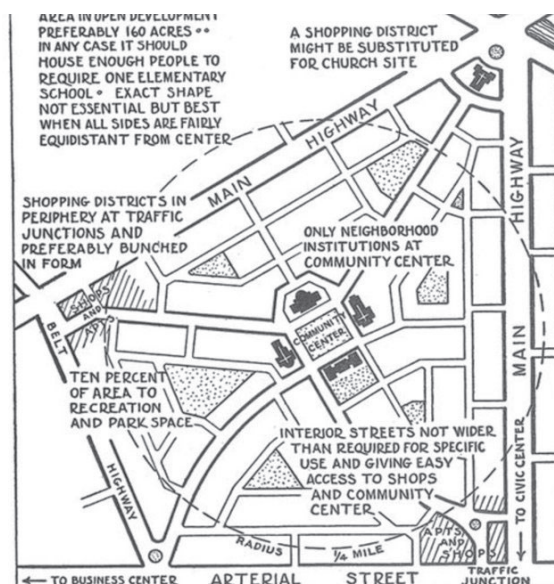
[3.5]Clarence Perry

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Characteristics of the neighborhood

First, it is a geographical group. Every neighborhood has a specific area, and the families that make up the neighborhood are very close to each other, even separated by a wall. The proximity of residential locations is the basic condition for the formation of neighborhoods, and it provides a prerequisite for people to establish frequent social connections. On the basis of similar living quarters, several families watched for each other and supported each other with illnesses, forming a realistic social group. In this sense, the proximity of residential locations is the natural basis for the neighborhood.

Second, it is an emotional group. Neighborhoods are not economic entities, nor political entities, but social groups combined on the basis of emotions. If each family does not have friendly exchanges with each other, if there is no emotional communication developed on this basis, even if the living area is close, it will not form a realistic neighborhood group.

[3.6]"Neighbourhood Unit" diagram, according to Clarence Perry, 1928.

The theory of spatial division of residential area

The space has a certain degree of order, which reflects the characteristics of the space itself, that is, it has a hierarchy. Reflected in the residential area, it is mainly manifested as the division of public and private space.

The current planning theory of residential districts divides the spatial hierarchy within the district based on the "neighborhood unit" proposed by Clarence Ferry. In 1977, the American scientist Newman, in his book Defensible Space, divided the living space into: public, semi public, semi private, and private, with a four-level progressive spatial relationship according to the psychological feelings and the territorial nature of the living space.

The above views are reflected in the planning of the community as:

1. The public realm is the urban space outside the community, shared by citizens, and is a complete public space
2. Semi-public areas refer to the main roads, concentrated green areas, central activity areas, etc. in residential communities, which are public spaces shared by community residents
3. Semi-private area refers to the activity venues, roads, greening and related facilities in a smaller group or courtyard, mainly serving residents in the group or courtyard
4. The private area refers to the ground floor yard and indoor space of the residents, and the space only used for the residents' homes

The living mode of manzana in Barcelona's Exiample district:
That is, a living mode consisting of streets, inner courtyards, activity spaces in residential buildings, and home. This daily living space hierarchy reflects the level of space and the activities of people in its environment adaptability embodies the spatial order from public to semi-public, from semi-public to semi-private, and from semi-private to private.
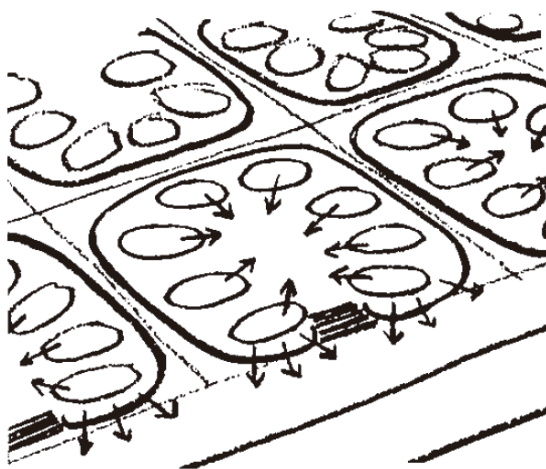
[3.7]Neighborhood hierarchy

Social space
## How social space works?

The concept of social space

The concept of social space is defined as "semi-public and semi-private spaces with features that facilitate people's communication". The space is divided into four levels according to the characteristics of use, the number of users and the scope of use, namely public space, semi-public space, private space and semi-private space. Public space and private space belong to the two extremes. Public space is subject to more external interference, while private space eliminates external interference, and the social space lies between the two.

People's work, life and study are inseparable from the communication a between people. The social space provides a necessary place for people's emotional exchange and information exchange. It is a medium for people to communicate. It can be said that the social space is a bridge between people to connect with each other.

People interact and connect with others under the connection of the social space. Because of the interaction between space and people, it is different from the general natural environment. What is more prominent in the social space is people's knowledge and understanding of real life, which also reflects people's lifestyle and behavior characteristics in modern society. All in all, the social space is actually based on the man-made environment, and social, cultural, psychological and many other factors are considered together to finally construct a complex and diverse human social space.
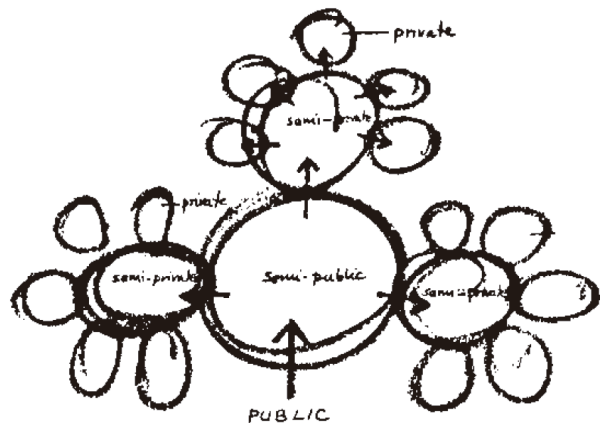
[3.8]Social space division

The function of the social space

The social activities between people are spontaneous. Participants need a medium that can stop and stay to communicate, and the social space in the building can provide the best place for connection between people. The experience of social space and public space is very different. The social space can make people feel a certain sense of identity with it, and being in it can make their own inner behaviors tend to relax and calm, and it is easy to cause people to interact with each other. Close social behaviors and psychological tendencies naturally produce social activities. It further improves the utilization of space and the attractiveness of the environment, and enhances people's sense of identity with the environment. The importance is that social space can exist in any architectural form that needs to establish activities. Then the formation of social space provides greater possibilities for the shaping of architectural public space.

The social space does not exist independently. It plays a more important role in some buildings, and fully participates in the spatial organization of the building to give full play to the spatial role of the building. It can be anywhere in the building or outdoor space, and does not occupy speciÞc space. Any public space that can generate social activities and social behaviors can be called a social space. Social space exists for communication between people, so that people understand each other, and interpersonal relationships become close and harmonious.

Characteristics of the social space

As the most active and abundant space in contemporary architectural space, the social space can provide a comfortable, relaxed and pleasant communication platform for the people inside the building. Through the previous discussion of the social space, we can summarize that the communication space has the following characteristics: **Multi-layered** , **Territoriality**, **functional complex**.

Multi-layered

Human's psychological needs are inherently dual-social and private, and reflected in the material environment is our hierarchical division of the space domain. Maslow pointed out in his "hierarchical needs theory" that human behavioral needs can be divided into Þve levels, which are in order: physiology, safety, social interaction, respect, and self-achievement. The main body of activities in the building is the internal personnel. The needs of the first and second levels are relatively easy to meet, and the needs of the third and fourth levels are the purpose of creating different levels of communication space in the building. In the current state of extremely tight architectural space, it is particularly important to provide multi-level architectural communication space for internal users of buildings, while the development of building roof space provides a good perspective for the research of architectural social space.

Territoriality

Territoriality is an individual or group that owns or possesses a place or an area, personalizes and defends it, in order to satisfy a certain need. The place or area is the domain of the individual or group that owns or possesses it.

In the outdoor space, except for the small courtyards of the residents on the ground floor, which have clear regional boundaries, other spaces have the characteristics of "extroversion" and "public". When residents engage in various outdoor activities in the neighborhood space, they generally gather together according to their age, interest characteristics, etc., and form a relatively Þxed Þeld of activity. When a public space is frequently used by a person or a group, it may eventually become a fixed place for these people. For example, the elderly like to play chess and chat together in a relatively quiet corner, and try to avoid interference from the crowd. Youngsters like to engage in large-scale activities such as Þghting, running and jumping in the spacious and open green space.

The sense of domain of space is not all fixed. Three or five people forming a circle can form a temporary domain. When people leave, this sense of place will automatically disappear.

The way to form the Þeld is through the deÞnition of space:

1. Entity definition refers to a more enclosed method of deÞnition, such as the use of solid walls or partitions to separate the inside and outside of the space. This method of deÞnition is suitable for private and semi-private spaces with clear domains, such as small courtyards in front of houses and exclusive venues.

2. Void deÞnition refers to the open space definition method, such as using railings, green hedges, ground height difference, paving changes and other methods to limit the space. Void definition is generally used in public and semi-public spaces that are oriented toward domains, such as roads, squares, event venues, etc. It is the most commonly used domain definition method in neighborhood spaces. This can make the space sheltered and unconstrained, interconnected but not overly intimate, less disturbed and able to maintain the necessary contact with the surroundings.

3. Psychological definition refers to the sphere of influence of various

groups formed due to long-term activities. This kind of psychological definition often requires people to go through a long process of understanding and running-in in the life of the neighborhood in the living space, and is greatly influenced by society and culture. Once the sense of regional territory is formed and the neighbors' psychological barriers are produced, the residents will have a sense of ownership and collective consciousness, but generally they need to rely on physical means of physical definition and void definition to support, thus forming a comprehensive spatial definition method.

