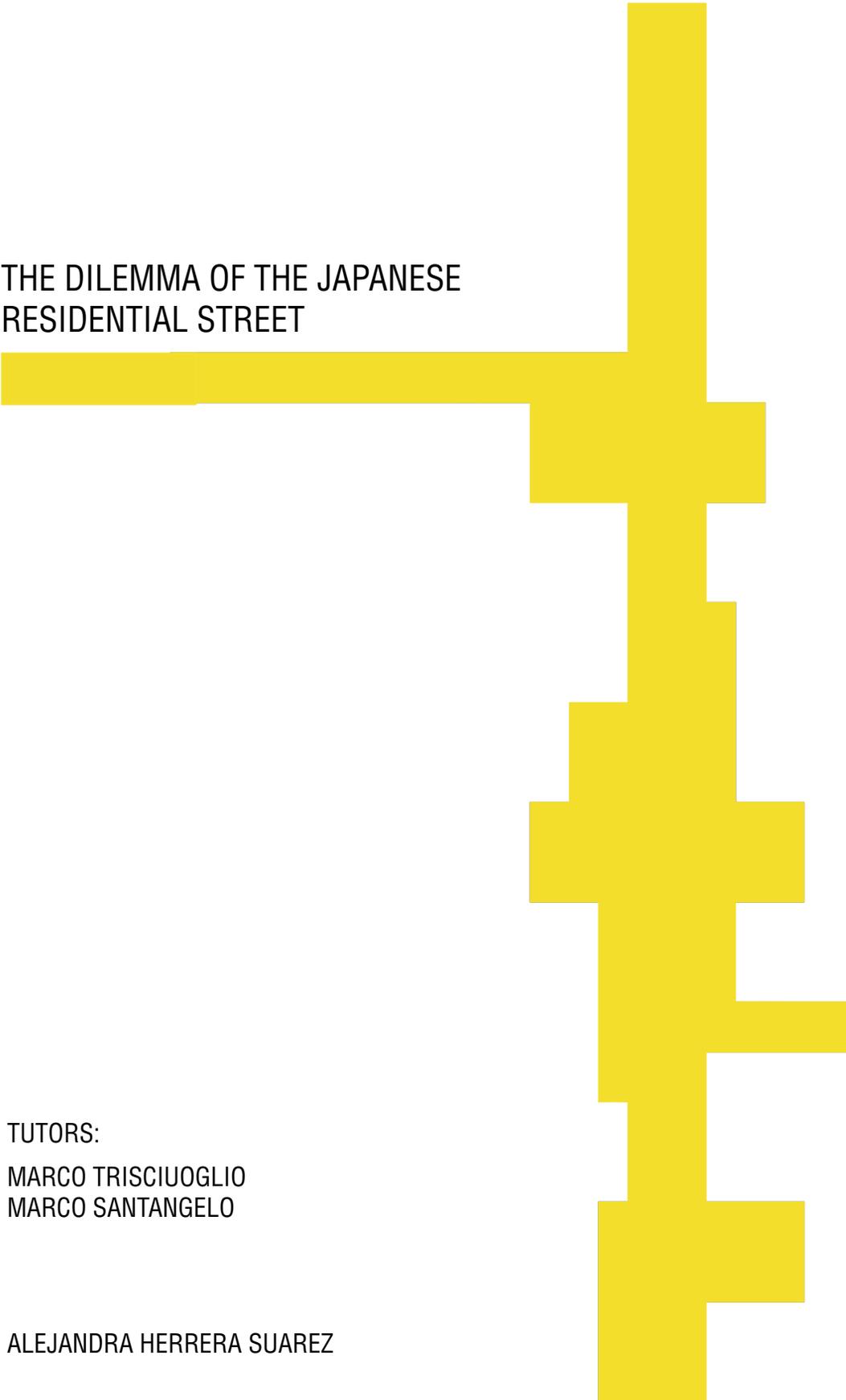


THE DILEMMA OF THE JAPANESE RESIDENTIAL STREET

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Master of Science Thesis
Construction, Architecture and City
Politecnico di Torino
July 2018

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ABSTRACT

The street is an element that is present in all the cities around the world. Through history its role and attributes have change continuously, considering that these vary according to the culture they are in. Several studies have shown how the streets can influence in the life of its users, and how can they adapt according to the needs, but lately cities and streets seem planned for cars and means of transport, leaving behind the importance for pedestrians, and people. The Japanese street diverges from the ones in western cities, the aim of this thesis is to understand the Japanese residential street and its structure as more than a physical element that constructs the city, but also as a social component (place), that carries the task of defining the city by its history and by the different social behaviors, activities and relationships among the users. Different ways of analysis and ways to approach the street are taken into account, taking as cases of study 3 streets in the city of Tokyo. This to get a better idea of the Japanese residential street and all of the components that are related. Concluding with a street-escape proposal for the Japanese cities (that could be applied to any residential area in Tokyo) to develop better cities and public spaces for the community.



TOKYO
Source: Prof. Marco Santangelo.

INTRODUCTION

Tokyo is a complex city to understand, its rapid growth based in lightness, superficiality and disorder makes it a changing and in constant movement place, as Toyo Ito stated in its essay *Collage and Superficiality in Architecture*. Tokyo is not based on a clear grid pattern as most western cities are, is a collage and mixture of changing symbols covering the façade of modern buildings, some old wood structures that remain from the Edo and Meiji periods, and some building styles copied from European buildings. “Surface richness in a Japanese city does not consist of a historical accumulation of buildings but rather arises out of a nostalgia for our lost architectural past which is indiscriminately mixed with the superficial icons of the present” (Ito, 1978).

Tokyo has suffered several destructions during time, where it was almost destroyed, one in 1923 with the great Kanto earthquake and the second one in 1945 during the Pacific War, where the USA bombed the city. After this Tokyo had a big economic growth, where the industry was left a side and Tokyo entered to be part of the big cosmopolitan and capitalistic cities, with amazing skyscrapers and streets full of lights. Tokyo might seem like an unplanned and chaotic city with no order, and due to the several disasters, that has suffered, it seems like a city with no historic buildings, besides the shrines and temples that you can find through the city. In addition, the average life of houses are quite short, between 30 to 40 years, making the city in constant change and development.

Even though many western urban ideas have been introduced to Tokyo and different Asian cities (in Tokyo principally after the Pacific War with the reconstruction of the city). From an overview it would seem like the biggest difference between the Japanese cities and the western cities, could be the concept of square or Hiroba (in Japanese). That even though have been introduced and used in several plans, like Kenzo Tange with the use of "communication spaces", and some others, it looks like through history they've had an unsuccessful use. Different events that had happened, shows the different characteristics of public space in the Japanese city, where monumentality is not the main characteristics (like it can be in western cities) but is spontaneity, and individuality, which have created the public spaces. Because of this Japanese culture have found different spaces for social life. Like the street, which became the center of the communities during the Edo and Meiji period.

Tokyo offers a modern, cosmopolitan city, lately responding to its economical politics and to capitalism. These big economic centers are allocated near the main metro stations. But when you exit these centers you'll find narrow streets, with no sidewalks, low density buildings and labyrinthic streets. Also, when moving to the peripheries of Tokyo you can find urban sprawls of low density, combined with some traditional rural areas that fight to remain and still live during this time. Tokyo is a complex city, with different landscapes and what it looks an incomprehensible order.

TOKYO

“Tokyo is a great metropolis that seems to have lost the face of its own past” (Hidenobu, 1995)

NARA / KYOTO

1600

EDO (TOKUGAWA) Period
City organization by social classes
City of water (geomancy)

1867

MEIJI Period
Biggest changes for the city scape
westernization of the city

1912

1926

TAISHO Period
1914 WWI

SHOWA Period

1945

CONTEMPORARY TOKYO
WWII US bombing
Fast economic growth,
World economic power
No height limits, new demand for skyscrapers

CONTEMPORARY TOKYO

EDO

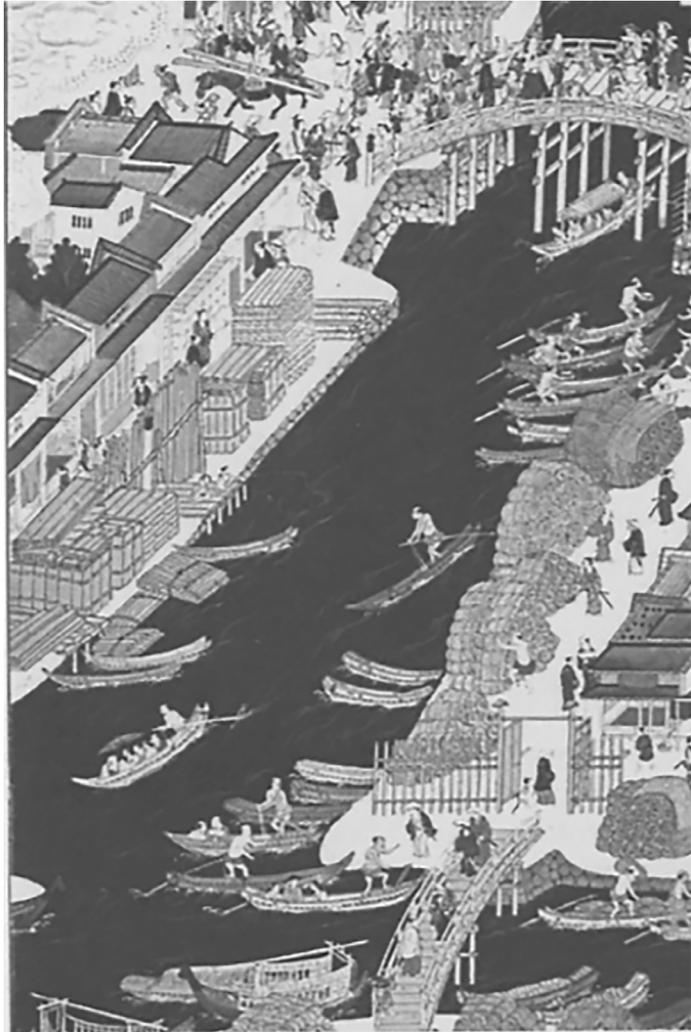
Tokyo city dates from 1600, back then it was called Edo (from 1600 to 1867), and it was flourishing to be one of the biggest cities in the world. Since the beginning nature has played an important role in Japanese culture and cities, it has influenced several aspects of their live. Geomancy¹ affected the positioning of temples, and several aspects of city planning, influencing in its urban layout. During the Edo period, cities' organization was mainly based in its social classes powers, organizing the city according to the social statues. This, related to the topography which was considered as an important aspect and affected also the form of the city. The high classes (warriors) stayed in the hills, this part of the city was organized and planned with a grid, meanwhile the low classes (farmers) were located in the low city, joined to the water and its streets patterns answered more to the curves of the water and the topography. For this period water and the river front became very important to daily live, since the river was the base of the economy.

Since this period there were no planned spaces for social gatherings (like it was meant to be in the western cities with the squares), because of the stratified social structure, and the existence of the emperor, this didn't leave space for democracy, there was no interest for big social gatherings and empowerment of the people, in other words there were no formal community spaces. The social live of the people was left to the back streets of the residential areas, and to spontaneous agglomerations that with time changed from place to place. These back streets became more of a semi-public area, differentiated from the main road, creating a kind of private space for the people living in this street. But, even though this

¹ Geomancy referring to the relationship between topography, cardinal and nature with architecture. Planning a city in relation to nature. Geomancy can be normally related to Chinese Feng Shui, but it was also adopted in the Japanese culture. Cities were organized with cardinal points, and temples were located principally northwest to prevent the evil spirits.

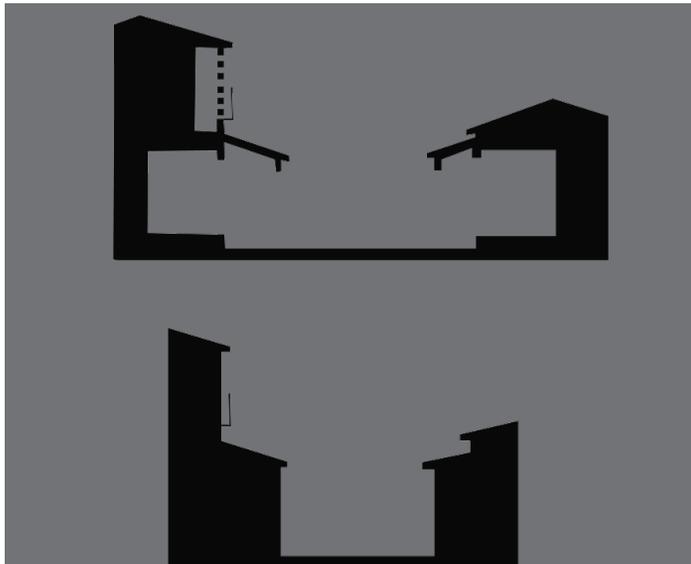
reduced space was considered semiprivate, signs were placed in the main roads to inform about small business happening in the backstreets, developing this “micro-spaces” (Hidenobu, 1995) of trading activities that became the basis of social life of the low city in the Edo period. During this period also the foots of the bridges (that were meant to be firebreaks) were adopted by people as a type of squares where little markets were born and people gathered to talk and exchange ideas, also they served as theatrical spaces and gatherings. Even though planned social space didn't exist in Japanese cities including in Edo, social gatherings have always been present, giving a different connotation to the public space comparing with western cities. Due to the fact that public spaces were born as spontaneous actions of the society.

This way the curvy narrow streets of the time were the center of civic life in the city, in contrast of the big squares that were the basis of the western cities. Squares if it can be called that way or empty spaces were left for shrines and temples, in a more semi private spaces. Since this period it's evident the importance of the role of the “street” and how it was more than just an organization and layout of the city. It was the nucleus of social life to the Japanese city. This backstreet spaces and small business gave a particular characteristic to the Edo street, a plasticity “During the day, the street was the buzzing hub of the community (...) The threshold that otherwise suggested the transition from the street to the house, diffused domestic and commercial space as part of an activity pattern from inside to out. By night the street transformed (...) The street, now a silent spine would hold the community together till the next morning when it would be time to transform again.” (Bharne & Shimomura, 2005). The street had this capacity of transformation depending in the hour of the day. During the day, the back-street doors would open and create a more expanded form, creating a prolongation of the street inside some houses, and during night these doors would close and generate a solid and more private barrier between the street and the housing units. Housing units were characterized for its transforming and changing walls where the ‘shoji’ (paper screens) and opaque ‘amado’ (rain shutters) panels could be removed or closed, giving this transformation capacity to houses. Creating a very strong relationship between the street and the houses. From this point of view the cities of the Edo period were characterized for being planned in a more human scale, for a foot user, making the scale a lot more detailed in the narrow spaces of the city, small lots, local streets, buildings made-out of wood and low-rise.



Nihombashi River.

Source: Tokyo, a spatial anthropology



Street section, difference between day and night.

Source: The dilemma of Japan's street and square
11

MEIJI

“It would not have been easy to westernize the whole city at a single stroke. Instead, Tokyo began with individual building while keeping the structure and context of old Edo intact.” (Hidenobu, 1995)

During the Meiji period² Japanese cities suffered major changes, for Edo probably the biggest change was that it passed from a city that was based on living from the river and water in the economic aspects, like transportation and even for social life as entertainment and social gatherings, to a city of land. During this period changes in the industry, and the appearance of the railway system for transportation, influenced to give this turn to the city. The river was no longer the base of the economy and the construction of industries along the river, generated contamination and made the city turned its back to the river and look towards land and forget in some way about its strong relationship with the water.

After the earthquake of 1923, big part of the city was destroyed and had to be rebuilt. Besides the changes because of industry and the rail/water system, Japanese cities started to be very influenced by western styles. A series of try and failure of new buildings appeared in the city, the appearance of towers, which weren't very common in Japanese cities were a big change for the city scape, and even the beginning of the concept of public square. Towers that were used in western cities for public buildings and mainly for religious roles, normally in the center of the squares, and focalizing this way its centripetal urban structure (Hidenobu, 1995) and were relatively few, in Meiji they appeared in a different way, beginning with the fact that for Japanese culture their gods can be everywhere, towers never

² The Meiji Period started in 1867 with the rise of the first Meiji emperor. In this time, the aim of the rulers was to strength Japan. The biggest reform they made was possibly the one that abolished social stratus and allowed samurais (warriors) become farmers and vice versa.



Nihombashi Street.

Source: Tokyo, a spatial anthropology



Tokyo medical school
Western style architecture,
Meiji Period

Source: Tokyo, a spatial anthropology

had this religious role in Japanese cities. They appeared in public buildings as schools, universities, and governmental buildings, more representing for them the idea they had for civilization and enlightenment.