Territoriality is a kind of psychological feeling that space gives people. It can provide people with a sense of security, show the identity of the occupant, and strengthen the sense of identity with the space. Therefore, people respond positively to the spatial environment with a clear domain. The more speciÞc the object of belonging, the more significant the environment is concerned, and the greater the possibility of people participating in activities. As activities increase, the interaction between people will increase, which is conducive to the continuous

improvement of the environment and the continuous and healthy development of interpersonal relationships. On the contrary, the absence of a clear social space design field is often abandoned or abused because of lack of use value and attention. Resulting in low space utilization and harsh environment, often forming negative space, naturally it is impossible to conduct social activities, and it will not generate the value of the space for communication.

Therefore, the domain of space helps to give users a sense of belonging and security, enhance cohesion, and enable people to establish harmonious interpersonal relationships and a clear sense of social responsibility. It is an important condition for the formation of a good neighborhood space.
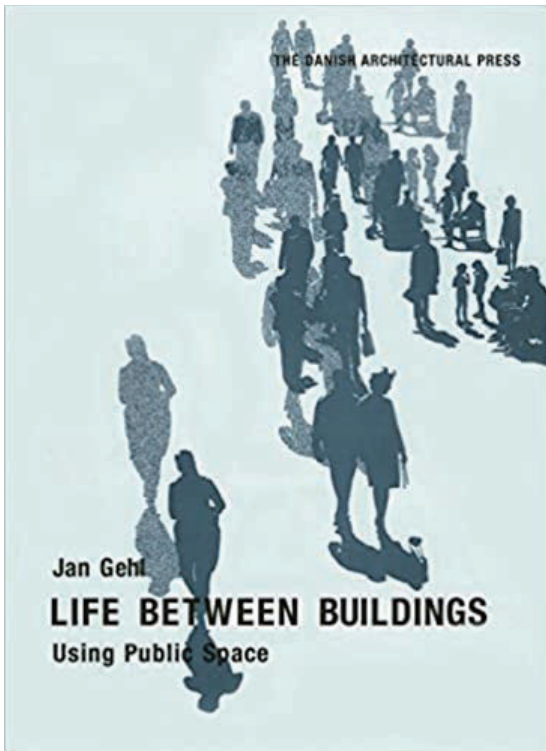
[3.9]Life Between buildings, Jan Gehl
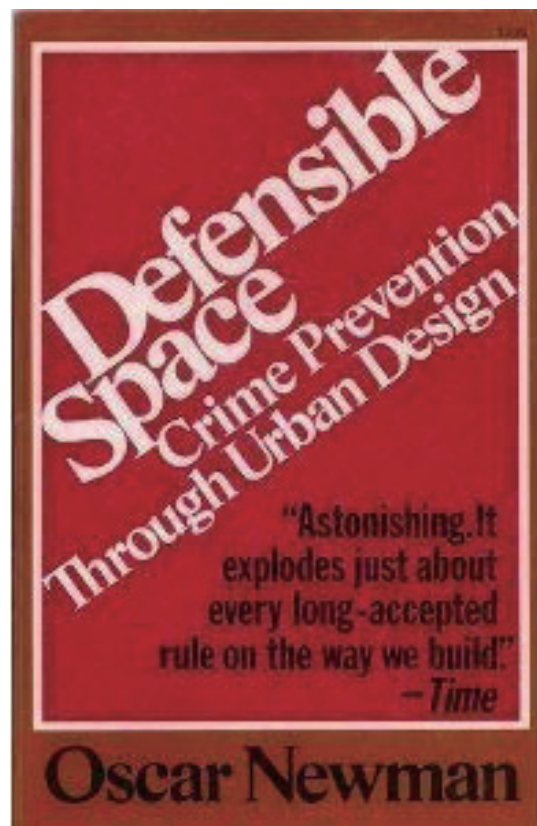
[3.10]Defensible Space, Oscar Newman

Complexity

First, the functional ambiguity of a single space. People's requirements for space are not a single function, but a collection of multiple functions. It can be understood that space users choose one or more functions in the space to use. For example, the road in the neighborhood is not only used as a traffic channel, but also a place for people to play, talk and chat in daily life; the garden in the neighborhood space can not only beautify the environment, but also allow people to entertain and watch in it, satisfying people's psychological demand. Therefore, the meaning expressed in the neighborhood space should be a vague concept, not a place with a single function. According to the different requirements of users, feel the nature and function of space through their own activities and experience.

Second, the conversion of different spaces. The transition of spaces of different nature or different domains reflects the characteristics of the two spaces of different nature. For example, the entrance space of a building must create a welcoming, warm, and recognizable sense of place to provide opportunities for social activities with them, while at the same time ensuring the privacy of the internal space. Relaxing the smooth transition relationship can make people's psychological feelings natural change. For example, when designing the roof space of a parking lot building, we must create a natural and open atmosphere, and guide people to the roof. The openness, safety and territoriality of the space will effectively promote the frequency of interaction activities. We should combine the three when designing the interaction space on the roof.

[3.11]The Urban Neighborhood, Suzanne Keller
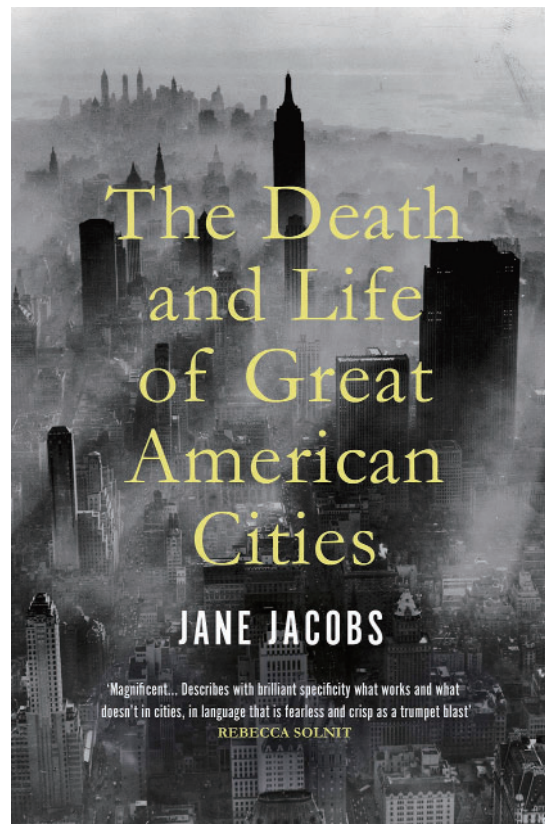
[3.12]The Death and Life of Great American Cities, Jane Jacob

Why the roof
Roof utilization value

Social value

With the acceleration of the urbanization of Barcelona, the space for outdoor exercise in the city is gradually decreasing. With the continuous rise of land prices in the center of the city, it is not very possible to build a space for communication on a large, open-space land. Open up space on the roof space of the building to set up gardens, squares, theaters, bars, etc., so that it has many public activities functions such as leisure, entertainment, rest, etc., not only can better enrich the content of public activities in these places, but also enable life People in the noisy city have a place to relax in their spare time; this is the preferred play environment for parents and their children, and it is also a place for establishing neighborhood relationships in the community. Through the construction of the roof space, the vitality of the city can be continuously enhanced, the communication between people can be strengthened, and the quality of life of residents and the cohesion of the community can be improved.

[3.13]Municipal Institute of Urban Landscape and Quality of Life

[3.14] Nostra Senyora de Lurdes School

Environmental value

Making full use of the roof space to plant various plants and landscape design can better beautify the environment and make a certain contribution to urban landscape construction. Plants can absorb carbon dioxide through photosynthesis, and then release oxygen to purify the air in manzana. There are many high-rise buildings in cities, and there are fewer plants. TrafÞc and industry have caused air pollution, and air quality has been deteriorating. The planting of a large number of green plants can alleviate air pollution to some extent.

Especially in the more polluted downtown area, making full use of roof space to plant green plants can effectively reduce the surrounding environment temperature and save energy. Compared with the surface space, the natural environment where the roof is located is more conducive to the growth of plants. Therefore, planting plants on the roof space can beautify the city and maximize its own value.

[3.15]Private roof on Via Laietana.

Economic Value

Part of the reason why the courtyard space in the middle is gradually being filled is because Manzana lacks profitability. Try to use the blank roof to retain the interests of the original owners and property owners when new space is obtained. Turning the roof of a public building into a place for people to relax and entertain, attract people, and bring greater investment income to investors. Not only can it alleviate the congestion of buildings in the city, but it can also provide ample space for people to entertain and make the image of the entire city more vital.

The mechanisms that ProEixample uses to achieve the reconversion of the soil
apple interior are:
- The use of the capital of the company in the purchase of land and subsequent
investment payback
- Agreements with private property developers for the assignment
of the same
- The promotion of urban plans that facilitate recovery
Obviously, the roof is more appropriate.

Grado de dificultad
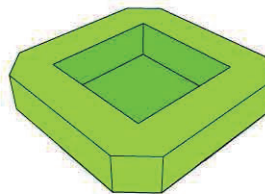
1. ¿Cuánto mide la superficie que se quiere recuperar?
2. ¿Cuántos propietarios tiene la superficie que se quiere recuperar?
3. ¿Existe un paso o hay la posibilidad de conseguirlo?
4. ¿Está edificado el interior?
5. ¿Está edificado el subsuelo?
6. ¿Se desarrolla alguna actividad?

Inversión del capital social de ProEixample

Capital ProEixample

Nuevo interior de manzana

Venta de suelo o edificabilidad

Compra suelo
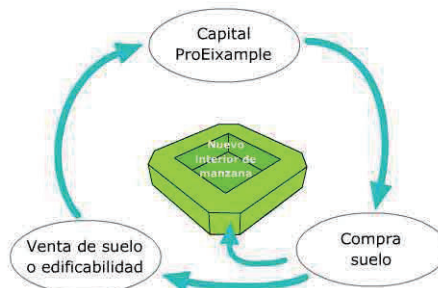
Mecanismos de recuperación

Inversión del capital social de ProEixample [+]

Gestión de afectaciones y promoción de planes urbanísticos

Cesión promotores inmobiliarios

Ordenanza 13e Eixample
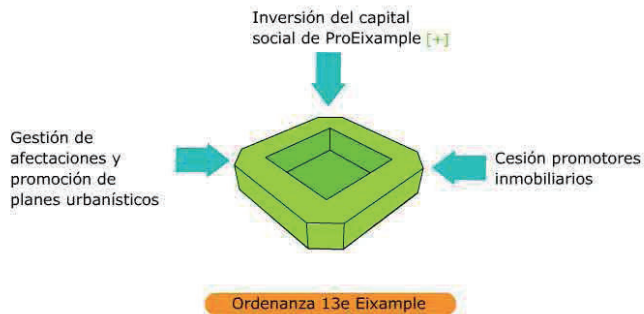
[3.16]How ProEixample achieve the reconversion of the soil

CHAPTER FOUR
THE ROLE OF ROOF

The roof is the fifth facade of the building. It plays different roles in different buildings. It can be an outdoor activity place for people, or it can be used for various purposes by connecting the ground space to the roof through design techniques. Of course, we have a green roof in the traditional sense.

Park 'n' Play / JAJA Architects

What can we do on the roof?

Written by Osman Bari
"Who would've thought a parking garage could be so interesting?"

Architects usually create public spaces from a single building, and JAJA Architects is redefining the appearance of parking lots. Their recent shortlist in a parking lot competition in Nordhavn, Copenhagen is a fascinating building that combines green facades and rooftop playgrounds to take full advantage of its position in the emerging urban community.

[4.1]Aerial View

The designers did not hide the structure of the parking lot, but proposed the concept of enhancing the aesthetics of the structural grid, which can break the huge scale of the facade. The square box where the green plants are placed introduces a new scale, which connects the plants rhythmically with the structural grid, and at the same time disperses the green across the entire facade.
The grid system of the plant box on the facade is penetrated by two huge public stairs, and the railings of the stairs continue to the roof, forming a wonderful playground.

On the roof, railings are not only used as railings, but also become swings, ball cages, climbing frames and so on.

Red line stairs and roof
The basic principle of this project is to provide convenience for local
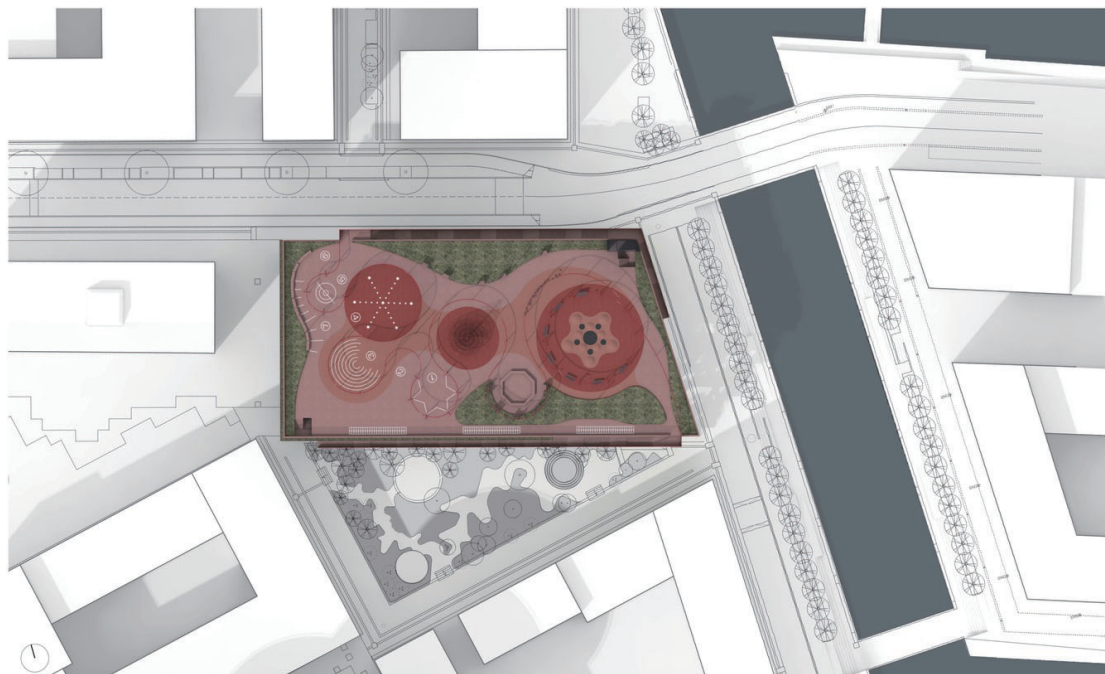
JAJA ARCHITECTS
PROJECT TITLE, EN: Park 'n' Play
PROJECT TITLE, DK: P-Hus og Konditaget Lüders

SITE PLAN 1:500

[4.2]Roof top plan

[4.3]Rooftop rides

residents and tourists, and provide a space for rest and play. Therefore, visibility and accessibility are critical when creating a movable roof. The red line is a physical guide through the public space of the parking structure, guiding visitors from the street into the street, and acting as a handrail on the stairs. The red line serves as a clue to bring people from the escalator to the roof. On the roof, the red line becomes a part of the facility and is integrated into the entire environment. The elevated activity sculpture above the roof provides great flexibility, allowing

people to see the activity happening on the roof from the lower street. After the red line looped around the roof, went downstairs from another escalator.

In this way, the structure becomes a red line in the whole project and connects the activities on the facade, stairs and roof as a whole. The new parking lot Park'n'Play in Copenhagen has become a place for social gatherings and an active part of the local environment.
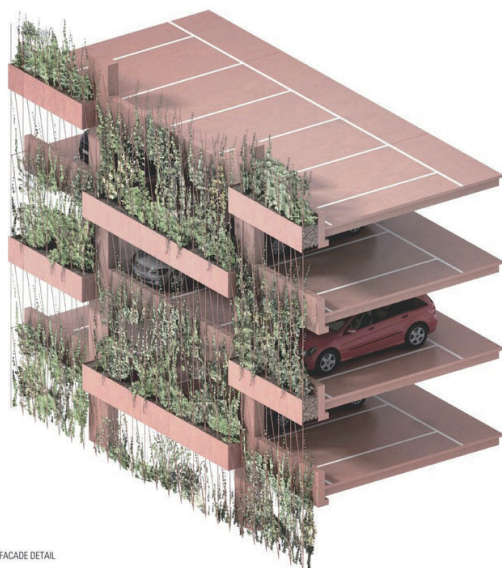
FACADE DETAIL
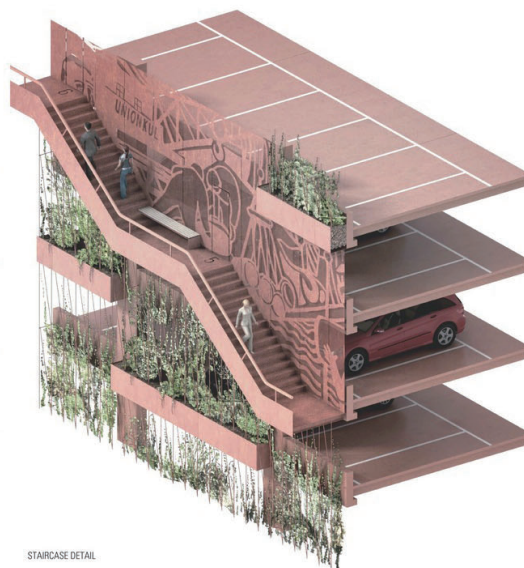
STAIRCASE DETAIL

JAJA ARCHITECTS
PROJECT TITLE, EN: Park 'n' Play
PROJECT TITLE, DK: P-Hus og Konditaget Lüders

DETAIL AXONOMETRIES, ILLUSTRATIONS

[4.4]The structure of the wall

[4.5]Rooftop rides

Jussieu Library /OMA
How do we connect the roof?

Different from the traditional library buildings before, Koolhaas's competition plan starts from the perspective of the city, Combined the actual topography of the building base with using curved continuous floor to form a definite streamline inside the building. Thus, penetrated the urban space atmosphere into the interior of the building.

Definite streamline: continuation of urban space

When Koolhaas conceived this competition plan, he intended to construct a continuous building. Therefore, the ground was re-examined as the initial point of the continuity between the building and the city. Koolhaas imagines its surface is soft, like a magic carpet with a social nature. He folded it upwards and increased its thickness to make it look like an overlapping platform.