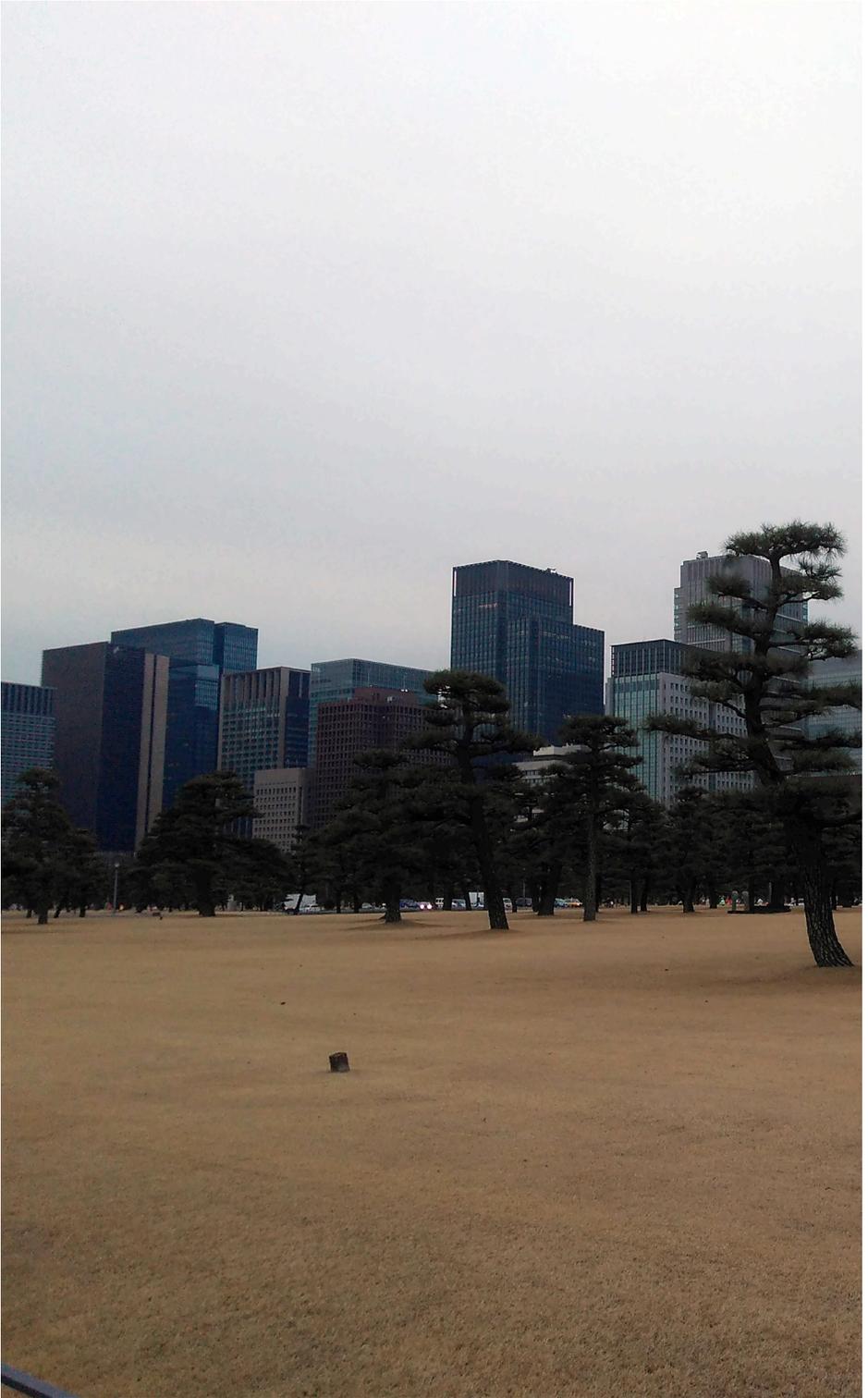
Even though back alleys played an important role in the daily living of the low city and were the place where most of the social interactions took place, during the Meiji period there were a lot of new policies that emphasized in the unhealthiness of these backstreets spaces, saying that these spaces were only serving for fire spreading, they created new laws of widening these streets. After the earthquake in 1923 most of these backstreets were re planned and re configured to more open spaces, and big parts of the row houses disappeared. Also, roads gain a lot more importance, and most of the main roads were also widened changing the view and scale of the city. Even though big part of the city was destroyed and there were a lot of use changes during its reconstruction, mostly the roads configuration remained the same from the Edo period, serving as a footprint for what is still today Tokyo.

A established social space has not been very common in Japanese cities and this was a big difference from western cities. The biggest difference is that interaction spaces for social gatherings and exchange were born from spontaneity. Different from the big monumental western squares, that were already very common (Hidenobu, 1995). So, Tokyo's social space shift and moved accordingly to the traffic patterns of people and often changed location. But with the "westernization" that was taking place during this period, the squares made its first appearance in the cross intersections of the main roads. Crossroads have been gaining importance and value, and since new reforms were made and higher taxes appeared for these plots, making these spaces for other uses. Also, western buildings have become something to observe and drags people attention, in these ways some new buildings left a space where they were built, in a diagonal way, creating some type of square, or empty space surrounded by solids (buildings).

Even though streets were wider, new styles and westernized buildings appeared in Tokyo, the city scape changed because of the appearance of clock towers, the main structure of Edo remained, it was individual changes that took place. And even more in residential places, back streets were still existing with high importance for their users, the sense of community and they were still away from cars and in some way from westernization.

Contemporary

As already mention Tokyo has suffered several destructions but mainly two massive ones, first the great Kanto earthquake in 1923 and the second was the US bombing in 1945, where major part of the city was destroyed. Most parts of the city were constructed in wood and perish materials, which facilitate fire spread and this way its destruction. This ended in a new configuration of the city with the conformation of new wards, and the beginning of the new metropolis. Changes were also at the political level, with the aim of creating a new democratic law, new politics and objectives of promoting private ownership raised after the war and the suburban houses started to sprawl. Also new movements and conceptions of the city were emerging 1960 a new movement of architecture was born in the University of Tokyo lead by the architect Tange Kenzo, he proposed a new vision of the urbex. This was the beginning of the Metabolist movement that made their first big appearance in the Expo' 70, in which "they



TOKYO, 2018

envisioned urbanities of the future living in high-rise megastructures into which each occupant would plug a dwelling capsule or cluster of capsules... Reflecting the increasing rootlessness of contemporary society” (Jordan, 2013). All these changes at different levels had a repercussion of what Tokyo was becoming and influenced in Tokyo’s fast growth and development through those years.

Around 1974 the urban horizontal sprawl, of single family houses in the peripheries of the city shifted to vertical growth in the center of the cities, this accompanied by the high economic growth that was being seen in the time. (Jordan, 2013). This new way of housing was accompanied by the urge of supplying a new demand of modern high-rise buildings for offices. The new trend in the economic growth and the dematerialization of the wealth was and is what has given the contemporary face of Tokyo, a city that seems characterized by an urban hierarchy, dominated by the financial centers. Converting Tokyo into a capitalist country, with an “stable” real state which brought a lot of foreign investment and private investment, due to this new demand of offices it was generated a new and more flexible law for height restrictions in construction and in the use of the land in the city.

The city scape had huge changes, not only in its swift from a horizontal to a vertical city with an apparently no height limit, but also a change in the construction materials, from wood and perishable materials to reinforced concrete, steel and glass construction that seems to cover the city. But even though there were huge changes there are still some traces from the Edo and Meiji period in the city of Tokyo, its urban traces.

Even though some roads were widened during the Meiji period, they are still present in today, it was only a change in the plot uses that changed the city scape. Also, the urge to supply the usage of cars, made the district planners to widen and trace new straight roads, that in western cities can be filled up by business and places for the people entertainment, “...the main streets in all major cities and specially in Tokyo have metamorphosed into spaces reserved for business activity, depriving people of places for relaxation” (Hidenobu, 1995). So, it is not the major streets but the backstreets in Tokyo another Japanese cities were all the activities and spaces for entertainment take place, filled with small business and free of car traffic.

Even though sky scraper, and neon sign seems to cover the city, there are still resident areas which contain single family units (the life of a house is around 30 to 40 years, which is relatively short compared to some buildings in Europe). A more private and close sense appeared, creating a new relationship with the street. Even though nature seemed to be and stills plays an important role in the relation private (home) and public (street), housing neighborhoods have lost part of its public life as it was used to be with the back business and openness to the street. Now a day the majority of the houses does not count with little business, but there are still back-streets and cul-de-sacs, present in some areas.

As already mentioned the absence of squares or hiroba, was already noticed by many architects and was one if the biggest differences with the western cities, where the square was this public domain to create social life and community sense. Also, is known that squares may contain monument or sculptures magnifying its sense and monumentality. Even though gatherings in Japanese cities happened as spontaneous and not monumental spaces, like the fire-brakes mentioned before, some monumental spaces started to appear in the mid 1900's. but even though with the appearance of these spaces, several incidents demonstrate how these spaces were never accomplishing their goal, like it was the expulsion of the protesters against the Vietnam war in 1969 in the West Exit Underground plaza³, creating this refusal to monumental spaces and a stronger one to anti-monumentality. The sense of community had changed, and its ideas went back to small places, basically to the street.

When talking about the streets in this period of the history, its clear all the changes that have been taking place, and it seemed like a lot of the traditional Japanese cities has been lost, even though the structure of the Edo period is still visible in the morphology of the city. For the residential areas, they remain several characteristics, but they have become more intimate and reserved than before. "It was Toyo Ito that clarified a new cultural notion of introverted, closed domains to counteract the disorder of Japan's "Non-Place Urban Realm". Arguing (...) that richness in the Japanese city was perceived less through the historical accumulation of buildings, and more "out of a nostalgia for (a) lost architectural past which is indiscriminately mixed with the superficial icons of the present". (Bharne & Shimomura, 2005)

³ The Vietnam War protest the 30 of May of 1969 was one of the several riots and expulsions that happen in Tokyo, and this just reassured the advance capitalistic way of thinking of the government, in which the rationalization of the space is just for movement like it was supposed to be. People shouldn't be stopped in what was this important "underground plaza" that was meant to be just for transit.



TOKYO, 2018

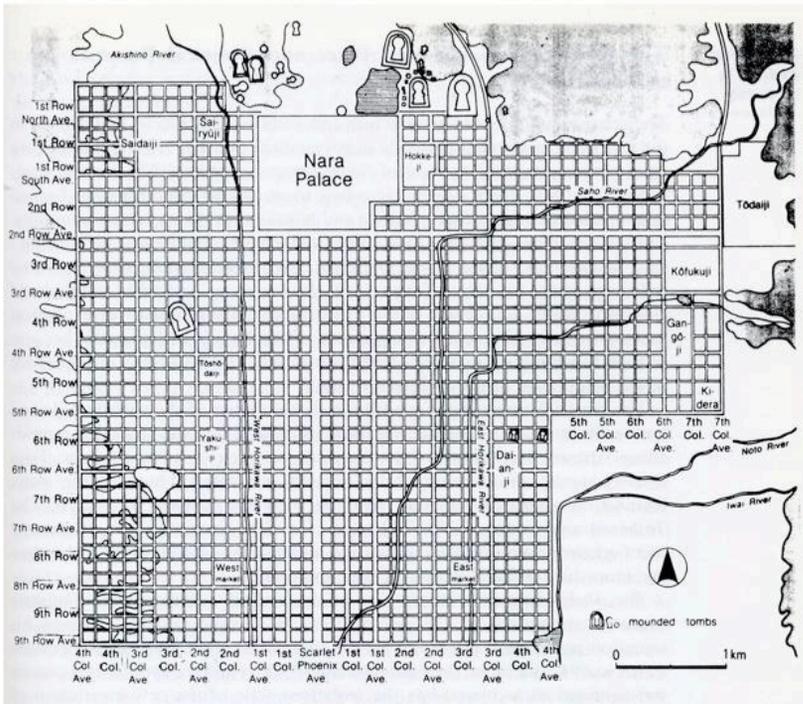
MORPHOLOGY

When you look at Tokyo it seems to not have an order, it was planned and organized under different ideas and as exposed by Fumihiko Maki, Japanese cities are composed by autonomous elements, that coexist with others but not depend on them for changing (Maki, *City, Image and materiality*, 1988). This can be clearly seen when looking at the residential neighborhoods, each housing unit is separate and don't obey a direction or order with the others in its surrounding, giving a different characterization to the street, with not a clear boundary. In contrast with western cities which the buildings are respecting a perimeter and in we can say are almost sharing one wall with the neighbor. Delimitating clearly the linear street and the public space.

Going back on time, Japanese cities from the Nara period⁴ are known to be strongly influenced by the Chinese grid. As an example of this is the city of Nara that was constructed in the Chinese way with a well-defined grid, this grid can also be seen in the city of Kyoto (image of the city grids). During this period high classes adopted several features from the Chinese culture, besides the grid organization, they also took some Chinese characters and also Buddhism had a strong reception in this period. Unlike Nara, as already mention in the Edo period the city followed some different rules, even though the high classes (samurais) followed some grids as the organization system, they also answered to topographical conditions like plateaus (look for re). In contrast the lower classes and lower city (close to the river) followed a totally different organization. No grid was established but a more wavy and undulant streets following nature and its facts, made the city had a stronger relationship with the mountains and water. So, in Tokyo even though several types of grids can be found, a general order cannot. And still today these traces are visible, as already mention Tokyo's framework of the streets dates back from Edo. Looking at the maps several grids are identified in Tokyo, but all of them follow a different meshes and directions. "...an area with streets that exhibit a certain unity of patterns is found to correspond to a topographical feature such as plateau or a valley" (Maki, *City with a hidden past*, 2018).

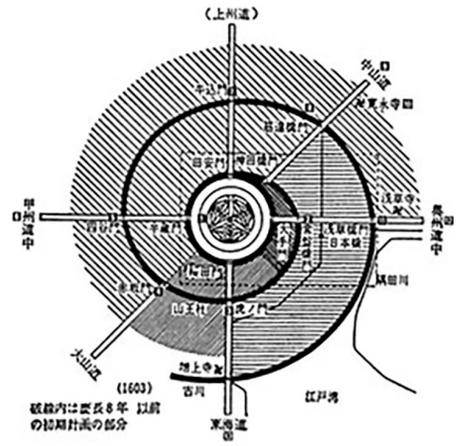
Japanese cities were not plan as western cities, where the center was a main square, Tokyo started as a castle town, and since the Edo period had a rapid development until now a day that it has turned out as one of the

⁴The Nara Period goes from around AD 710 to 794, where the emperor Shomu, shifted the capital from Asuka to what is called today Nara, this was the end for some time to the tradition of shifting the capital for time to time. This was the period that the capital remained in Nara.



Nara's grid plan

Source: Wiki College Study Blue notes by Ornello di Franco



EDO's plan

Naito Akira (1932)

biggest cities in the world. As a marked difference from western cities that had central points and sometimes roads trend to convert on an arriving point, as it is on the plan that Hausman did for Paris, this pattern of several streets converging in one point did not exist in Edo. As already explained it is very different to find a established pattern in Tokyo, it can be found several different patterns always based on a social status and to topographical conditions. One reason to not have converging places, can be first the idea of not having established social spaces, as it happened in western cities, this to not encourage people to have empowerment and gatherings (even though this does not mean that they didn't have these spaces, social spaces in Japanese cities emerged spontaneously). The square in western cities is well defined by walls and is like a void inside the city, like the streets its perimeter is well defined and marked by the buildings around them, creating a strong relation and dependence between each part. In difference to the Japanese public space, that as stated by Hidenobu it was first of all determined by the actions of the people, and second through history it moved from place to place and second had no physical containment. First they were located as already mentioned in the fire breaks (foot of the bridges), and then they moved towards the outside of the cities near the temples, where different gatherings and actions occurred, like theater and entertainment houses. It seems like open gatherings and public space was back in time not contained by walls, but instead open and in some cases surrounded by nature, as a big difference compared by western cities. (Hidenobu, 1995)

Another reason for this different pattern in Tokyo, like the T-type and cul-de-sac its said to be done for defense reasons towards the Castle, also including Edo (Maki, City with a hidden past, 2018) this way in case of attack it would not be reached directly. This for the begging of the organization of Edo, for its further development can be said that it was due to the not importance to converge into any space. Also as explained in the book of Akira Naito from Edo, the city that became Tokyo, Edo was planned as an spiral plan, where the castle was a symbolic center but the city was not planned to make any convergence towards it, probably as already explained this spiral responded to the topography "the spiral form can be understood to be the result of the use of existing topographical conditions creating an urban framework without concern for patterns directly expressive of a center such as concentric or radiating patterns" (Maki, City with a hidden past, 2018).

APPROACHES TO THE STREET

When looking for the meaning of the word street the most common meaning would be “a road in a city or town that has buildings that are usually close together along one or both sides” (Cambridge dictionary, 2018) The street has been a polemic topic for many years, for architects, planners, geographers and lately by sociologist. It has gain and loose importance through time, with different approaches. Camilo Sitte in his book *The art of building cities* strongly argues how the modern way of planning and making cities with only straight lines and right angles, have caused a boring and “artless” cities. With rows and rows of houses that seems oblivious to everything sounding it. He strongly defended the way medieval cities were planned and how irregular and curvy streets were livelier and gave character to the city. How streets and their conformation must make feel comfortable and safe to its users. He also talks about how before open spaces (roads and squares) were planned first, and now a days they are just a left over, after doing a division of plots. In other words, he strongly criticizes how modern planning is just a rigid grid of street patterns, in a systemized way, where cars are more important than pedestrians.

On the other hand, Le Corbusier’s claims “we must kill the rue corridor”, clearly states that small, narrow curvy streets shouldn’t exist. This stated by the argument that this only brought diseases and congestion to the city. During some time, he was against the rue and proposed huge avenues with dense multifamily units, that liberated the space under it. But leaving the street only for cars as a machine, a factory that only works for one thing, transport. He also stated that the more streets there were, the more traffic would be confectioned, so that the number of streets should be reduced. This establishes a whole new meaning for the streets he proposed and the conformation of the city. A street as a necessary thing just for transportation, he’s ideas were very strong and controversial, he proposed new block dimensions, and excluded the idea of the rue as a space for people to interrelate.

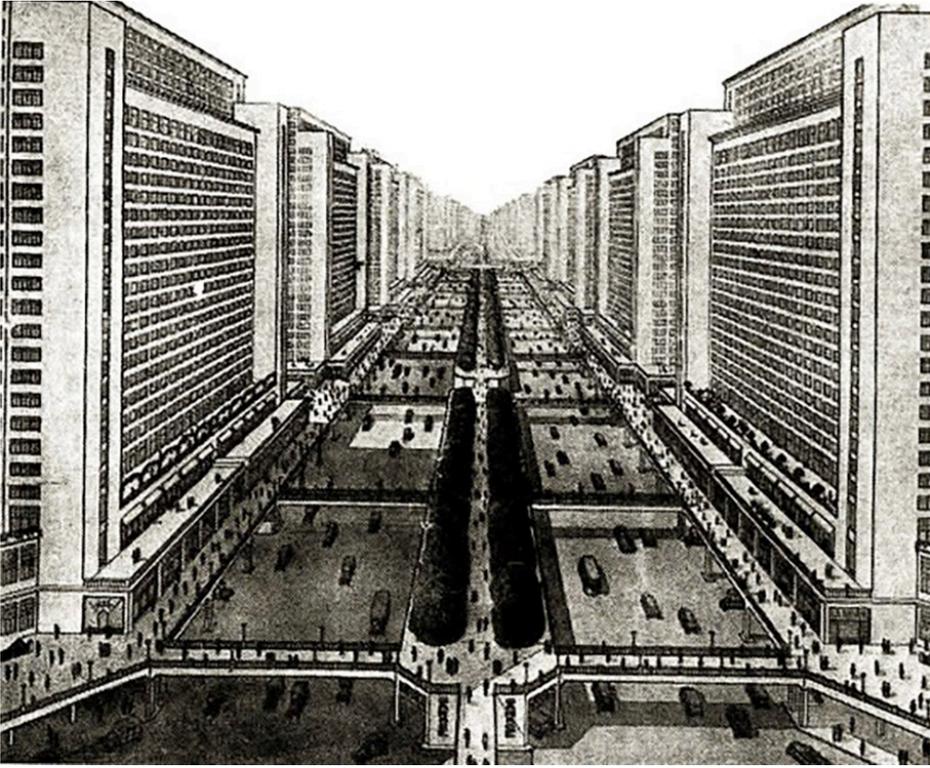
The Smithsons had also a different approach with their “street in the air”, first proposed on Golden Lane Competition. Even though their buildings had a quite simulate with the *Unite d’habitation* of Le Corbusier, they were concerned about the social places and had present that cities were planned now for cars and the street. So, the street in the air came as a web overlaying the streets for car under them, but these streets on the air would join building and interrelate the buildings, being able to join and working only for pedestrians. The Smithsons had a stronger preoccupation over social

aspects, and how to transform the city and the ways of living. “The street on the air would thus become with their own identity” (Huvel, 2004)

Still the street has been very controversial theme, and different theories have arisen through time. Probably the Strada Nuovissima of the 1980's Biennale, directed by Paolo Portoghesi had a huge input on the topic, and the New postmodern manifesto “the presence of the past” and his concern about the lost language of architecture, as stated by Charles Deckens in his text published about the Biennale. The sample showed several facades by different architects, concerning their ideas about architecture now a day. But conforming this street and several different approaches about architecture, just demonstrate the importance of the street and its role with architecture. Several approaches come to play, historic, sociological, modern, and so on. Probably Rem Koolhaas façade was one of the most controversial, with his idea of the contextless architecture, in the search of expression.

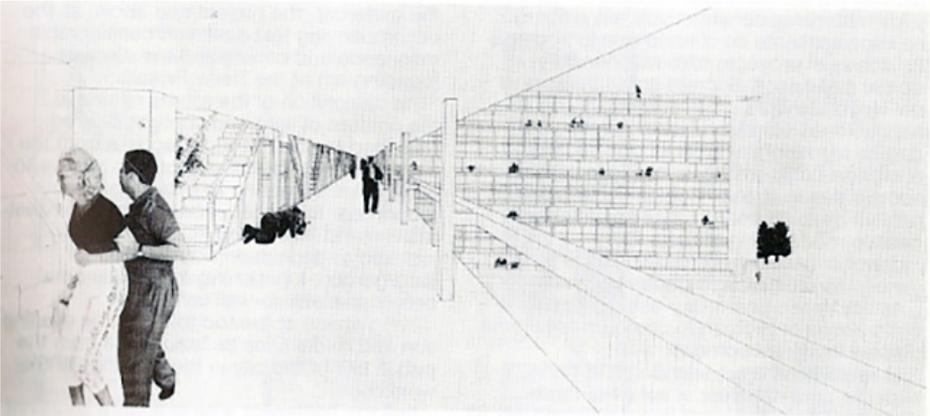
Besides all the different approaches that exist and turn around the street, you can find all different types of meanings and roles the street should play. It seems that even though some theories are very strong the street has recover and is now considered as an important part for society, around the world. And even though the Japanese has different characteristics to those in the western world, streets are present in every city and play in some cases similar or very different roles. For what it looks in Japanese cities it seems like it is considered as an important place for pedestrians and works as a place for social encounter. In western cities boulevards serve as places for social gatherings and interaction for people, also streets have gain some political importance because is the place where people meets to claim for their rights, for their thoughts, in a way some way is the place that empowers society to express their thoughts and protest for their rights.

Without caring the place, the street carries a huge importance for several activities, the street is not only this void formed among buildings, is a space where people interacts and is able to socialize with its neighbors, people passing by and its surroundings. It's the space that arranges the cities around the world. Streets have been used in many ways and have been stereotyped also creating images according to names, like the medieval street, which is characterized by the labyrinthic and narrow paths, or the promenading street defined like the big boulevards created to connect important monuments or parts of the city (Mehta, 2014).



"Exact air" Le Corbusier's Radiant city

Source: <https://thechannelhouse.org/2010/09/17/exact-air/>



Street on the air, The Smithsons

Source: <https://archiflux.wordpress.com/2010/09/11/ap-smithson-golden-lane-2/>

REGULATIONS

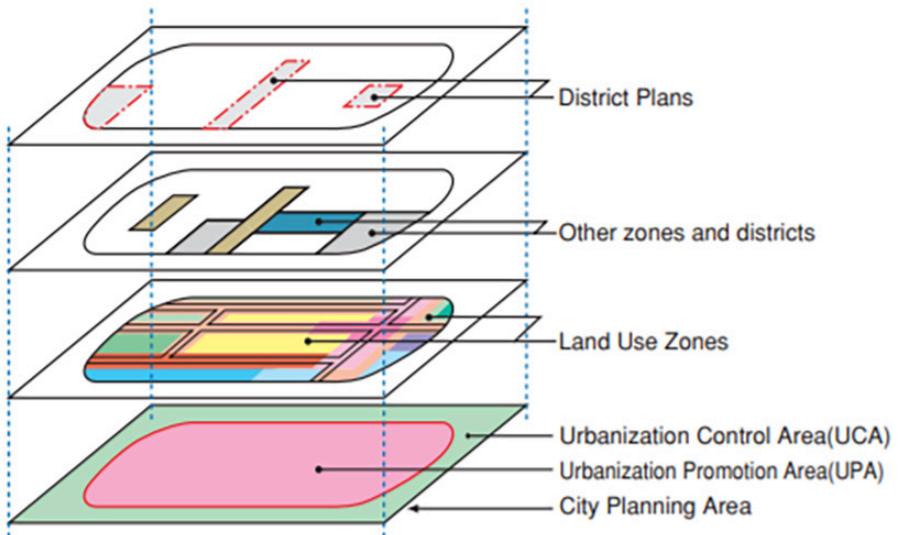
Now a days regulations in Tokyo

Another strong determinant of today's street scape would be the different politics that are currently being applied over new constructions. Because of the several earthquakes Japan has suffered during its history, it has established different norms in the field of construction, which have been gradually become stronger.

Japan is situated near the border of the Phillipine sea plate and the pacific plate, being in a high risk of seismic movements. After the Great Kanto earthquake in 1923, that ended in the destruction of more than 450,000 buildings, and the live of thousands of peoples, Japanese law has been making stronger their seismic laws.

The traditional Japanese construction is based on wood, which helped spread the fires during the earthquakes. After this, in 1924 the Japanese Building Code started worrying about how to make building that would resist seismic forces, and this year it was the first time ever that seismic forces were considered in the structural calculations for building structures. From this point on, Japanese regulations have been getting stronger and more specific, considering and learning from the disasters that happened during history. Even though wood structures lost some importance because of the fires, they continue to be very common in single housing units. According to the Building regulations in Japan inform 2013, 80% of single housing families continue to be built in wood, with the difference to apartments where it is only 30%. With the pass of time and the introduction of new technologies, this index has varied, and brick, concrete and steel have entered to the Japanese cities, skyscrapers are now a day very common and invade the commercial centers in Tokyo. Even though to build more than 3 stories was forbidden because of fire spread, in 1980 this law was reconsider, and now a day it is possible to construct buildings taller than this, with the necessary measures for preventing fire spread. Concerning planning, Tokyo has several and a quite complex system of regulations, depending on the local government and the City Planning Law.

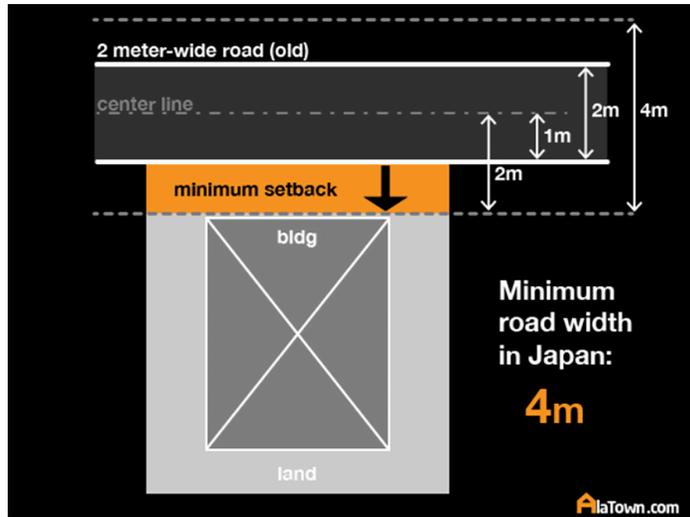
In the residential areas of low and mid-rise height, probably the most important restrictions would be the set back and the height restrictions.



SETBACKS

For the setbacks, normally in Japan roads must be at least 4 meters wide, but normally if the roads are very old they can be narrower. Actual Buildings must set back 2 meters from the center of the road. In some cases, further setbacks can be stipulated by the district. This setback is also joined to the height restrictions, due to illumination laws in Japan. (Japan's Ministry of Land, Infrastructure and Transport MLIT)

Source: <http://www.mlit.go.jp/common/000234477.pdf>



Source: <http://www.ala-town.com/japanese-building-law/>

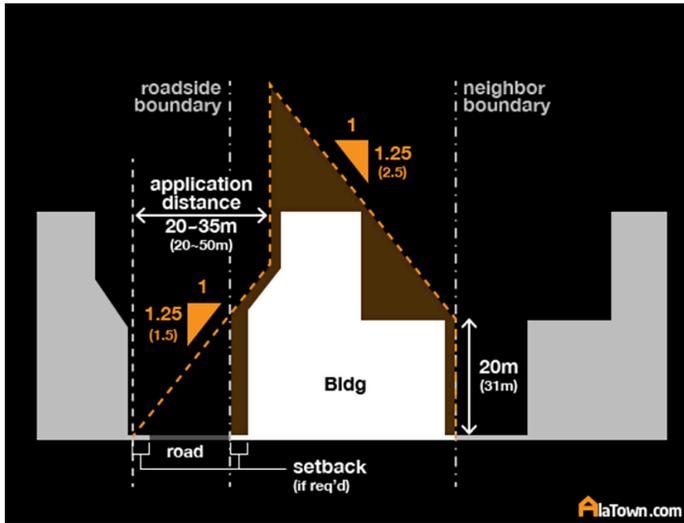
Slant plane Restrictions

The restrictions limit building heights in proportion to the distance from the other side of the boundaries of the roads they face, or from the adjacent site boundaries. It ensures adequate space for light and ventilation between buildings or on roads. This Slant Plane Restrictions do not apply to buildings which can secure levels of lighting and ventilation equivalent to or higher than those under this restriction.

In residential land use zones, the slope of the plane is 1.25m rise for every 1m of run. On the roadside boundary, the slope plane originates from the opposite side of the road (or setback) and continues for a specified distance of application. For neighbouring plot boundaries, the slope plane originates along the boundary line from a designated height. In other land use zones, the slope, distance, and height parameters for these calculations have higher values (indicated in parentheses). The parameters can also be tightened or relaxed by the local building authority to guide the height and density in designated districts. (Japan's Ministry of Land, Infrastructure and Transport MLIT)

Source: <http://www.mlit.go.jp/common/000234477.pdf>

Slant plane Restrictions



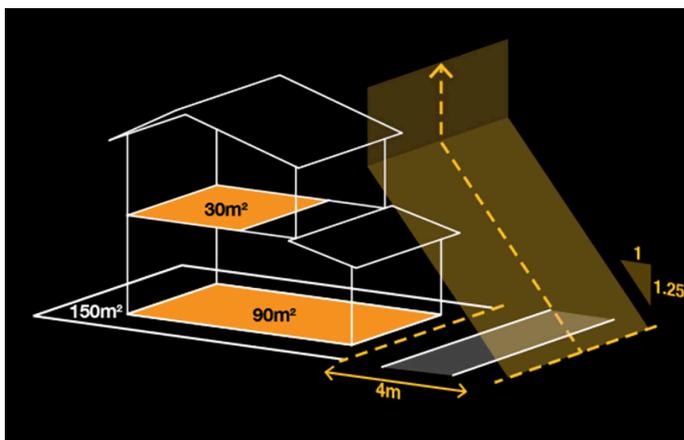
Source: <http://www.mlit.go.jp/common/000234477.pdf>

Restriction on floor-area ratio according to the width of the adjoining road

The maximum floor-area ratio of a building site which has a road in front less than 12m wide, shall not exceed the value obtained by multiplying the width of the road in meters by a certain ratio (for residential Land Use Zones, this ratio is 0.4, for other zones, it is 0.6)⁵. A factor of 0.6 for residential Land Use Zones and 0.4 or 0.8 for other Land Use Zones can be adopted in those zones where such factors are designated by the local government building authority with the approval of the City Planning Council. (Japan's Ministry of Land, Infrastructure and Transport MLIT).

⁵ The factor of 0.6 for residential Land Use Zones and 0.4 or 0.8 for other Land Use Zones can be adopted in those zones where such factors are designated by the local government building authority with the approval of the City Planning Council.

Source: <http://www.mlit.go.jp/common/000234477.pdf>



Source: <http://www.mlit.go.jp/common/000234477.pdf>

Shadow Restrictions

Source: <http://www.mlit.go.jp/common/000234477.pdf>

These limit the height of buildings to ensure sufficient sunlight in residential Land Use Zones, etc. The minimum number of hours per day that the shadows of building sites fall outside the area are specified by bylaws of the local governments according to the Building Standard Law. (Japan's Ministry of Land, Infrastructure and Transport MLIT)

All of this laws trend to widener the streets, making a huge impact on the street scape of the Japanese housing street. The presence of multi dwellings can be one of the stronger ones, since the higher the building the wider the street must be. This generates a strange quality in the streets that can start to be seen now a days. In the street cases can be seen this effect , where it is shown the real limit of the street, the street starts to lose some of its continuity in its front, creating some openings. Since in some places there is no differentiation between the road and the sidewalk, it looks like the street got widener. The interesting thing about this, is the appropriation people have of these spaces. Even though they live in multi dwellings, the potted plants still appear in some cases, and are located sometimes in front of the building and sometime in the border, marking the difference between the street and the sidewalk.



View of the study case, Nakacho
Where the streets get widner
Source: Google Street view

VIKAS MEHTA'S BOOK
METHODOLOGY

In the next part of this thesis, I took the book *The street: a quintessential public space*, from Mehta, as a base to analyze and understand the social characteristics of the street, and how this can affect the social behavior of the users. He analyzes the city of Boston, in my case I'll be aiming to understand and analyze some residential streets in the city of Tokyo.