The ßoor is like a fabric, connecting the ground and the roof, the city and the building.
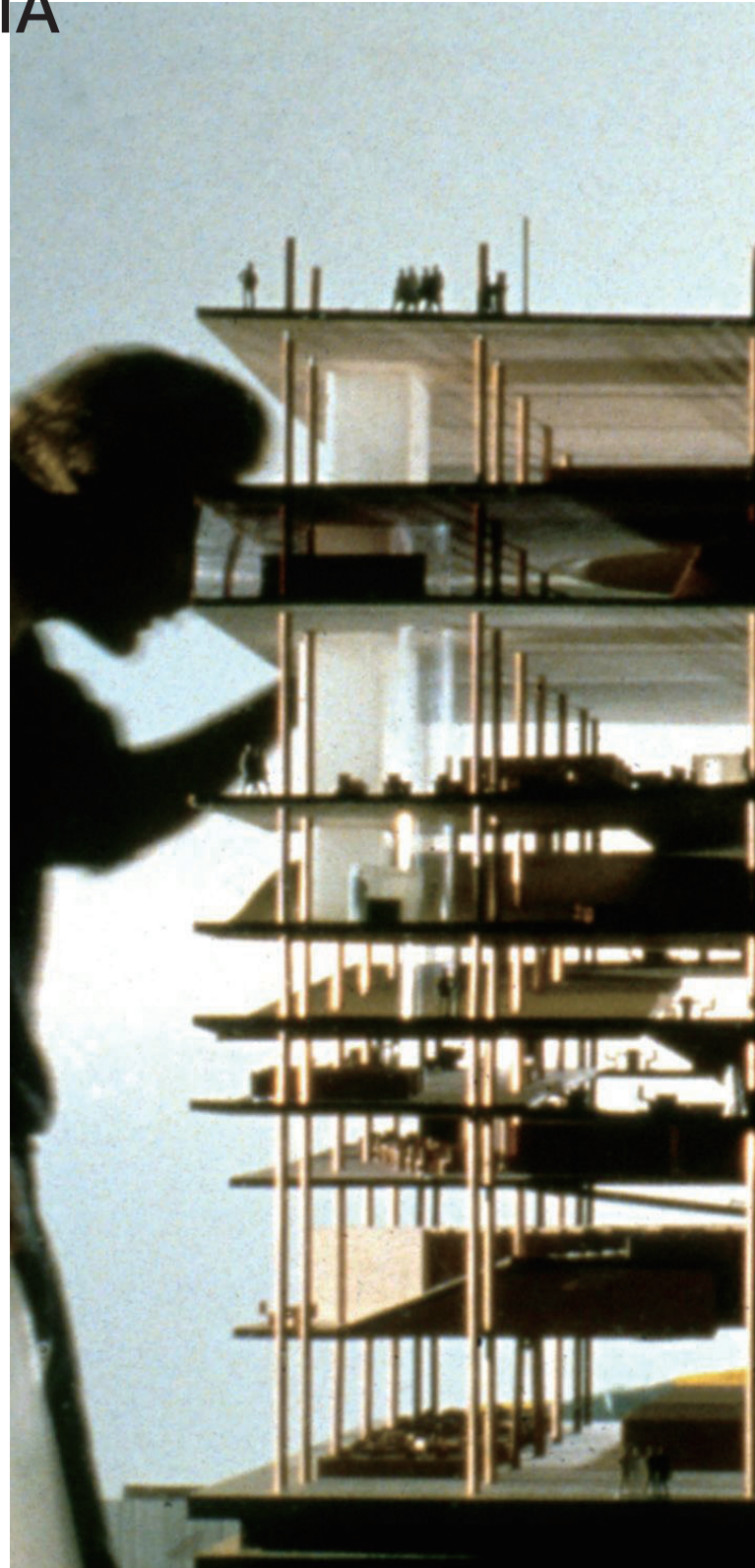
[4.6]Jussieu Library
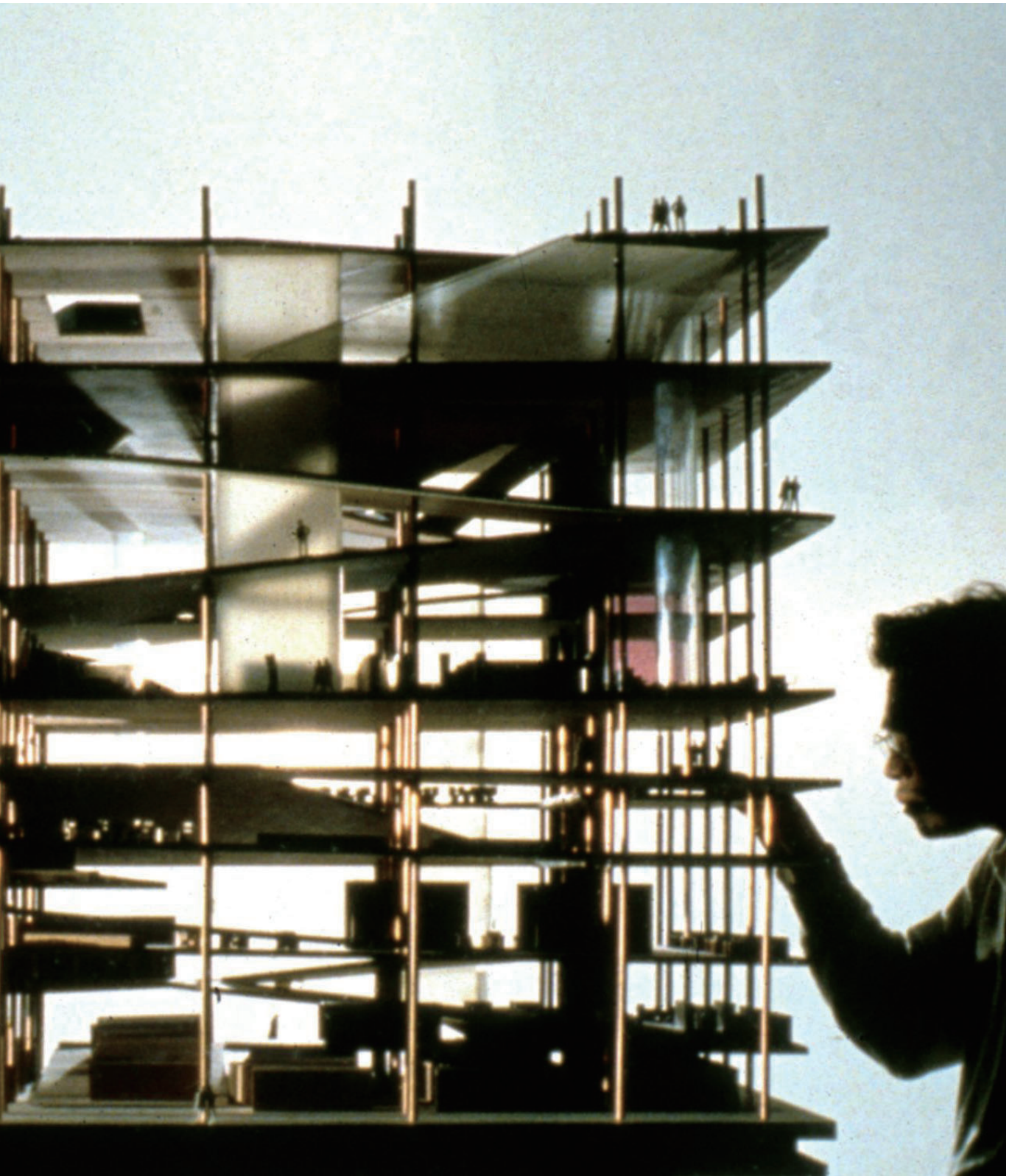
Determined functionality

The continuity with the city penetrates into the interior of the building, to reach that Koolhaas uses curved ßoor slabs to construct a definite streamline inside the building. The control mechanism replaces simple plane stacking, each ßoor of the building is connected to each other, and the internal curved floor slab connects each part like a passage. This passage runs from the ground floor of the building, through the interconnected floors, to the roof terrace of the building. In such a system, the symbolic ßow of people that existed on the diagram in the traditional sense became the real ßow at this time.

Koolhaas tried to shape this streamline like a street, which is generally urban, and make it a complete system. "This system contains elements that Koolhaas believes are necessary for excellent urban planning, such as squares, parks, distinctive staircases, cafes and shops." At the same time, in order to increase the smoothness of its movement, the library Has used some more effective passages, escalators and elevators to create shorter paths, provide users with

[4.7]Streamline

Continuous ßow proÞle: shift, ramp, hollow

Unlike traditional buildings that use points, lines, and planes to organize the continuous fluidity on the building plan, Koolhaas takes the section as the starting point and tries to use the line of sight and travel relationship generated on the section to determine the relationship between the functions on the plane. Spatial relationship, so as to achieve a continuous fluidity in three-dimensional space.

On the basis of determining the basic height of the floor slab on several sections, Koolhaas moved and raised the floor slab in the horizontal direction, which interrupted the connection of the ßoor slab in the local area, in order to strengthen the vertical connection of the internal space of the building on the section.

Based on the established form of the floor, Koolhaas further formed the continuity in the section by disconnecting the floor entities. He specifically used methods such as tearing, cutting, and digging to form various empty spaces. At this time, in the process from the elongated section to the compressed section, the established horizontal layer formed by previous step is also opened by these hollow spaces, thus forming the penetration and continuity of the line of sight and path on the section.

The discontinuous connection between floor slabs often produces garbage space. Koolhaas believes that "garbage space is often fuzzy. It combines high and low, public and private, straight and curved, and provides a seamless patchwork of connected spaces. But its essence is empty, and it is often difficult for people to remember the existence of these spaces.

The atmosphere that fits the urban public space and the hollow space produced by tearing, cutting, digging and other methods are combined with functions, thus forming a different sense of region. These spaces do not constitute the decoration in the space, which makes people impressed.
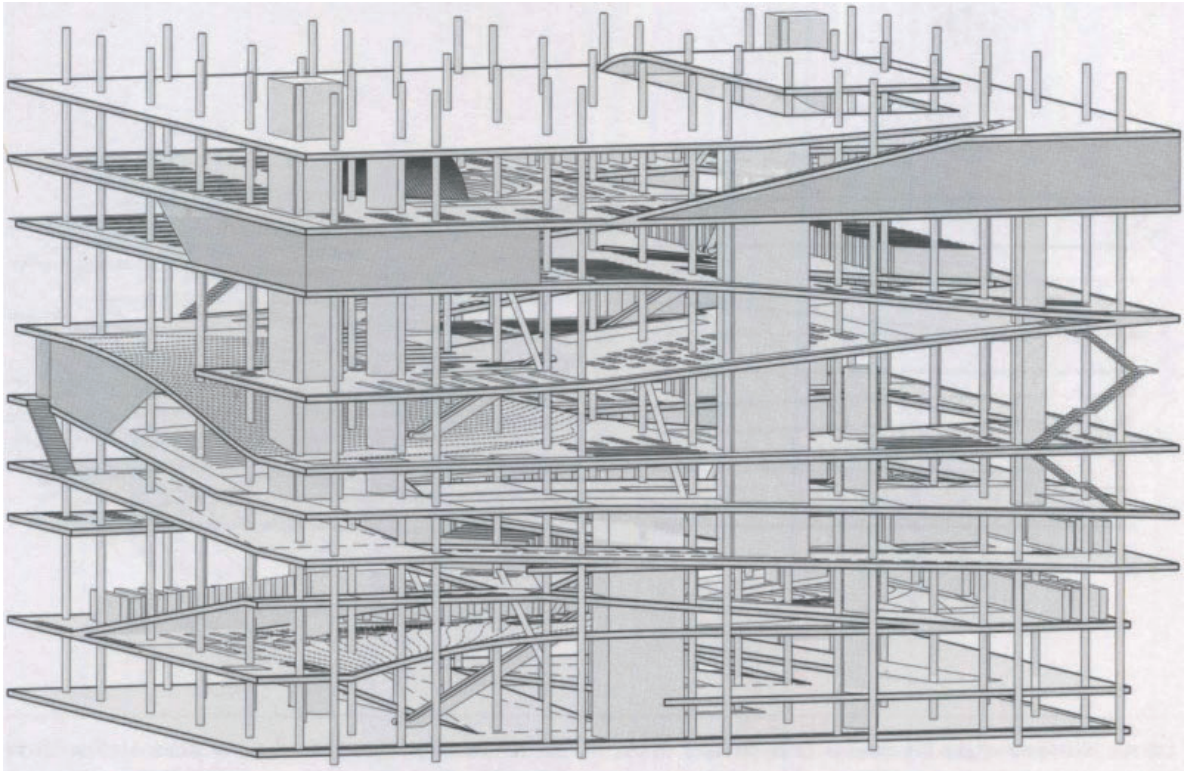
[4.8]Schematic

From hollow to perspective extension

The big problem with this design is that the design concept of the hollow space may cause the dispersion of the space organization. But Koolhaas blurs the clearly defined boundary between the floor and the ramp, thus forming a sense of spatial continuity. From a visual point of view, the hollow space is no longer the horizontal ßoor slab that constitutes the vertical structure, which presents a sense of flat extension, but creates a spatial perspective distortion. This visual perspective distortion extends to the roof, giving the whole building a sense of spiraling.