Mehta characterizes the street as a pancultural resource, that is not being given the importance it must have. Actually, more than 70% of the population of the world live in urban areas and according to his analysis roads occupy from the 25% to the 50% of the area of the North American cities, probably this percentage may vary from the different cities, but it would be still high. The streets are so important to our cultures, at a social, cultural, political and economic way. They constitute an important feature to our lives, they engage our social activities. Cities were born for the necessity of proximity, to encourage access and encounter as the main features, this

is the main features of the street. He concerns about the hegemony that vehicles have in the north American cities and focus his study in the necessity of an urban ecology. Urban ecology defined as healthy coexistence of several systems, and the interconnections between them. He is concern about the importance of the street for the people, and how to create more social streets, where people appropriate of them and belong not only to the vehicles. He identifies the different elements of the street and how people use them in his book, *The street*.

In his book he states how can the street be the quintessential public space, he talks about the historical development of the street, the importance of it to the community, about the political control, but also about the theoretical approaches architects and philosophers have done to the concept of street. In the second part of the book he makes an analysis of three streets in Boston, which he picked and in which he realizes different analysis, in some he identifies several physical elements, and how can they affect people's behavior. And also, the social behavior of the persons in these streets so at the end he would determine some aspects to generate more sociable and amiable streets for the people. Discussing how the everyday social behavior can work as the basis for design. to provide tools to create social streets based on the grounded empirical research he does.

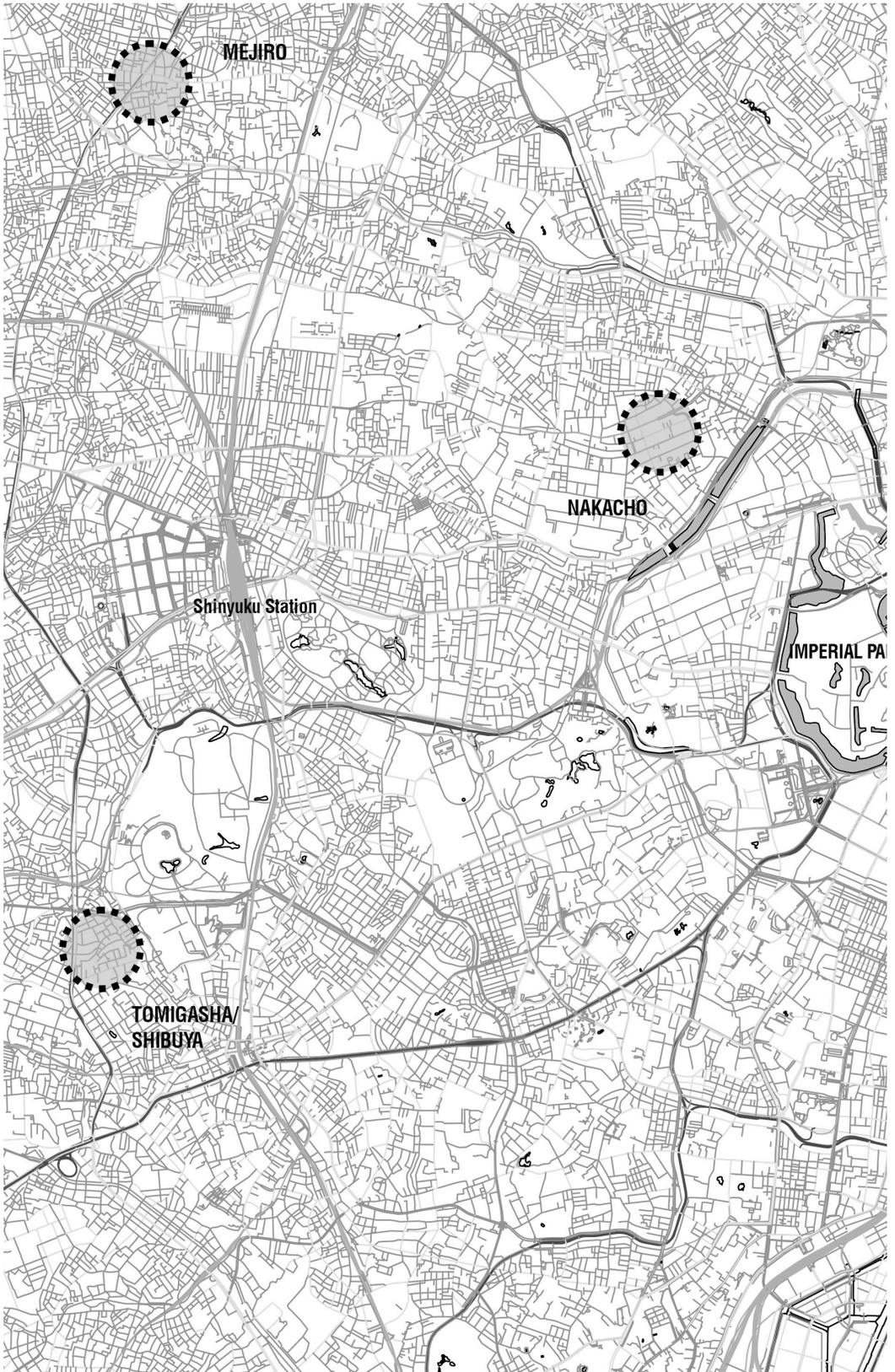
In this document I would try to do a parallel with the analysis done in the book *The street: a quintessential social public spaces* by Vikas Mehta, in which he analyzed three streets in Boston, to try to understand social patterns and behaviors in the cases of study. He focuses on a way to designing based on the everyday social behavior, studying and analyzing some public spaces and the behavior of people on it. Also stating that these principles may change according to the aspects of a place, the territoriality and the social distances on the space. And he states how understanding this relations and interactions between the different characteristics of the public spaces and the users can determine and be the basis for planning and design a street. Then he does the analysis of some cases of study and with the use of several theories of social behavior he determines and proposes some characteristics to create and design more sociable streets. He analyses two different aspects from the street, some physical aspects in a quantitative way (determining the dimensions of sidewalks, or number of places to remain), and also some qualitative aspects by observing the behavior and tracing some patterns he observes of the different patterns of behaviors from people.

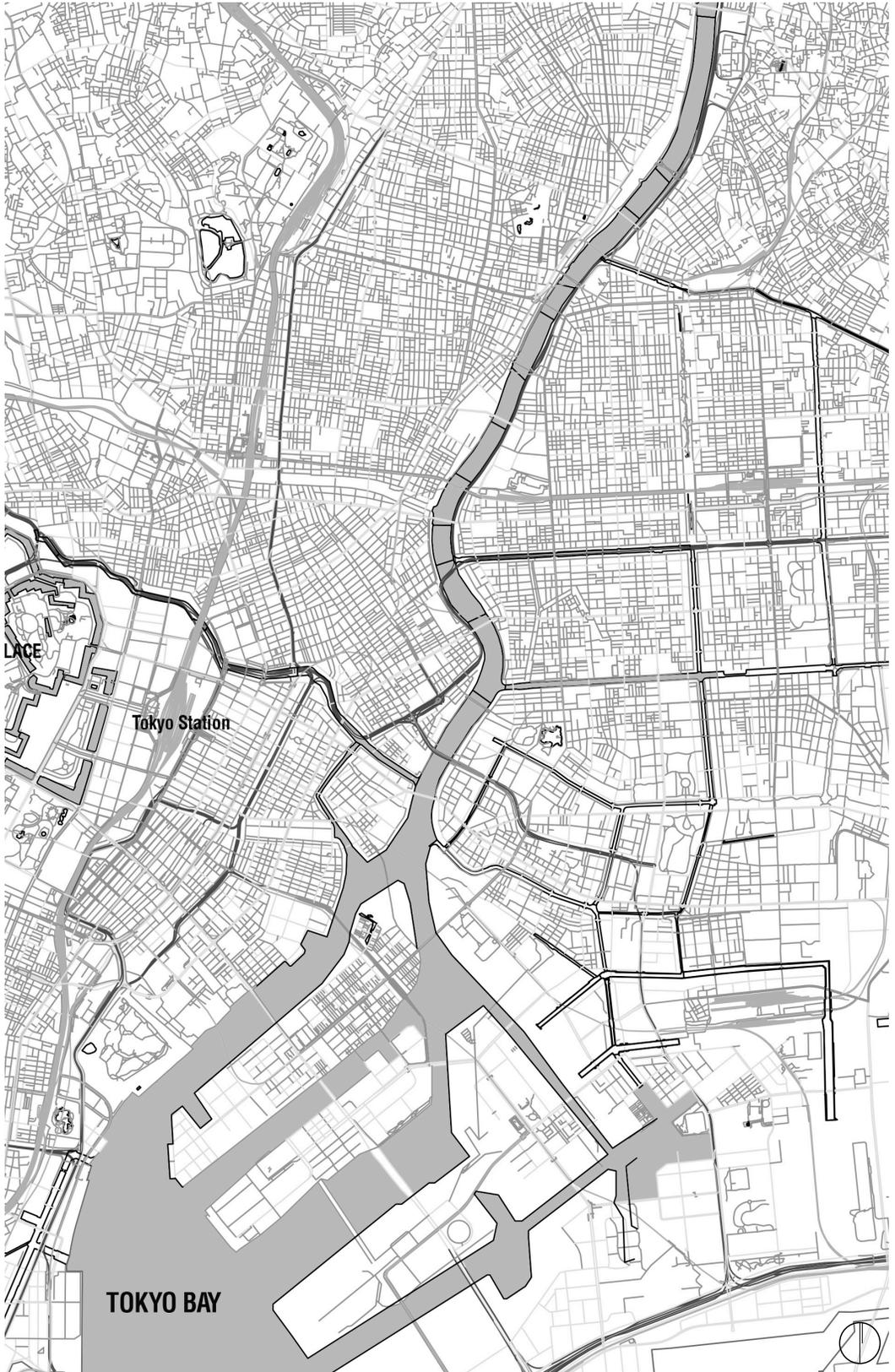
**URBAN CASES OF STUDY
(TOKYO)**

SELECTION

I'm taking three housing streets as cases of study, in the city of Tokyo to try to understand the street and its role in the Japanese city (in areas of low density and mainly residential). The three cases were picked in the metropolitan area of Tokyo, all located in any of the special districts of Tokyo (Shibuya, Toshima and Shinjuku). When choosing the cases of study, different characteristics were taken into account, first of all they had to be low rise residential areas, where the predominant prototype was the detached house (even though in Tokyo normally the buildings are all detached units). Second, as already known, in Tokyo is hard to find only one type of urban mesh, so I chose different areas with different urban fabrics. One with an orthogonal grid, the other two with a more free and curvy path, obeying more to different characteristics as topographical. So that they were all located in places of the city with different morphologies, (as would be seen in the next part) is important to see the difference and similarities that can be found between them. These studied streets are mainly housing areas and the length to be studied was determined by the intersection of a main road (considering main, as a road of 2 or 4 lanes, taken into account that normally in the areas of single houses, the street is one lane, and its width varies between 3.5 mt to 4.5 depending on different conditions, and sometimes it can be even narrower). So, the study cases are contained by two main roads, and their length is between 260m to 350m.

Also, a parallel will be done to understand the difference with the Western cities, in which the book of Mehta is based on. Even though the it may look like the two cases of study, (Boston and Tokyo) are different and the also the conception of street may vary, as said in Mehta's book the street is a pancultural space and is present in every urbex around the world.





CASES OF STUDY

TOMIGAYA

The first street is localized in Shibuya, one of the 23 special wards⁶ of Tokyo. Shibuya is mostly known for being one of the most colorful and busiest districts, for shopping and night life in Tokyo, with two of the busiest railway stations of the city (Shibuya and Shinyuku station). Even though it also has some residential zones like it is Tomigaya or Oku-Shibuya (depth-Shibuya) where the street is located. Tomigaya is located near the Yoyogi park, an important open green area with the Meiji shrine, is a busy place on Sundays for several types of open air activities. In the zone there is no a clear mesh that can be identified, nor grid or pattern. Although residential roads trend to be narrow in Japan, around 4m , in this case the street width trends to be quite narrower, with an average of 3m width (10 points were measured, and an average was taken out). The roads seem to obey a freer and morphically conditions of the place. The zone is composed may-orly by single housing units, with some exceptions of residential blocks, that do not over pass the 4 floors of height and are located near the ends of the street, always when approaching the intersection with bigger roads.

⁶ Before 1947 Tokyo was composed of wards as Kyoto or other cities in Japan, but after the war from the 35 wards that compose Tokyo, 23 were appointed as special wards by the Local Autonomy Law, conforming what is now the metropolis of Tokyo. Each ward possesses a local government for a focalized control, but the metropolitan government maintains a unified control over all of them.





Tomigaya, street scape

Source: Google, street view



Tomigaya, street scape

Source: Google, street view



Tomigaya, street scape

Source: Google, street view

MEJIRO

The second street is Mejiro located in the district of Toshima. This district is mostly a housing district it was formed since the Edo period, where it was known to hold the houses of daimyo (feudal lords) and hatamoto (shogun⁷), being considered a high-class neighborhood. As most of all the districts in Tokyo its growth increased thanks to the construction of the railway system during the Meiji period. Toshima is also part of the special wards of Tokyo, located in the north part. It is located on a plateau, and almost half of its land use is meant to be residential. The nearest metro station is Shiinamashi, but it's not a major one, the Ikebukuro station (a bigger one) is approximately at 1.5 km of distance from the street. In the zone even though in its majority is residential, it's well equipped with several elementary schools and some headquarters of some universities. In the zone a more orthogonal grid can be seen, but still there is not identified a strict pattern on the layout of the roads. The width of the street has an average of 4m, and it's also mainly composed by single housing units, except in the to extremes of the roads (where there is an intersection with a wider road, with more than two car lanes) where there are housing buildings with more than 6 floors of height, on the first floor of these buildings, looking towards the bigger road, several businesses are present, mostly restaurants, and little supermarkets.

⁷ Shogun: a hereditary commander-in-chief, a military descender that in this period had a lot of power and were the highest social strata.





Mejiro, street scape

Source: Google, street view



Mejiro, street scape

Source: Google, street view



Mejiro, street scape

Source: Google, street view

NAKACHO

The last street is Nakacho, located in the Shinjuku special ward. The ward of Shinjuku was born in 1947 after the war, it was the union of the three cities Yotsuya, Ushigome and Yodobashi that were formed since 1878 as part of the 15 cities of Tokyo. After the 1945 bombing big part of the three cities was destroyed and had only left less than one third of the population. With the aim of creating a new constitution based in a democracy in 1947 the ward of Shinjuku was conformed. The existence of Shinjuku is said to date back from 1636 in the Edo period where shrines and temples changed from place to place and new settlements were appearing in the surroundings of Edo, as inns for travelers. The Shinjuku ward is also known for being one of the biggest commercial and administrative centers of Tokyo, in which we can found one of the biggest and busiest railway station of the city (the Shinjuku railway station). Nakacho is located very near the Chiyoda ward, that is conformed mainly by the imperial palace and is basically the center of the city. In Nakacho would be the only street in which a clear orthogonal grid is established, this probably responding to a plateau present in the zone and probably also that back in the Edo period it was a high-class part of the city, so it was established a grid. The grid is approximately made by 350m x 80m on the other side, but with several internal or back streets on it, on the perpendicular position to the longest side of the road, subdividing the block sometimes, and in some other cases working as cul-de-sacs. These backstreets are narrower than the street and are mainly pedestrians. The average width of the street is 4.5m and it would be the widener of the 3 cases of study.





Nakacho, street scape

Source: Google, street view



Nakacho, street scape

Source: Google, street view



Nakacho, street scape

Source: Google, street view

ASPECTS STUDIED

When reading Mehta's book, I clearly sense the difference between the streets in Boston (USA) and the chosen streets in the city of Tokyo. The three selected streets in Tokyo are based on low density unit houses, in which you can see the typical Japanese narrow streets (around 3 and now a day due to the new regulation to 4 meters wide, that is still narrow) and no presence of sidewalk, so still not so influenced by the western stile.

One of the biggest difference you can notice, is the absent if we can say it this way of sidewalk, the traditional Japanese street does not have sidewalk, the streets trend to be narrow, this gives a characteristic that may be considered as very helpful for pedestrians and the quality of live. Because at it is seen in most cities, cars have a predominance, and everything looks meant to be designed by them, but the fact that the streets are so narrow, and they must share this space, they become low traffic areas, where people can walk without the concern of cars coming up fast toward them, the narrow streets becomes a place where pedestrian, cars and bicycles must coexist together. This can be considered as a good quality when thinking the city for the people, even though Tokyo is a big city, in its residential areas traffic and cars like in other big cities haven't conquered these parts of the city, and they end up being a secondary role in the street. Even though new politics and regulations tend to widener the streets, it is still very common to find very narrow streets, in only one sense, in which car bicycles and pedestrians seem to live in harmony. In some big cities it might look like they have ended not being design for people, but they are for cars. In Tokyo, huge avenues exist, and the main Oroads have sidewalks, and are very similar to western cities, but when entering inside the neighborhoods we can still notice these narrow streets where the automobiles seem not to be the most important ones.

In Mehta's book they are analyze some physical characteristics of the built environment, to determine its quality, and this way which environment was more favorable and prefer by it users. Mostly these characteristics trend to be physical and behavioral, at a micro-scale, that end up being important for its users. In the following table there are the listed the aspects that were measured in the three cases of studies. Some of them come from Mehta's book, not all of them could be used, due to the difference in the context of the cities, and there are some new ones that based on Japan's history I considered to be important and must be taken in to account.

STREET CHARACTERISTIC	MEASUREMENT DESCRIPTION	UNIT
Variety of goods and services on the block*	Variety was based on the type of businesses and other public uses at the street level, which were open during normal business hours on the block. Only public uses, as described above were included in determining variety*	Number
Number of independent businesses on the block*	All independent owned or small local chain stores at the street level on the block segment were counted*	Number
Number of other street furniture and physical artifacts on the block segment*	All objects (other than chairs, tables, benches and other seating), such as tree trunk, poles, parking meters, bicycle racks, newspaper dispensing boxes, integral seating as ledges, railings and so on, were counted at each block segment. *	Number
Percentage of building units that had greenery	Any type of plants or trees, that in present in the building or housing unit, that can be seen from the street. (trees in gardens behind a fence, a wall or potted plants on the street).	Percent
Percentage of building units with greenery in public space	Potted plants that belong to a housing unit or building but are in the street, without any type of boundary between them and the street. (Even though one house may have several potted plants, it was only considered if they had or not)	Percent
Number of Cul de sacs or dead-end alleys (normally just for pedestrians)	Inside the streets and between the units houses there are pedestrian alleys that seem to be privately own, they are taken into account the ones with fences and the ones with no fences.	Number
Number of bicycle parking spots	In between the streets, the established and non-established spots for parking bicycles.	Number

*Taken from The street: a quintessential social public space from Vikas Mehta. All of the used characteristics of the urban environment from Mehta's were measured by visual surveys.

NON USED ASPECTS

Some of the Street Characteristics used in Mehta's book could not be used to measure the sociability in the Japanese residential street, due to different components of their context. Taking into account not only the physical aspects, but also historic and cultural ones. For example, some with the highest score for sociability in Mehta's book was the number of commercial seating on the street on the block segment, the number of public (noncommercial) seats on the block segment, and the average side walk width at the block segment, as already explained is almost impossible to make a parallel due to the fact that these residential streets in Japanese cities do not count with sidewalk, the street is shared by pedestrians, cars and bicycles, making it very hard to create a space to seat and remain, they have different characteristics.

Even though the streets are so different, in Tokyo is possible to find these spaces on some main roads probably closer to the commercial centers, for example the main metro stations where skyscrapers dominate the view, and even though they possess some of the characteristics, they also vary. But in some way, it can be said that they have adopted a more westernized style. In the residential neighborhoods the absence of sidewalk limits some of these characteristics. This is why these characteristics will not be taken into account for the analysis.

In the three streets there were found independent business, as also chain business. Even though in the Edo period it was very common that single family houses had a little business of their own, now a days this characteristic is not very popular, and single family neighborhoods trend to be with a single use, but is still possible to find some business in between the streets. Most of the little business founded shared house and business on the same place, in some cases the typology was multi-dwelling units with a store in the first floor. There was not a strong predominant type of business found, but it was restaurants or food stores the most seen one.

Another tendency noticed in the cases of study was that all the business trend to be located at the end of the streets, where the street had an intersection with a bigger road (this was one of the parameters taken into account to determine the longitude of the street to study). Mostly the restaurants were located in the extreme of the roads, this probably due to the fact that there is a stronger concurrency of persons passing by.

The rest of business also trend to be located in the extremes of the road with few exceptions, in these cases the business where more local.

RESULTS

RESULTS OF PHYSICAL CHARACTERISTICS

TABLE 1

	NAKACHO	TOMIGAYA	MEJIRO
Variety of goods and services on the block	7	4	7
Independent businesses on the block	7	2	3
Street furniture and physical artifacts on the block segment	light posts	light posts coffee machines	light posts Coffee machines
% of residential units with any type of greenery	76%	71%	76%
% of residential units with potted plants (in public space)	54%	29%	49%
Cul de sacs or dead-end alleys (normally just for pedestrians)	11	3	3
bicycle parking spots	2	-	2
Multi dwellings units	9	3	6

RESULTS OF TYPES OF INDEPENDENT BUSINESS

TABLE 2

NAKACHO		TOMIGAYA		MEJIRO	
Independent business	No.	Independent business	No.	Independent business	No.
Restaurant	3	Art gallery	1	Restaurant	1
Tea store	1	Dance institute	1	Pawnshop	1
Little shop	1			Little shop	1
Liquor store	1				
Veterinary	1				

PARTS OF THE STREET

During the analysis, there were some main features about the street, that emerged to be highlighted. And that I considered that can be the main component of the Japanese residential street.

STREET FURNITURE

Even though in Metah's book the street furniture was a very important category in the studied block, this could be also one of the biggest difference with the Japanese residential street. Even though the problem might seem the absence of a large sidewalk, it is also a different conception, the type of street furniture is completely different. An example of this could be that in this residential streets is very common to find vending machines with coffee and energetic drinks (photo) this machines appear to be spread all around the city, even though they are more popular in high transit streets. Places to leave the bicycles were also founded, and one of the most curious things about the residential streets would be the potted plants located in front of all of the housing units. This potted plants even though they belong to the people in the houses, they are in the street, is a component that creates a bond and generates some kind of ambiguity to the street, because as the street is a public space people leave their plants all around, in this way it can be considered as part of the street furniture. Other furniture presented the lighting posts, but this we can say it's somehow more general and present in the majority of the roads of the cities.



Mejiro street furniture,
bending machine

Source: Google, street view



Mejiro street furniture,
potted plants

Source: Google, street view

GREENERY

“(...) when nature is formalized and made into an aesthetic object, it becomes a part of the culture.” (Maki, *City with a hidden past*, 2018)

Since the conformations of the Japanese cities, nature has always been a very important aspect to take into consideration. From the town planning (geomancy), to the local scale nature have always had a strong presence. In the three streets that were studied, the percentage of housing units that had some type of greenery was high and always varying between 70% to 80% as can be seen in table 1, this was divided in three types of greenery, trees, bushes and potted plants. In the case of the bushes, this had also a function of boundary between the houses and the street, normally accompanied by a small fence, and sometimes by themselves. For the trees, some times they were found in front normally of multi-dwellings, due to the fact that they need to leave a bigger space between the building and the street, and sometimes they appeared behind a wall, and appear on top of it. For the potted plants, they were the most founded through out the streets, and most of the time were located outside the property and basically in the public space. This act seems of great importance, looks like it is an appropriation of the users to the street. As if they were there to make their street look better. Even though in Tomigasha was only 30% of the units had presence of potted plants, in Mejiro and Nakacho it was more than 50% of the houses that had this type of greenery. In some parts of the street this casual and free vegetation, seems to appropriate the street, and make a stronger sense of belonging to the street.

PRESENCE OF GREEN



NACACHO



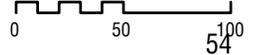
TOMIGAYA



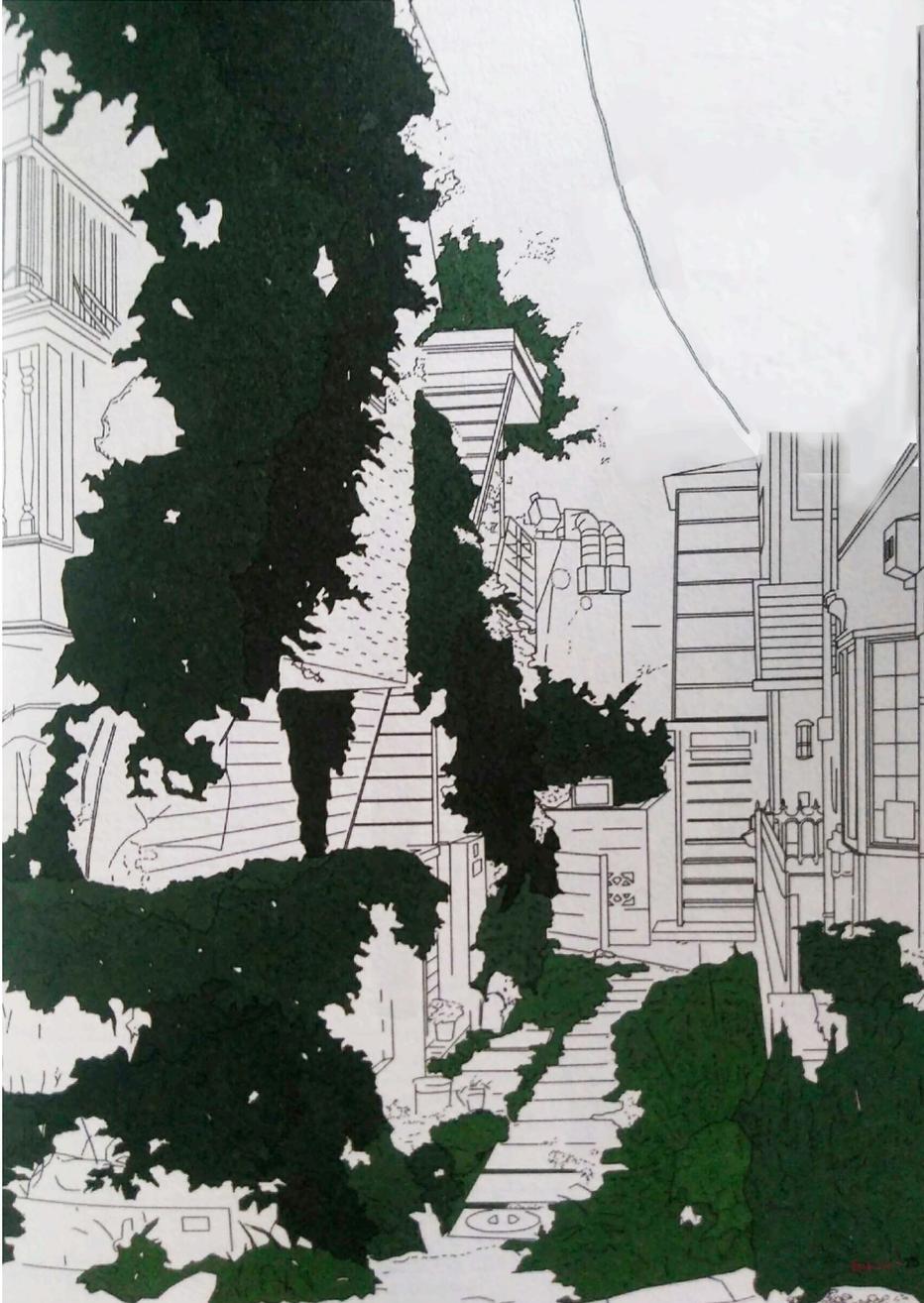
- Potted plants
- Trees



MEJIRO



"Infiltrated public space
Daikanyama, 25 September, 3.25pm> The most narrow streets
welcome more casual and free vegetation. Escaping the private space,
going beyond the home's control, those plants drip and blur all the
limits of the public space." (Trottin, Masson, & Tallon, 2017)



Source: USAGES, Tokyo

BOUNDARIES

“ A wall is just a means of adding convenience to a space. The boundaries between public and private are not simply black and white” (Tezuka, 2017)

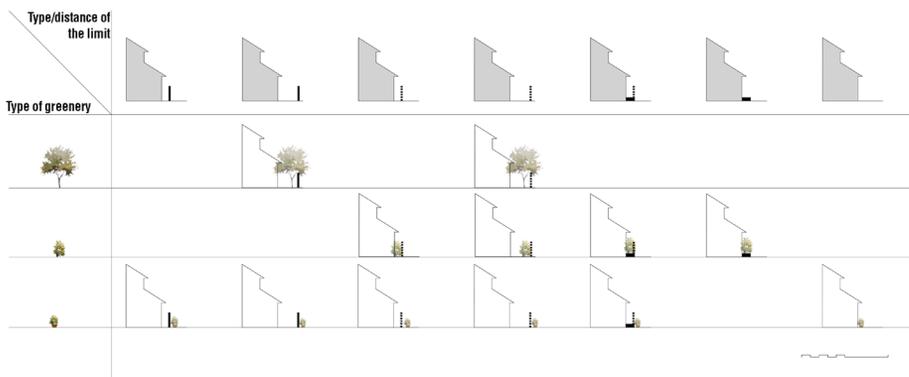
Several types of boundaries were identified during the analysis of the street cases. After looking to the study cases, we understood these are of big importance and they determine the relation between the house and the street. After looking at them we identify the boundary not as a simple wall, fence or solid wall dividing the two of them, most of the times the boundary is accompanied by some green elements, which I also tried to categorize to create a table of all the possible possibilities to generate a boundary. As explained in Fumihiko's books, he established and called these boundaries as external layers of the street and categorized the planes that establish the boundary. He would call the main building wall the primary plane (name that I would adopt from City with the hidden pass) and secondary plane to the plane that marks the limit between the street and the house. For this Secondary plane there were also establish some that I would also adopt, the wall, the lattice and the sign. In addition to these I saw other two possible secondary planes that we would call low wall and the one with none. In Fumihiko's book he crossed this information with the distance between the two planes, but in this document, they would be cross with nature elements that were identified during the study. These boundaries determine the type of aspect and relation between the outsider and the house would have. We can find a whole gamma of aspects from the complete solid wall, in which is only nature (trees) which seem to overcome the wall and “invade” the public space, also the porous one letting see something, but which is sometime also accompanied by low bushes that in most of the cases end up solidifying the wall and the straight relation between the house and the street, in which we find the potted plants always laying on the street, making an ambiguity between creating a boundary but at the same time in some sense it may look as if they were appropriating the street.

Even though the boundary in the Japanese city seems to be composed by a 3d element (the primary wall, and the secondary) seems like nature still has an important role for their life. In all the study cases the presence of nature was imminent. And not only being very strong but being spread through the street. Creating the doubt if the plants are part from the house or the street, potted plants abound through the residential streets, giving the streets a more. These relationships between the two walls and also greenery also determine the relevance of the wall for the streetscape of the city, the more open the secondary wall is, the more importance and presence the primary wall gains.

For some multi-familiar buildings present in the study cases, it is clear because of the new and strong laws of Japan for light⁸, the taller the biggest the space between the building and the street must be. Even though in these “new” non-traditional typology that is appearing in the Japanese neighborhoods, they do not use the secondary plan, making in some part loose this quality of the city and start getting a more westernized aspect, but even though they not use them, the presence of nature is still very strong. They were seen several potted plans in the fronts of the buildings or even sometimes in the border with the street.

These potted plans add some color to the city and create a type of barrier between the street and the houses, generating a more private atmosphere. This tradition to generate a psychological effect of boundary, can be said comes from traditional things like the inuyarai and komayose, more present in traditional neighborhoods in Kyoto. The inuyarai is a type of skirt, of curved bamboo located in the bottom part of the houses, its use in the pass seems to be to prevent dogs from peeing in the border of the houses, but now a day is not needed anymore, but they are still present in some traditional houses in Kyoto. For the komaose, they are low wood fences, that could be fixed or removable and their function was to generate some privacy in the houses and also protect the thin typical walls normally made of shoji (a type of translucent paper hold by a frame of wood). It can be thought that this tradition of putting potted plants comes from this tradition to keep at some distance the people that are passing by, to delimitate an make a stronger limit (Maki, City with a hidden past, 2018).

⁸ Slant plane restriction, and Restriction on floor-area ratio according to the width of the adjoining road.



ROJI (Alleys)

Another important element seen during the analysis was the presence of several roji or alleys in the street. In the three of the different cases of study we could encounter this figure. Nakacho was the one with the stronger presence of alleys, with a total number of 11 open alleys, this meaning that even though they look private because of how narrow they are and the plants, and several objects in it, you can freely enter. Because in the different study cases it was also seen that there were several alleys but closed (These private roji were not taken into account in the physical characteristics). This could mean that probably they were once public, but with the change of society they have turned into private structures.

As mentioned before, Roji or alleys were an important urban form for the Edo and Meiji period, it was the semi public/private space, where daily life encounters and activities took place. It was in some way one of the center points of urban life in Edo period. With time, these roji have been changing their form, uses, and have been decreasing in number, due to the new high-rise buildings and to different laws and argues that stated that these spaces only helped to spread the fire (back when fires were common in several cities of Tokyo, due to the fact that most of the houses were constructed in wood). Through time these alleys have changed and adapted to the changing city, first in Edo period they accompanied the single one-story houses and then the two stories detached houses, always with a maze character. During the Meiji period they changed, and a lot disappeared, because of industrialization processes and the movement of people to the outskirts, creating very dense and crowded neighborhoods, that turned into poverty places, that became target of the government (Imai, 2017).