[4.9]Intersecting space

Şışhane Park / SANALarc
Landscape on the roof

This is a project in the center of Istanbul. The SANALarc design team perfectly combined the huge parking lot with the park on the ground to create an attractive urban space. The purpose is to let people enjoy comfortable outdoor space in the busy city center.

What we can see is a lot of geometric elements. The open space for activities and the private space for rest are very interesting. The location of the site is different, so it has a very good view in the park. The designer made reasonable use of the sloping terrain to design the concave square and the viewing platform, which makes it suitable for public events in the large square and provides a lively urban atmosphere. Similarly, people in more private corners can also avoid the crowds in the concave square.
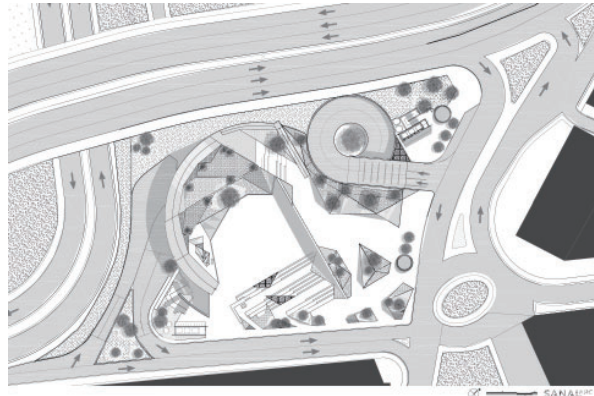
[4.10]Square plan

[4.11]Aerial View

[4.12]Sunken square

67

The difference between the ground part of this project is that it has three main elements, the walkway, the deck and the outdoor space. These elements on the ground use a lot of natural materials, which makes people who come here feel cordial and natural. This design is suitable for people of all ages.

Under the park is a huge parking lot, There are six floors underground, which makes the park above ground become the roof of the parking lot. The parking lot is ventilated through the vents of the park. The plants and landscape design of the park make the vents natural and harmonious

[4.13]Vents and ramps

SİLÜET RAMPASI

OTOPARK GİRİŞ

ŞİŞHANE GÖBEĞİ GİRİŞ
+ 39.00

SEYİR TERASI

SİLÜET RAMPASI

OTOPARK GİRİŞ

OTOPARK ÇIKIŞ

ETKİNLİK MEYDANI

METRO GEÇİŞ

KASIMPAŞA YAYA ÇIKIŞ

METRO_AVLU
+ 34.00

ŞİŞHANEYE ÇIKIŞ

OTOPARK GİRİŞ

OTOPARK ÇIKIŞ

RAMPA

OTOPARK_P1
+ 29.40

OTOPARK_P2

OTOPARK_P3

OTOPARK_P4

OTOPARK_P5

OTOPARK_P6

[4.14]Sishane Market-Underground Parking

https://www.gooood.cn/sishane-park-by-sanalarc.htm
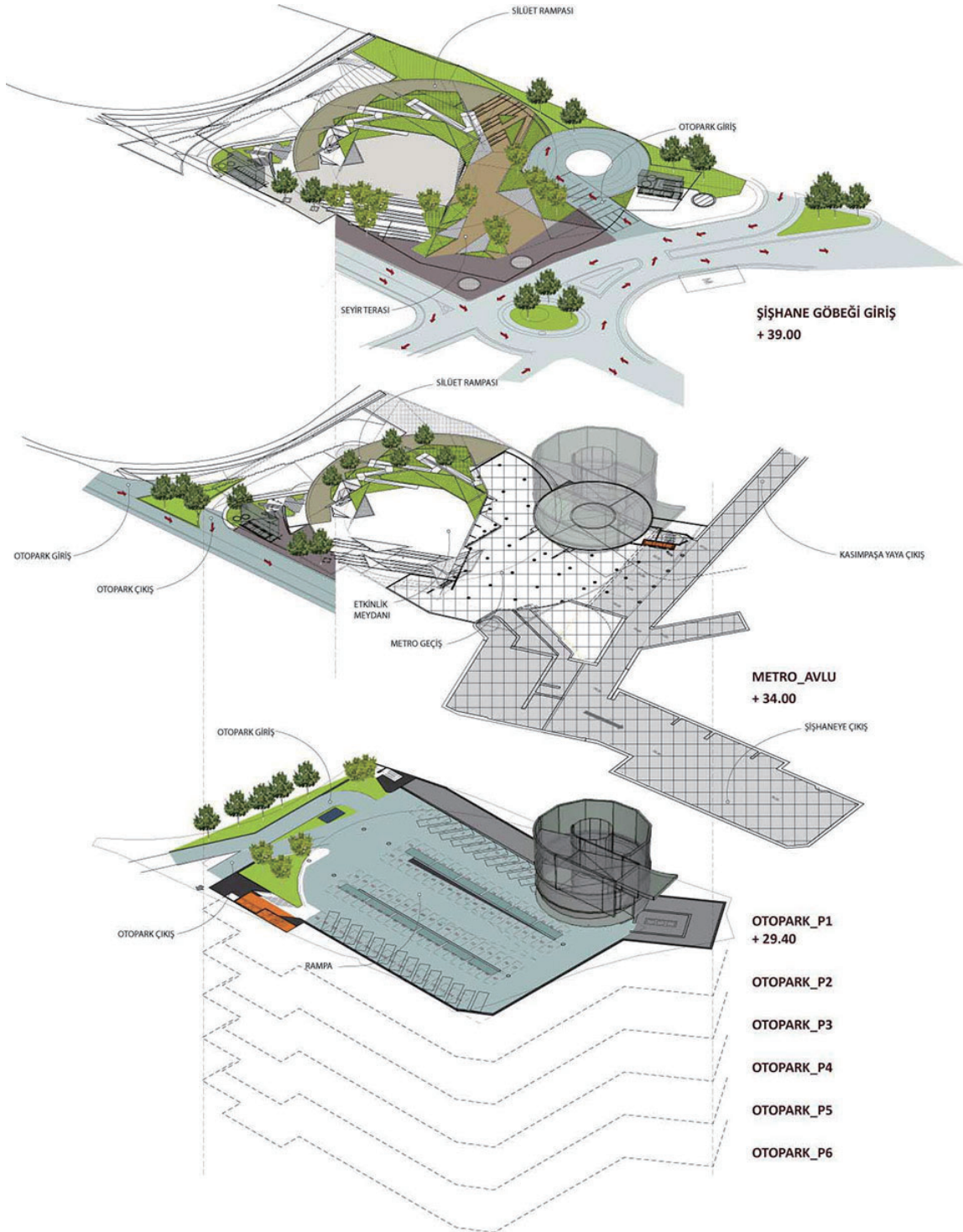
CHAPTER FIVE
UTOPIA ON THE ROOF

General Thought

Among the many Þlled Manzana in Barcelona, there are many roofs of public facilities that can be used. In order to follow Carda's will, I tried to restore these roofs as social spaces, and moved parks and outdoor venues onto the roofs.

For this reason, I chose **Barna Parking**, which has a low utilization rate, to share a part of the internal space of the parking lot and use it as a passage connecting the exterior of the building and the roof. A parking lot with a social space will bring greater vitality to the entire manzana community.

Carrer del Rosselló

Carrer de Balmes

[5.1] Location

71

PROPOSAL
Sketch plan

1.The parking lot at the beginning did not have any natural light, closed and dark

2.Guide the light from the roof to brighten the interior space

3.The ramp in the bright space brings people in the building to the roof

4.The original lanes in the parking lot remain unchanged. In step 2, in order to obtain upward space, sacrificed part of the parking space