Roji, can adopt several shapes, some crossing the total block, some others remaining as cul-de sacs or in T shapes, as described by Imai. The main ones seen in the three cases of study were the cul-de sacs and the ones that crossed the block in its totality. These alleys are part of the few spaces where cars can not come in, they remain as still pedestrian places, where some activities can occur. As also described in Imai's book, some of the activities observed were: walking, drying laundry, bicycling, kinds playing, gardening, sightseeing, pot planting, watching, resting, dumping rubbish, and taking shortcuts among others.

So, after looking at the importance and history that alleys have had to the Japanese culture, it can be said that they were of great importance to the socio-cultural development of the people. It was that space, that blurry boundary between private and public, where several social activities took place in the early periods, that allowed people to interact and create social relations, at several levels. An ambiguous place that can be appropriated but still not considered private, but that now trend to disappear and is since as a nostalgic memory.



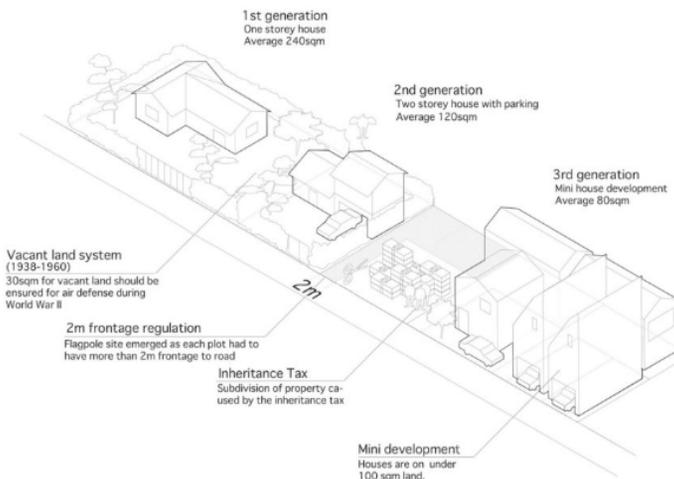
Roji, in study case Nakacho
Source: Google street view

HOUSES

“Houses thus constitute an important and basic type of building from which cities are composed. Moreover, houses are the domain of the smallest and most universal group from which society is organized, the family, and, because of the conservative nature of habitation, are deeply rooted in the culture to which they belong.” (Ohno,2018)

When observing the housing units of the study cases, it is mayorly seen that most of the units are detached houses, totally separated one from each other. Even though in Mejiro it can be found some few houses totally joined one to each other, the rest of the street and the other street cases are totally single detached houses, and in this way, they don't create neither a solid nor a linear front. As Fumihiko Maki explains the Japanese city works more as independent parts and may function with or without the other parts of the city. This can also be as a response to the short life buildings have in Japan, that is around 40 years, in a so fast changing society.

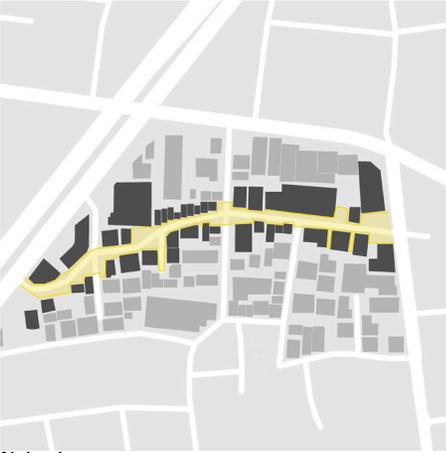
Atelier Bow-Wow is now one of the biggest architectural firms in Japan, that is proposing new form sof living and approaching the city. With new tendencies in their houses and criticizing the ways of living in western world. Where the houses are totally isolated. In one of their latelest works “Architectural Etnography” they have shown how the housing has been changing with the generations. And explain how they have come to most of the times narrow houses. This can be seen in the image to follow.



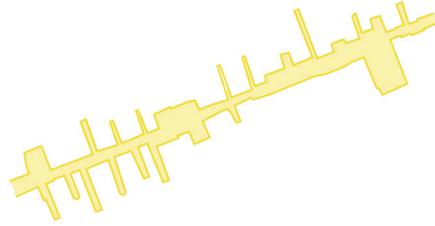
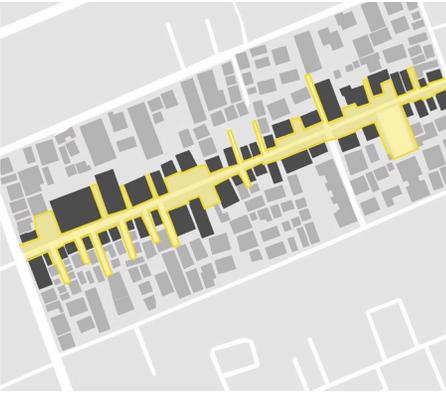
Source:<https://www.gsd.harvard.edu/exhibition/architectural-ethnography-by-atelier-bow-wow/>

Real limit of the street in study cases

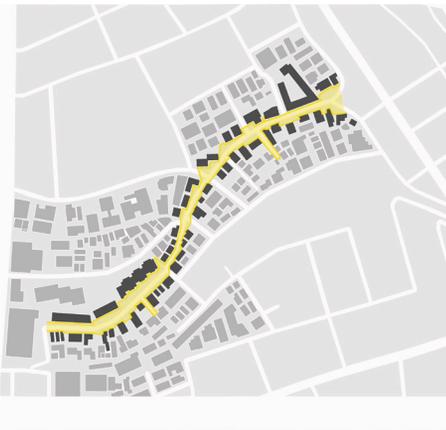
Mejiro



Nakacho



Tomigaya



The detached houses generate this “residual” spaces that make the street loose its lineal character. Showing the real boundaries of the street and its complete form. Even though they are conceived as lines they are not.

Continuity, adaptability and personalization (Mehta)

In Metah's book, after the different analysis he realizes, its pointed out that he is based on the micro scale characteristics of the street, in this aspect I've also based the analysis and aspects considered for the three cases of study in Tokyo. He established that this micro scale characteristics can be divided in two main groups, the ones in the physical environment (that as explained in the chapter above are not the same and some were changed, regarding the Japanese case) and the behavioral environment (that means by the different uses and activities that take place on the street, for this aspect ill take into account the behaviors observed during my visit to Japan and also the ones stated by Heide Imai, that would be walking, drying laundry, bicycling, kids playing, gardening, sightseeing, pot planting, watching, resting, dumping rubbish, and taking shortcuts). Mehta concludes that all this micro scale characteristics helps and provides sensory stimuli for people to have a better social engagement, creates places, instead of simply meaningless space. All these generates the social life of the neighborhood.

Mehta also do an emphasis on the role the street must have as a place, considering place as a space with the aggregated value of human experience and meanings. "What begins as an undifferentiated space becomes a place as we get to know it better and endow it with value" (Tuan, 1997). Several studies state that the emotional attachment to a place, comes from attending these places several times and the different situations, social relations and things that developed in this place. Even though these social activities are so important Mehta states how the mobility of the contemporary society has changed the meaning of place, making harder the attachment with places and decreasing the social relations that can occur on a street. This can also be join to the change of the street through time, as already spoken in the chapter of the street. The importance of cars, and the conception of the street as merely as a mobility place has decreased or changed the role of the street, leaving it as a place mainly for cars, and leaving pedestrians in a second plan. Is this why the Japanese residential street can be considered so problematic, even though is quite narrow and compared to the wester conception and the cases analyzed in Metah's Book where the sidewalk plays an important role, the Japanese residential streets due to its narrowness hasn't been completely affected by the importance of the car now a days. "Existence in such a placeless landscape deprives us of meaningful associations and contact with people" (Mehta, 2014)

Another important statement that I consider must be highlighted from Mehta's book would be the qualities of place that as he explains, the streets must have. Even though he's analysis is based on street cases in the US I considered these aspects to be relevant for any country. The first quality is continuity, by this he means a place that invites to permanence, that helps and supports routine this way to generate and provide familiarity, that at the same time would create a sense of security and comfort to its users. Second it would be adaptability, in the sense where space can be able to change according to the change of the community using it or to the new needs, he exposes how it can be moved the furniture of little shops in his cases of study, by the users, in the Japanese case even though this quality is not seen in the study cases, it could be also substituted by the potted plants. Considering the potted plants as a type of furniture of the street (it was already explained the importance of the potted plants and the role they play making this blurred line between private and public) that can be moved by each owner, but in this case more considering to its own needs and conception of beauty. The third characteristic is personalization, by this he explains how little shops changed their façade and front windows with personal decoration and decisions, this is considered a manifestation of human presence, of life and activity in a place. In the cases studied in Tokyo, even though the number of little stores and independent business was quite small, they also showed a personalization of the façade according to the owner (put picture of little store in the case of study). But it could also be seen in the potted plants, this as the fact that each person might chose the type of plants and the amount of potted plants that can be seen in front of a house, giving life to the street.

Mehta explains the importance of the street and social spaces, he also explains how the spaces for social relations are more related to the piazza and parks, this is quite different to the Japanese culture, as talked in the previous chapters Japanese have never had the conception of public space as this established spaces as the western culture. They have in some way always rely on the street or back streets for these encounters of social life. The street has played a very important role to the Japanese culture, that with the pass of time seems to have being lost. But still, some traces can still be seen in these narrow residential streets, and therefore, I considered it so important to understand and try to make the Japanese streets a more sociable space, always regarding the characteristics of the Japanese culture.



Independent business, liquor store.
Case of study Nakacho
Source: Google street view

GUIDELINE FOR SOCIABLE STREETS (MEHTA, 2014)

In the last part of Mehta's book, he establishes some rules or as he denominates it a guideline for sociable streets. I'll take the ones I considered are relevant for Tokyo residential streets and considering that some of the parameters can be modified according to the previous analysis done.

1. Design and manage the neighborhood street as a gathering space*

With this characteristics Mehta states that gathering spaces or spaces for stationary social activities drives people in social behavior. Promoting spaces to people to stay outside.

He also states that the reduce of traffic is an important step to make, in our cases of study this is not a problem, due to the narrowness of the street, traffic volume is already controlled and low, normally few cars are seen during the day. Also for helping this it could be useful to put a limit to vertical densification, tall buildings, more people promote de use of more cars and a possible modification of the zones.

The encouragement of people seating on the street can also be very important and applied to the Japanese case, this way generating and promoting what Mehta said about making the street not only a place of movement but of permanence.

Leaving spaces for the necessary street furniture, thinking in the activities realized by people in the neighborhood to supply these demands.

Shade and shelter

Lit after dark

2. Make the street attractive to all users. *

With this characteristic it is meant to try to include as much population as possible in the street, to take into account children, and spaces to play, as well as for the elderly, accessible places and safe places for them to remain outside during the day. It is intended to make a place for everyone to access, share and coexist.

* Taken from The street, A Quintessential Social Public Space. Vikas Mehta

3. Preserve and support community gatherings.*

Even though in the studied cases of study the small independent business where not so common and were always located in the extremes of the street, near the bigger roads, I considered it would be important to promote this type of business in the streets, to regain what might have been lost over time, of the small business inside the houses. This way to generate a community feeling and encourage social behaviors on the street.

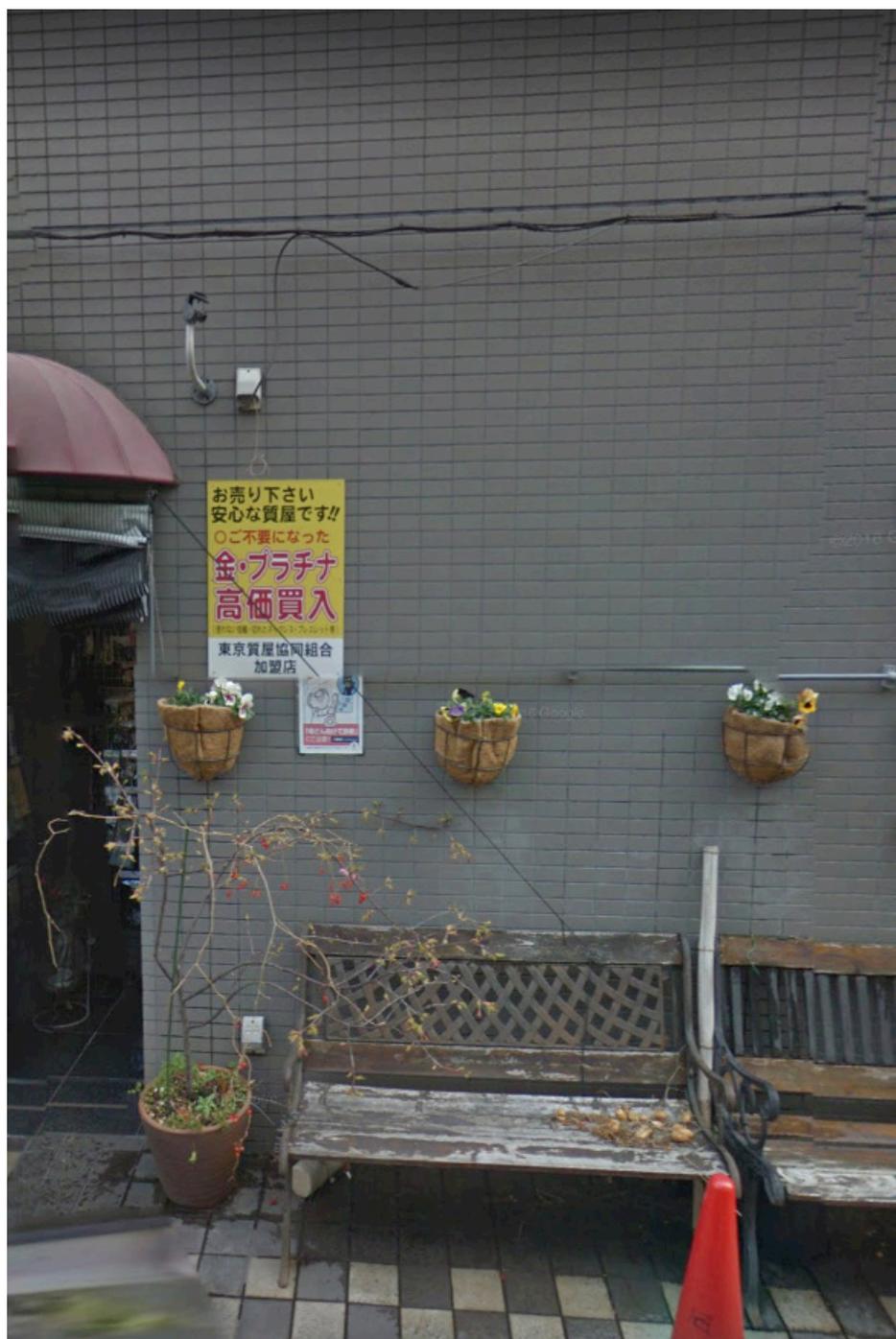
4. Make the street a Delightful place. *

This point address more to the physical aspects of the street, and how does it must look. About the possible furniture that can be found (fixed, semi-fixed and movable elements. (Mehta, 2014)). And the importance that people appropriates of the street, Mehta makes emphasis on the commercial business and how they can change their store fronts and the street fronts. As already mention in the Japanese case it would be to encourage people to personalize their fronts with their plants, and sometimes taking some of the “side walk” or part of the street with these objects.

This are the points from Mehta's guideline I considered are the most important and relevant also in the Japanese street. Considering the studies already done and the aspect of the street culture, that as Mehta's explain would be what is accepted to happen in the street, according to each culture.

Considering these points of this guideline and taking into account the things observed during the analysis realized, I would propose an option to improve and make better streets for Tokyo.

* Taken from The street, A Quintessential Social Public Space. Vikas Mehta



DESIGN EXPLORATION

DESIGN EXPLORATION 1

For the design exploration, I decided to choose 8 projects from different Japanese archistars:

Ryumei Fujiki, Yukiko Sato

Yosuke Ichii

Yoshihiro Yamamoto

Tetsuo Yamaji

SANAA

Kouichi Kimura

Sou Fujimoto

Kenji Architectural studio

through Japan and place their buildings in one of the existing streets, already analyzed in the previous part (Mejiro). This with the aim to create an ideal street and see what would look like a street with the conception of the new Japanese architecture (concerning the houses). Picturing what will happen with the relation between public and private space.

After this with the analysis done in the previous part I would do a design proposal for the public space, trying to generate a more amiable and try to reassure the social behavior of the people on the street. Generating better qualities for the people to live and promoting the community sense that seems to have being lost, at the same time that the street in Japan regains its importance as one of the main places for social encounter in the Japanese society.