5.Follow the upward driveway to the roof
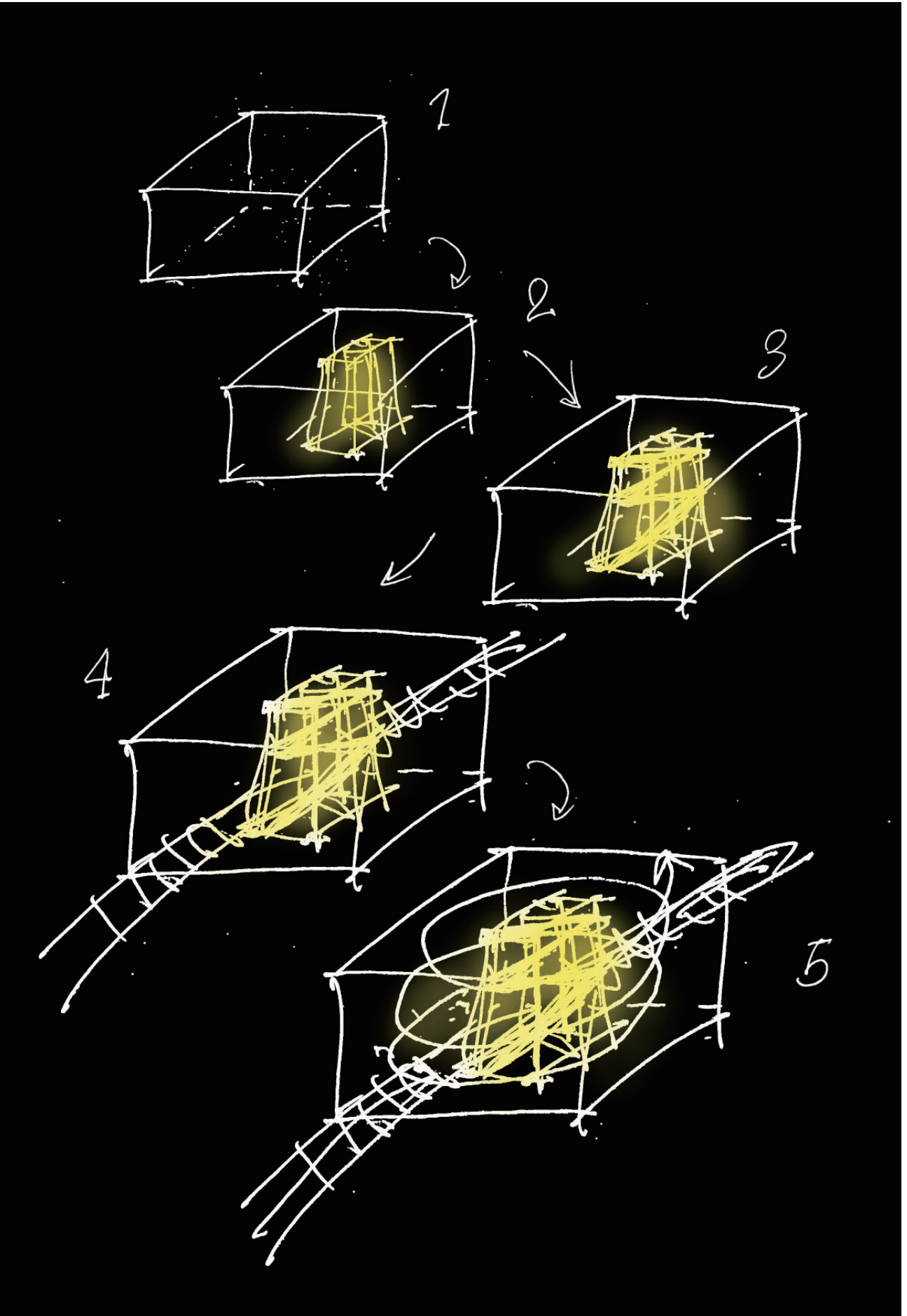
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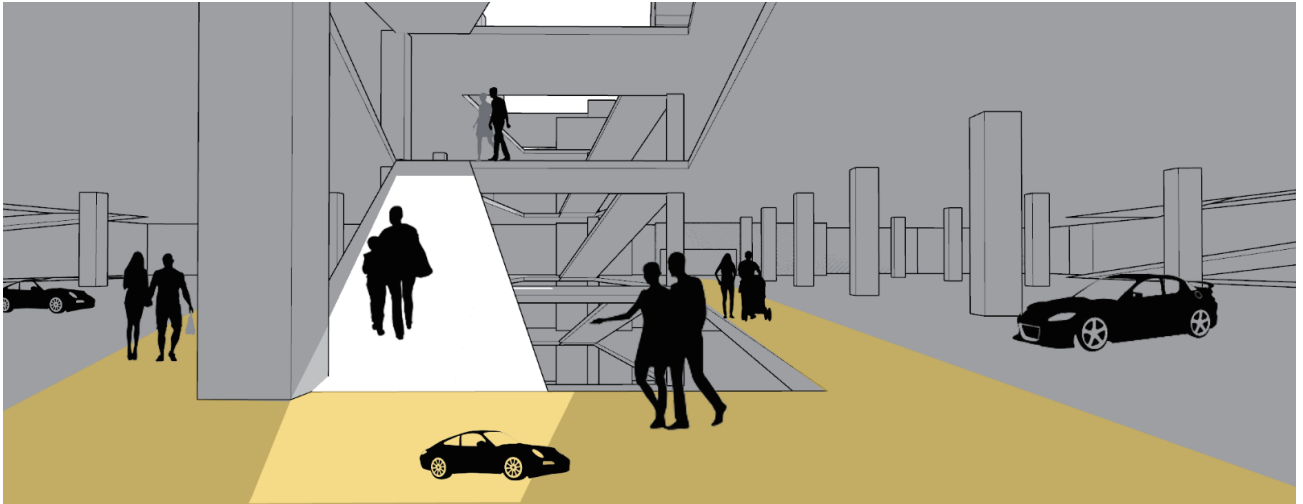
Internal renderings
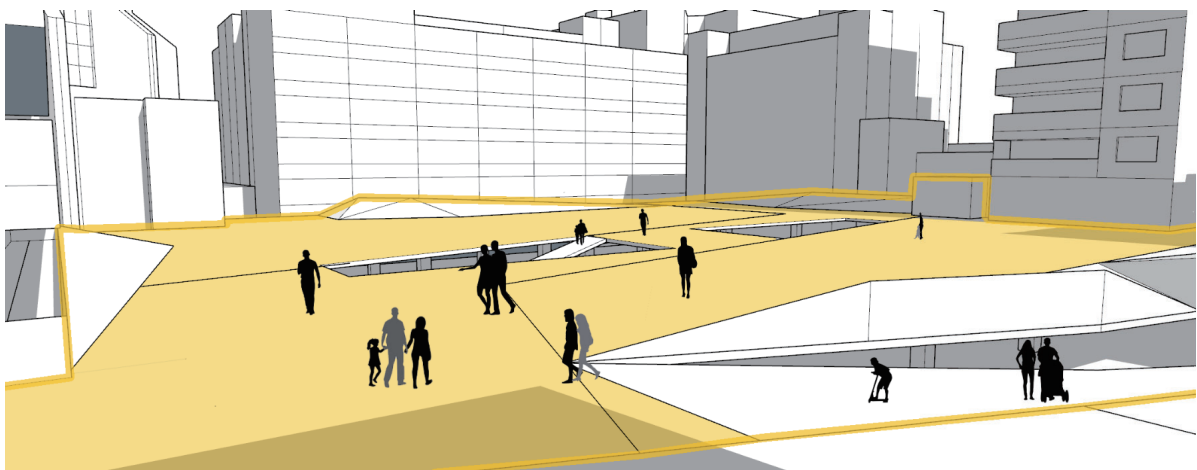
Roof renderings
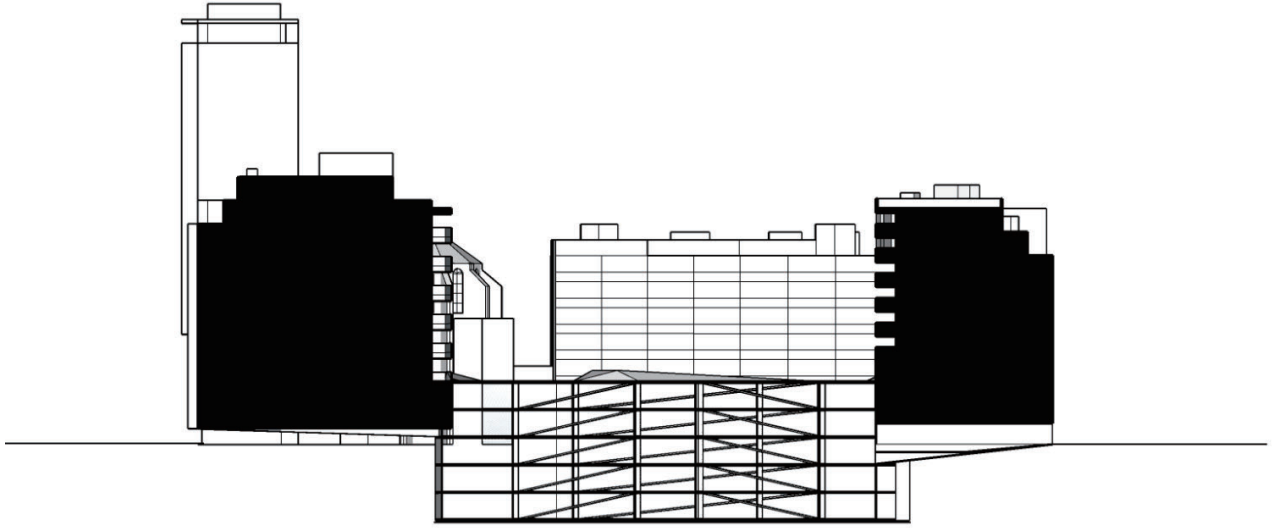
Section view1
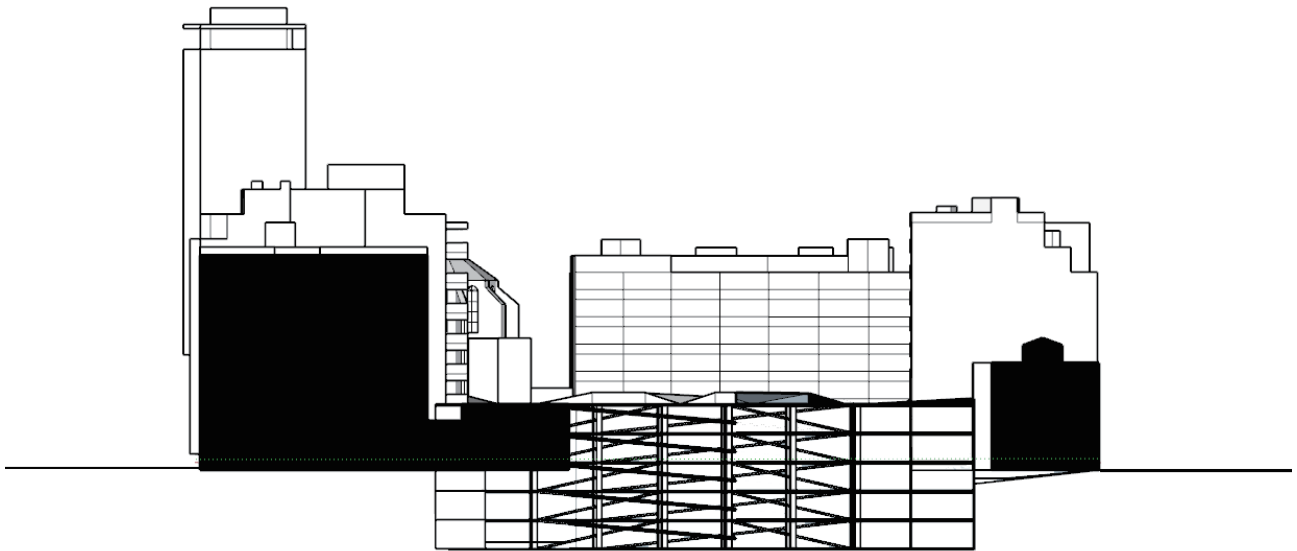
Section view 2
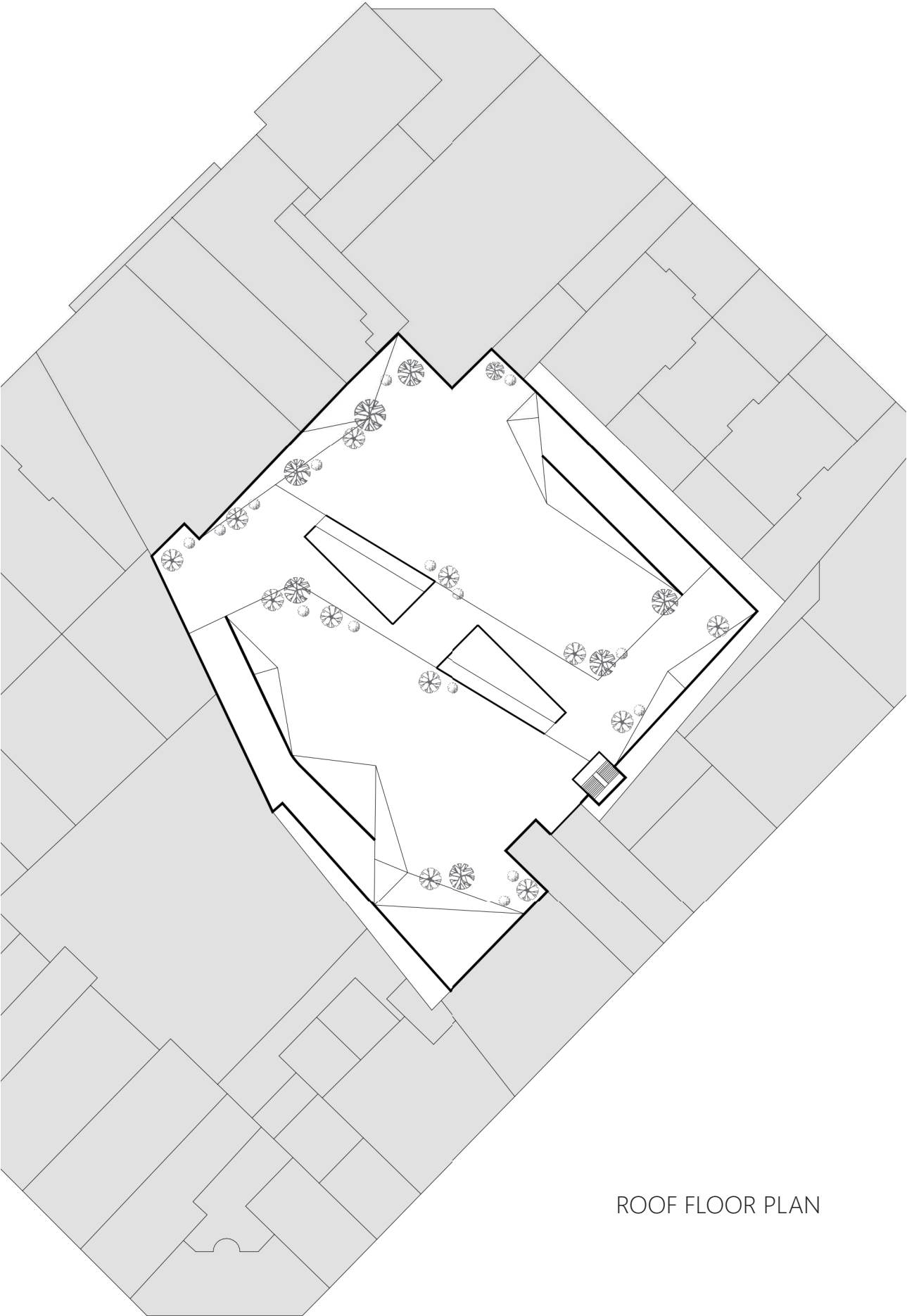
ROOF FLOOR PLAN
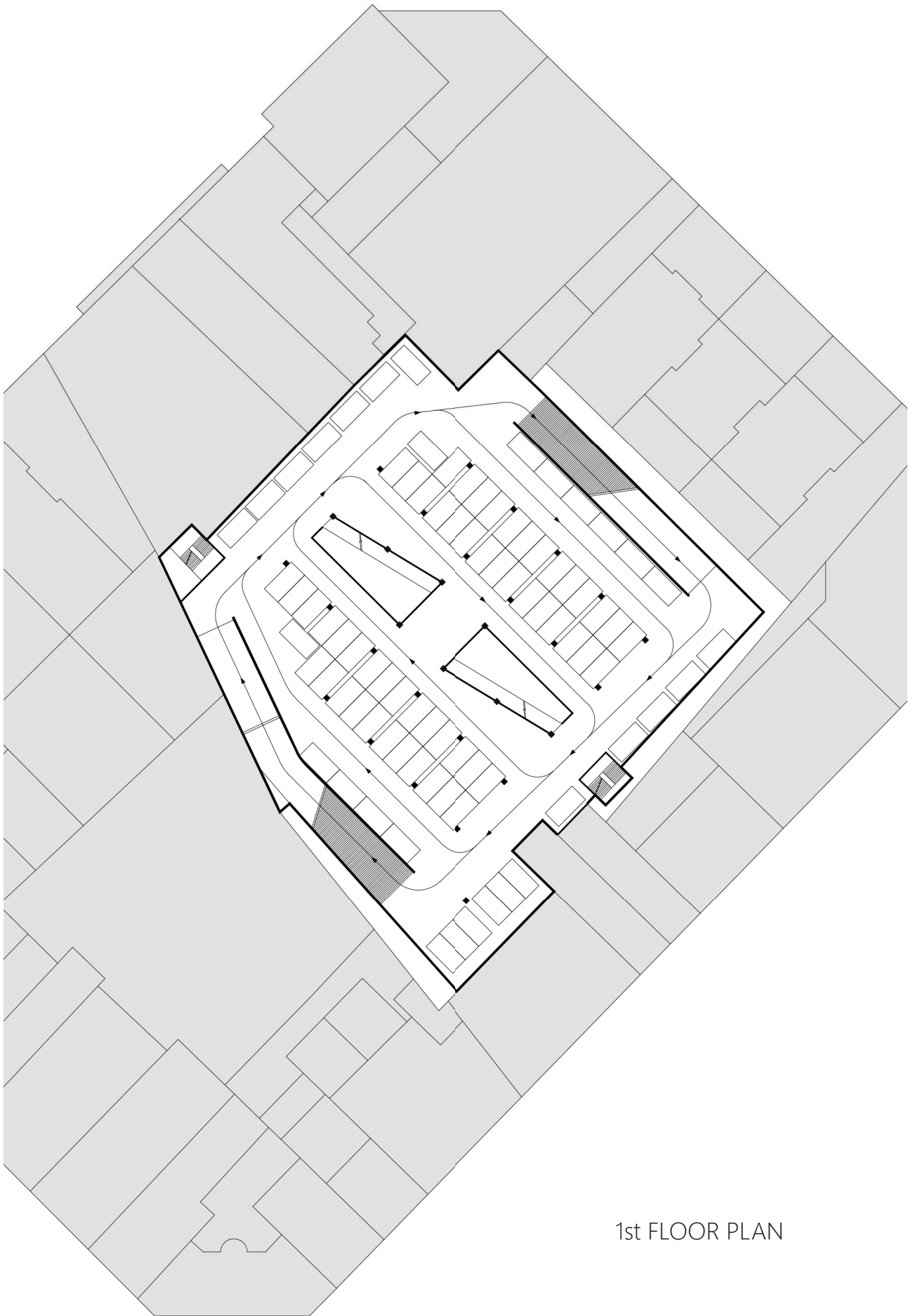
1st FLOOR PLAN