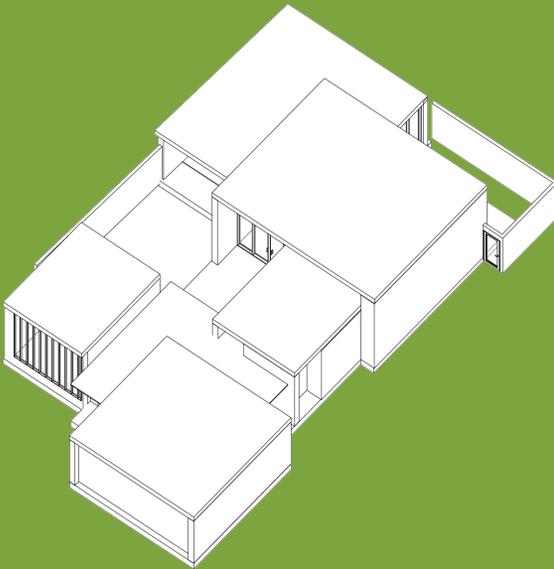
Selected zone
Mejiro

CHOSEN BUILDINGS



HOUSE FOR CONTEMPORARY ART

F.A.D.S
Ryumei Fujiki, Yukiko Sato
Fukui, Japan
2015

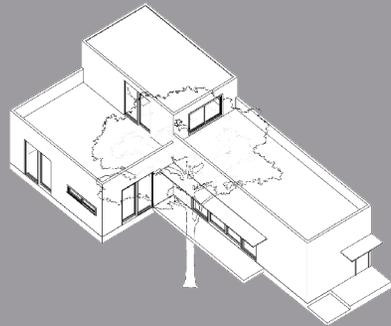


Picture source: <https://www.archdaily.com/598316/the-house-for-contemporary-art-f-a-d-s>

Model Source: done during the research

IK HOUSE

Yosuke Ichii
Osaka, Japan
2012



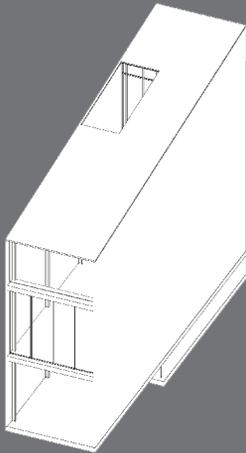
Picture source: <http://www.yosukeichii.com/works/13/>

Model Source: done during the research



KAKKO HOUSE

YYAA
Yoshihiro Yamamoto
Osaka, Japan
2014



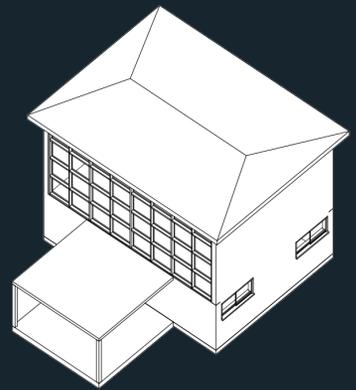
Picture source: <https://www.archdaily.com/769444/kakko-house-yyaa>

Model Source: done during the research



KAKKO HOUSE

Tetsuo Yamaji Architects
Saitama, Japan
2015



Picture source: <https://www.archdaily.com/787411/module-grid-house-tetsuo-yamaji-architects>

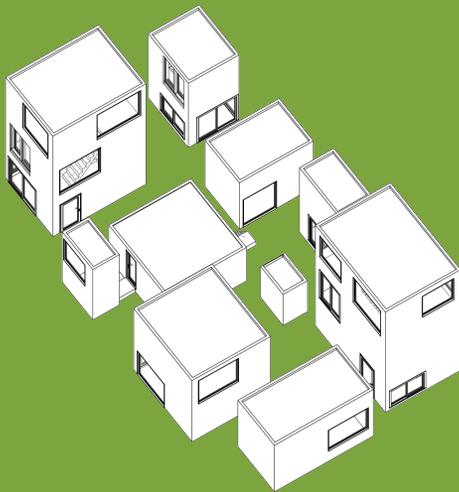
Model Source: done during the research

CHOSEN BUILDINGS



MORIYAMA HOUSE

SANAA
Ryue Nishizawa
Tokyo, Kanto, Japan
2005

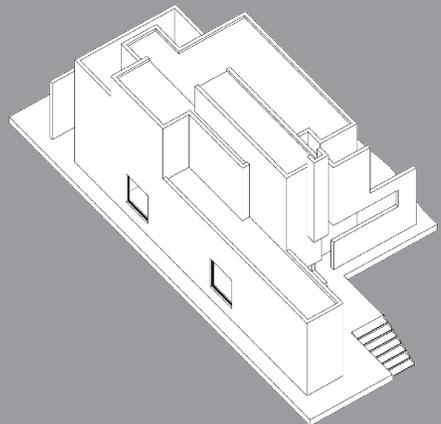


Picture source: <https://www.dezeen.com/2017/04/14/edmund-sumner-decade-old-photographs-ryue-nishizawa-seminal-moriyama-house-photography-architecture-residential-japanese-houses/>

Model Source: done during the research

SCAPE HOUSE

FORM
Kouichi Kimura Architects
Japan
2014



Picture source: <https://www.archdaily.com/554828/scape-house-form-kouichi-kimura-architects>

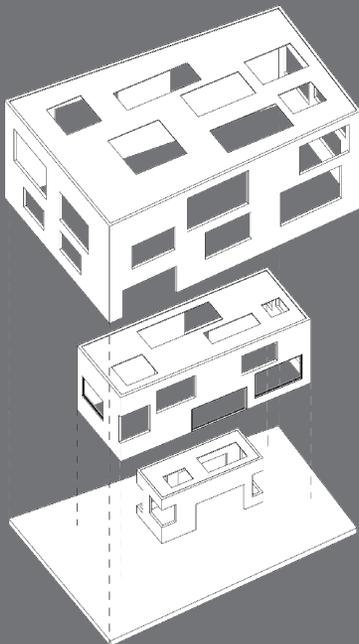
Model Source: done during the research



N HOUSE

Sou Fujimoto Architects

Oita, Japan
2008



Picture source: <https://www.archdaily.com/7484/house-n-sou-fujimoto>

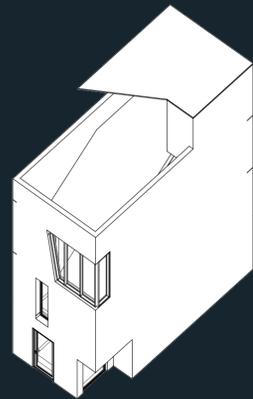
Model Source: done during the research



HOUSE IN TAMATSU

Kenji Architectural Studio

Osaka, Japan
2012

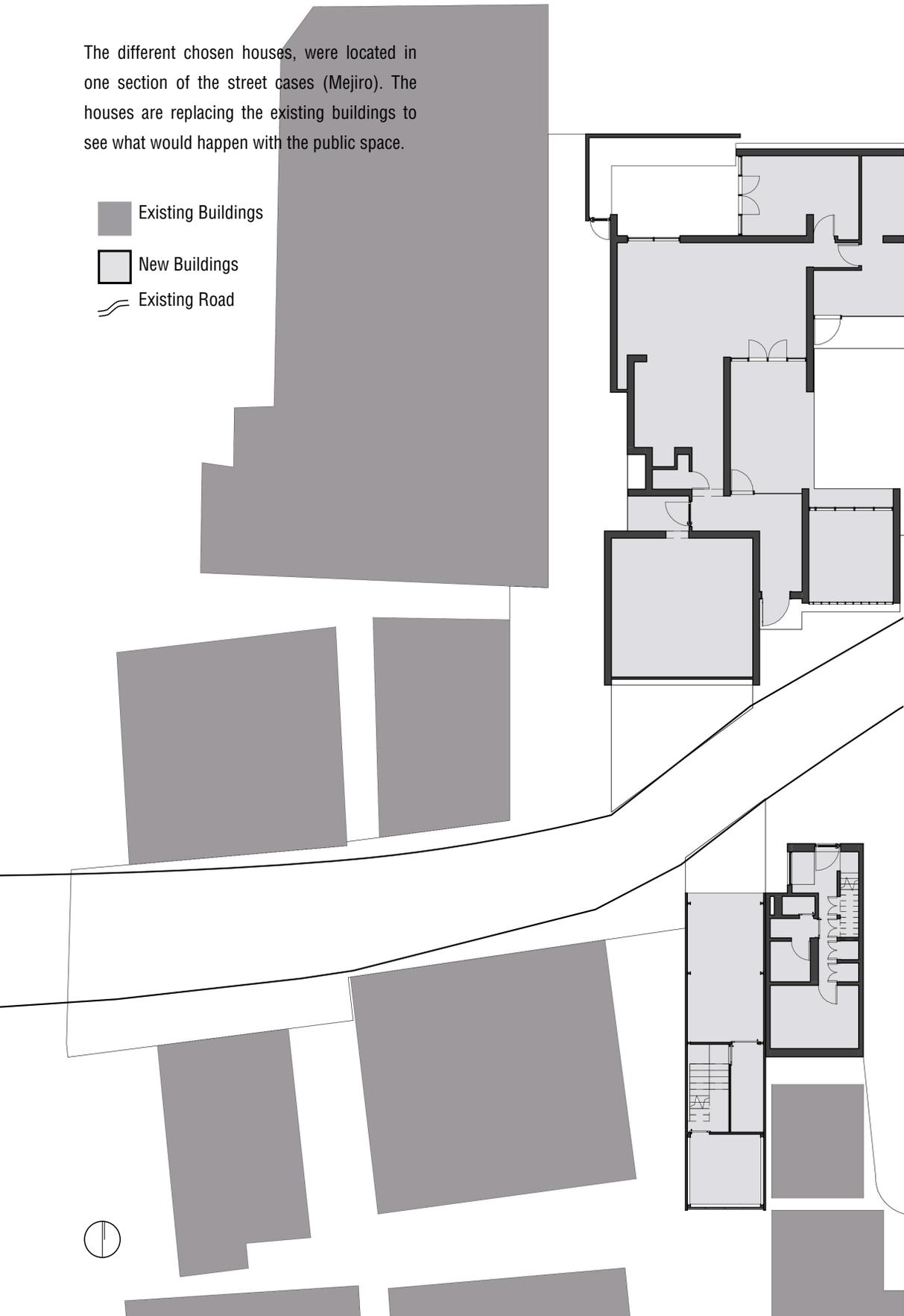


Picture source: <https://www.archdaily.com/282305/house-in-tamatsu-ido-kenji-architectural-studio>

Model Source: done during the research

The different chosen houses, were located in one section of the street cases (Mejiro). The houses are replacing the existing buildings to see what would happen with the public space.

- Existing Buildings
- New Buildings
- Existing Road





After analysing the study cases it was seen that the street was not linear, does not have a continuous limit. Here we see the real shape of the street.

— Real limit of the street.

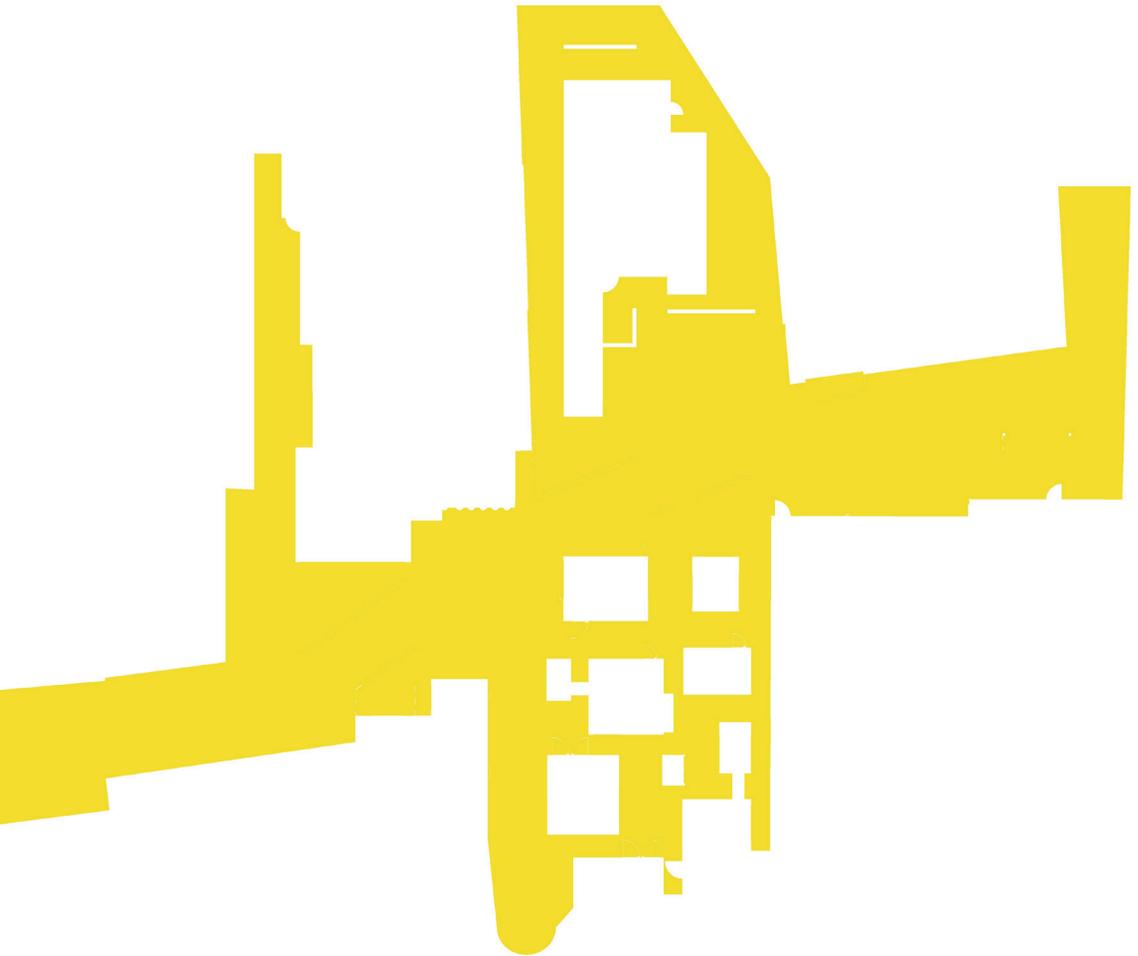


Sometimes there is no limit between public and private, vanishing this line, it could be said that the public space is much bigger than the one marked by the limit of the road.

- Real limit of the street.
- Public Space



Public Space. The road becomes a much wider aspect, occupying more space and even entering some of the houses.



Normally the streets are conceived as a linear path, with a strong delimitation of the border by the houses surrounding them. In Tokyo the streets are built up by units, the housings don't depend on each other giving a special characteristic to the city. Even though in the street cases some housing units had a fence or a boundary between the road and the house, in some cases there was not. This creates some "left over" spaces that make the residential streets of Tokyo, not linear. In the design approach this can be seen clearly, the no boundary between public and private makes it hard to identify where the public ends and the private begins.

The shape of the street changes totally becoming fragmented and the blueprint of the open space becomes bigger than expected.

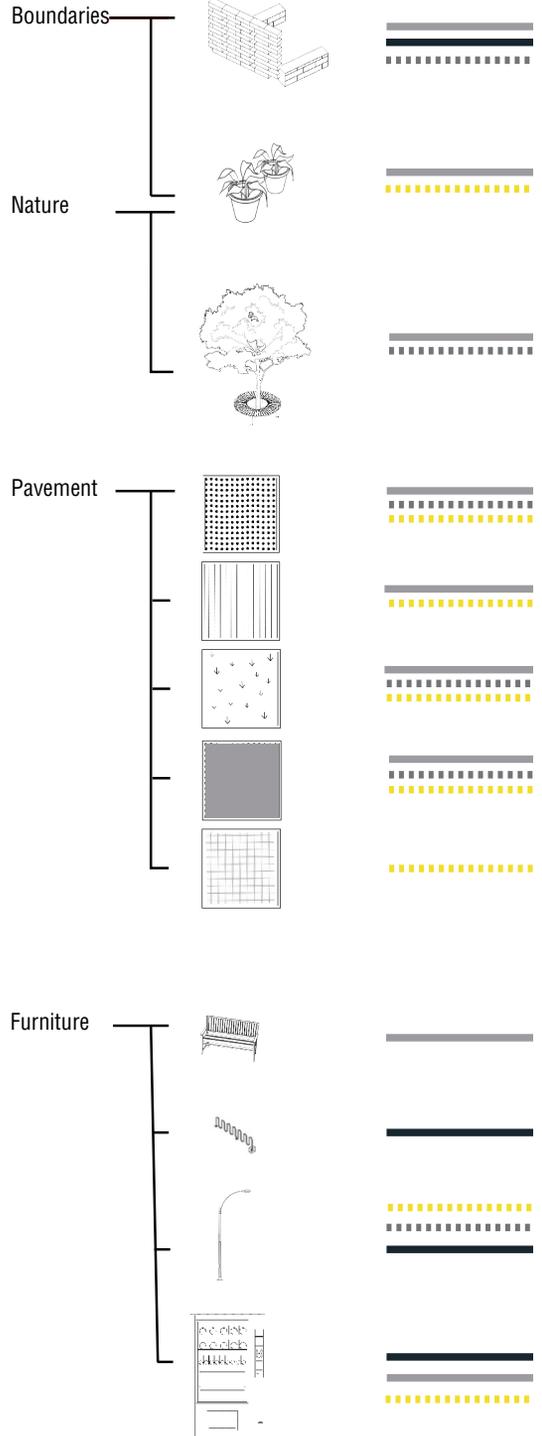
This gave me the opportunity to re think and make a design proposal for the public/private space. Where all these residual spaces can be taken into account and be exploited to create a more sociable street. Considering the background on the Japanese society, their conception of public space, and the role the street has played in their history, and that with the pass of time seems to have been lost. I would consider it important to try to give back some characteristics to make the streets a better place for their users, that would adapt to their new needs but at the same time keeps some of what seems now just memories of a past.