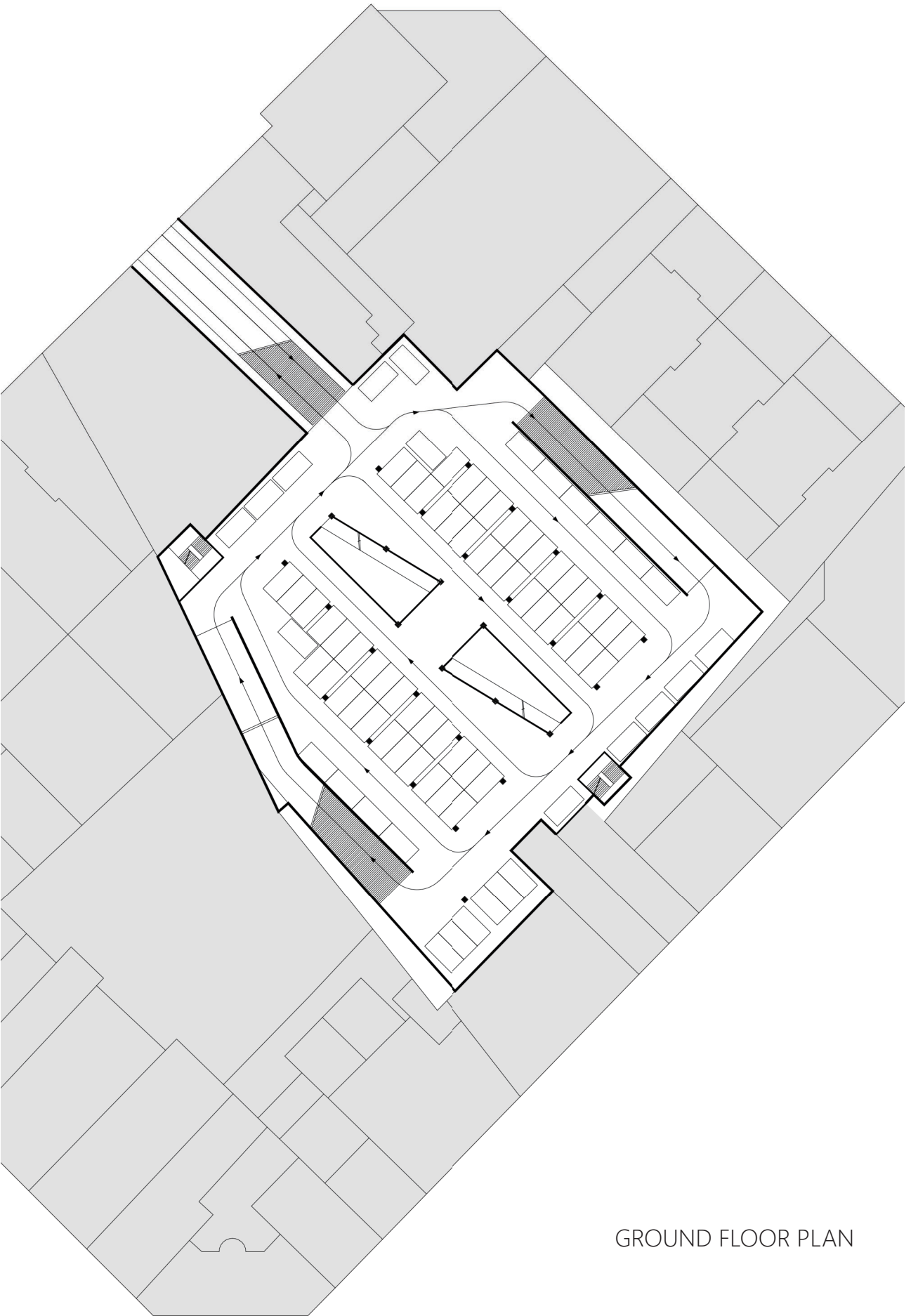
GROUND FLOOR PLAN
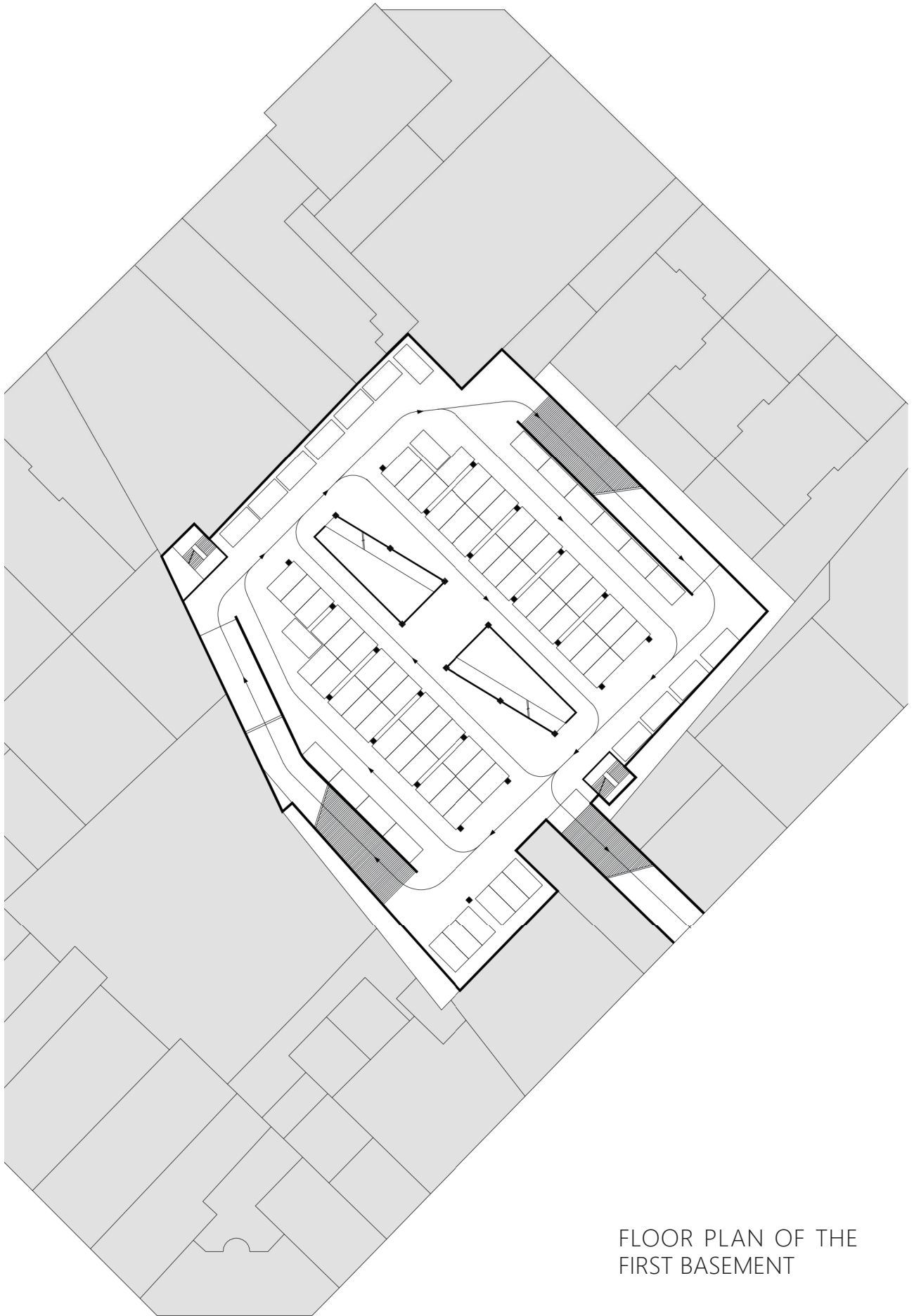
FLOOR PLAN OF THE
FIRST BASEMENT
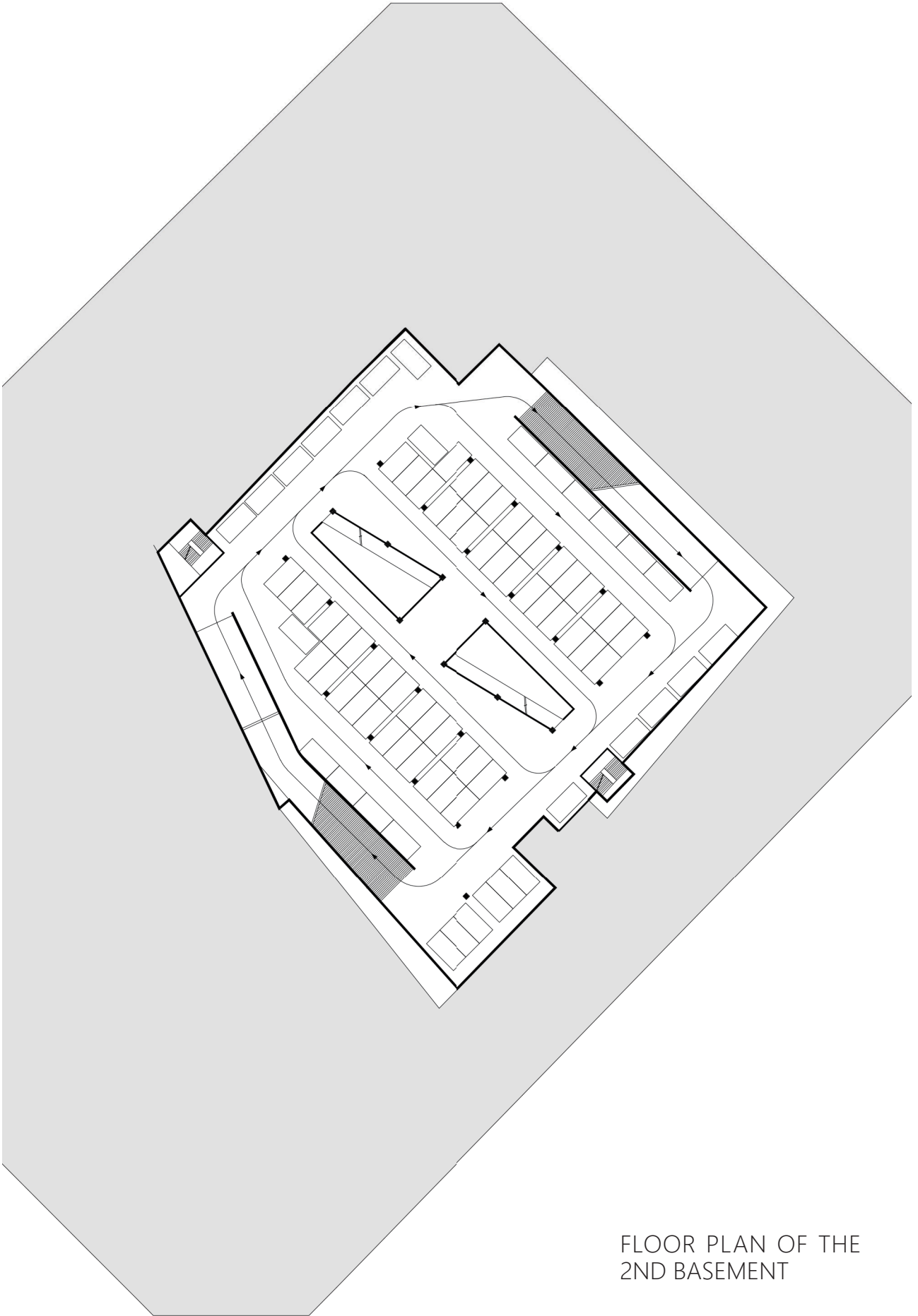
FLOOR PLAN OF THE
2ND BASEMENT

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