Considering the analysis done, based on Viñka's book, and guide lines about how to make a more sociable street, the main users of the street were identified to see how the street could be a more amiable space for all of them. In this case it was selected users by the activities they can perform: children, bicycle users, pedestrians (including elderly, residents of the zone and passerbys) where they can just walk by, or remain in a place, and residents gardening.

Some the mains aspects or important things that appear in Tokyo's streets were selected and joined in groups, by bouderies, nature, furniture and pavement. All this to propose a better public space, and see how this characteristics can affect or be directed to each user.

Nature is one of the main things that is present in Tokyo's streets and that are important to mantain and promote. This engaging people to appropriate of the street and give a personal meaning to it. This for the "private" domain even though some time potted plants appear in public space, trees could also be included in bigger spaces to promote activities and remaining places.

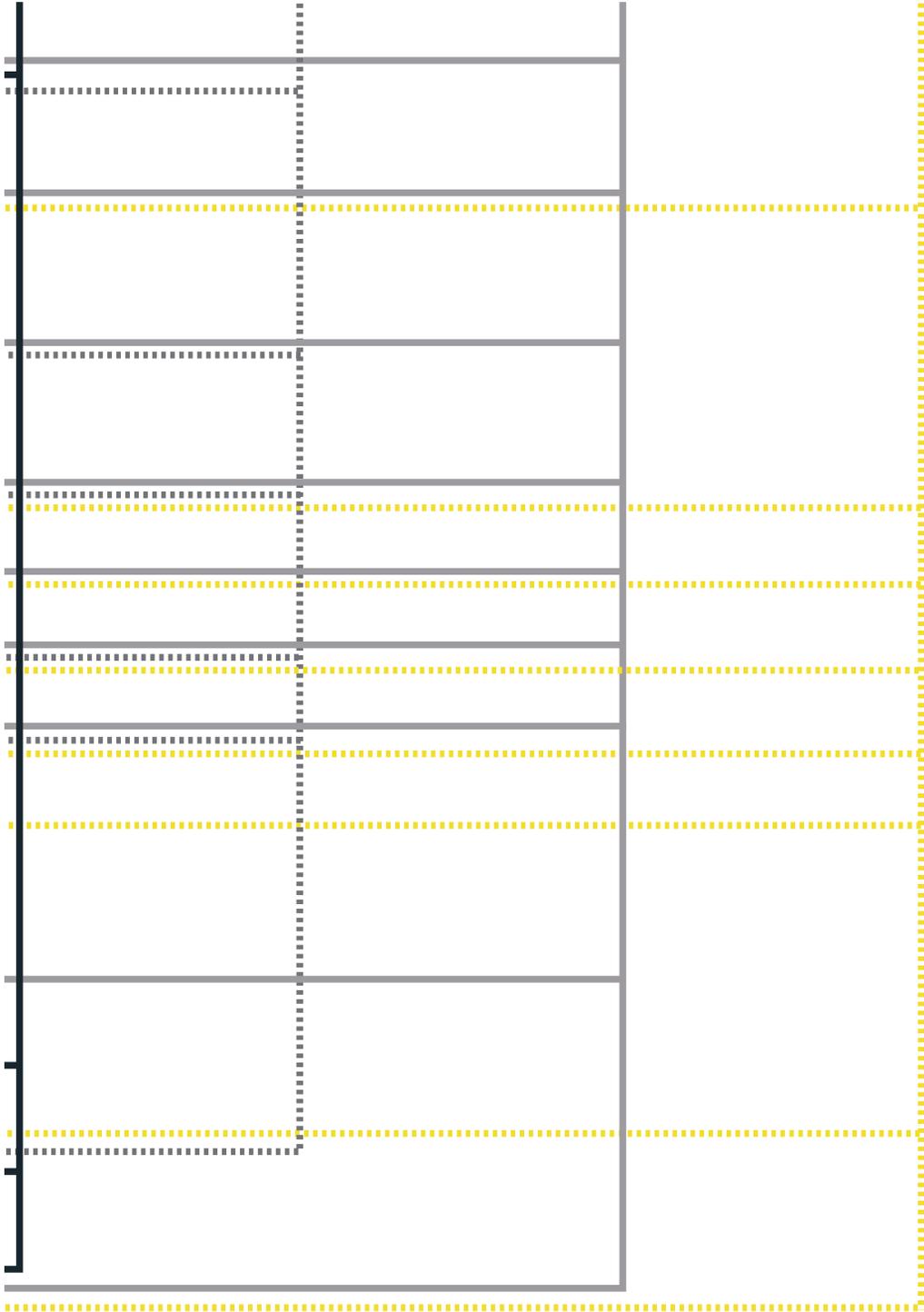


Older Users

Kids

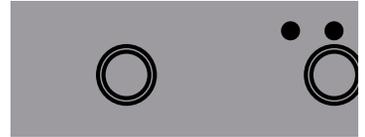
Pedestrians

Residents





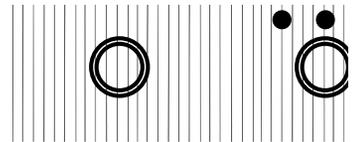
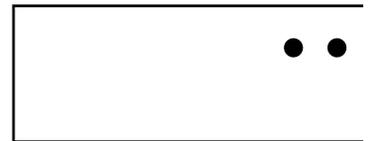
PUBLIC



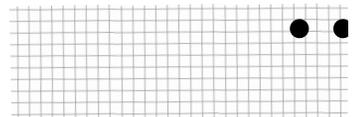
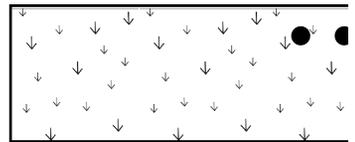
In this part of the thesis i would try to make a table with the different options to generate public space.

Iconizing the elements that can be used to do different proposals, some kind of rules can be established to generate a scheme of order in the public space and how to design to achive a desired space with different qualities.

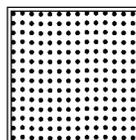
PRIVATE

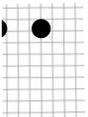
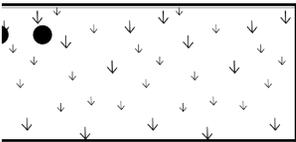
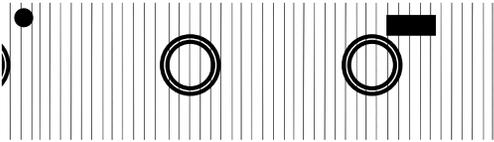
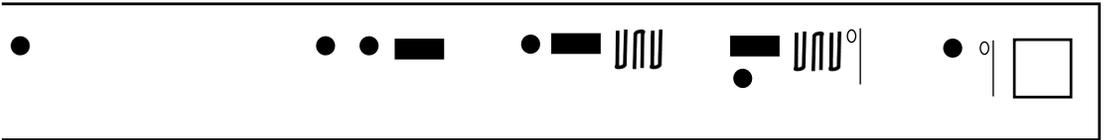
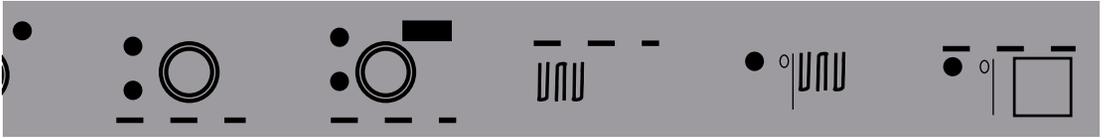
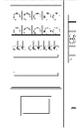
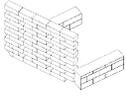


It was seen that in the Japanese street there was no difference between the floor textures, between public, privite and other uses. In this case it could be interesting to play with different materials to generate boundaries and differentiation between spaces. To give more character to the street.

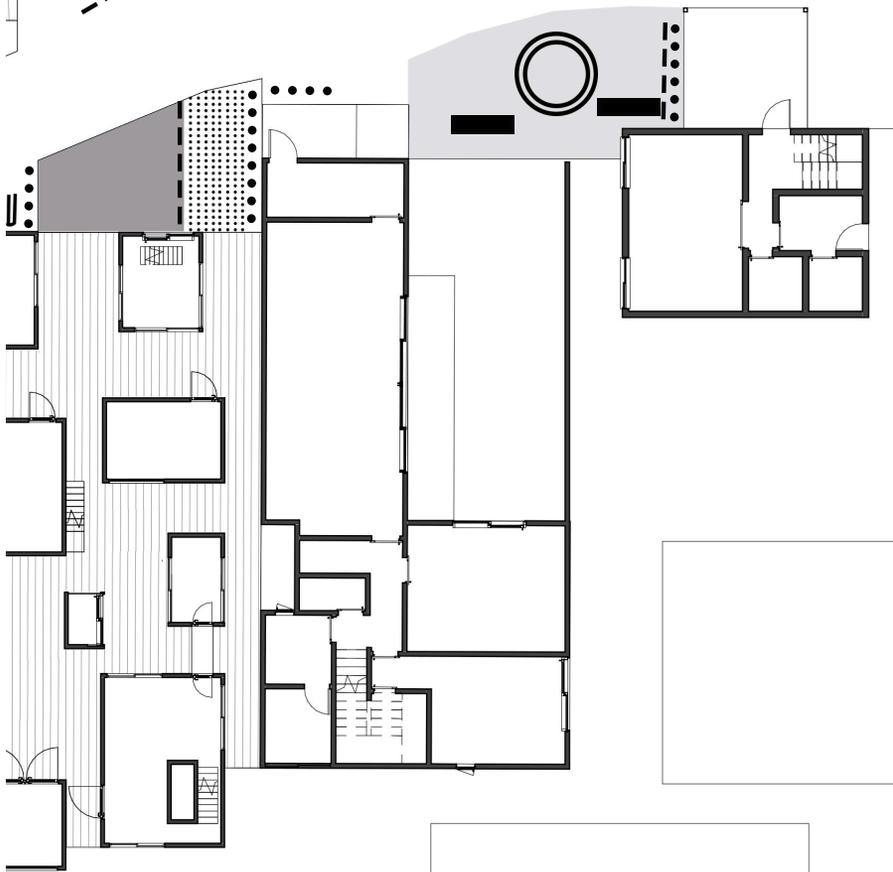
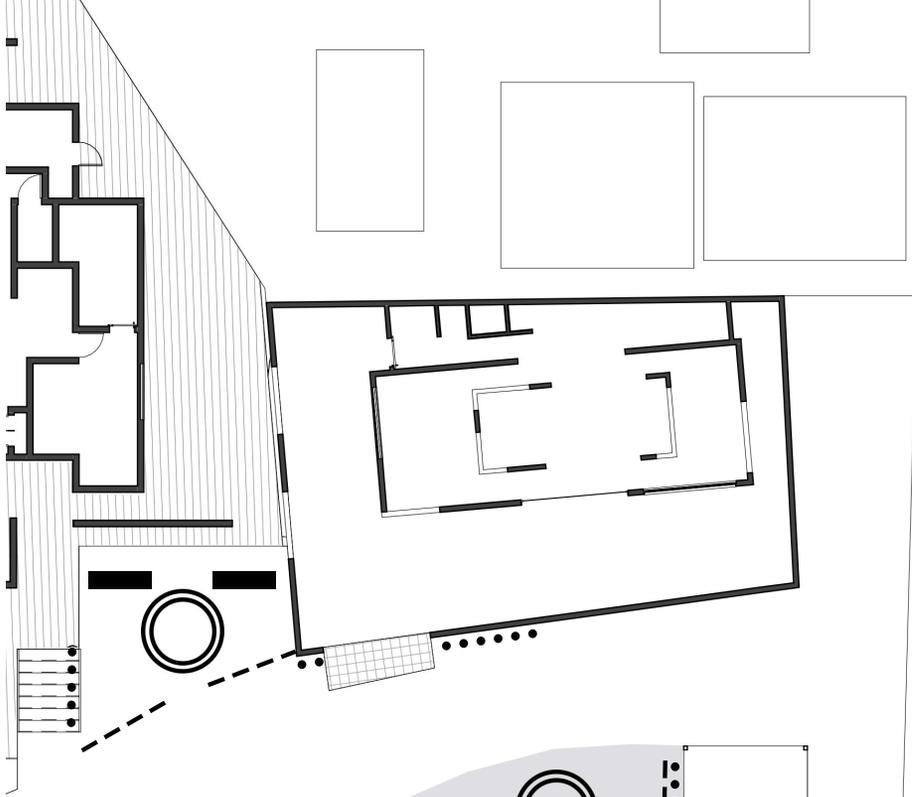


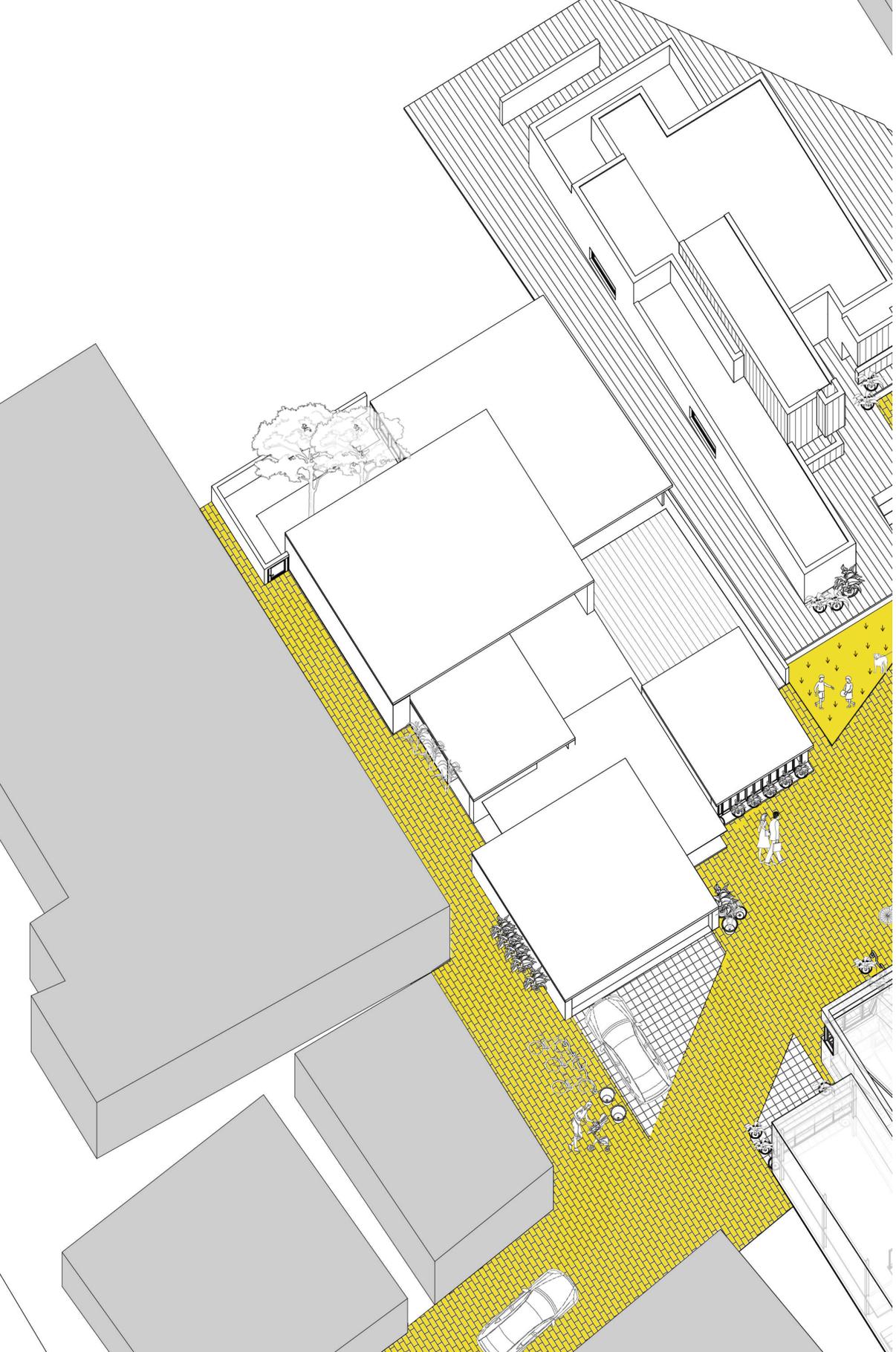
This combined with the different furniture that can appear and that depending on the amount of space, the type of floor can be manage. This way to generate some patterns and options to create public space and how to configurate it, to finally generate places concieved for the people.



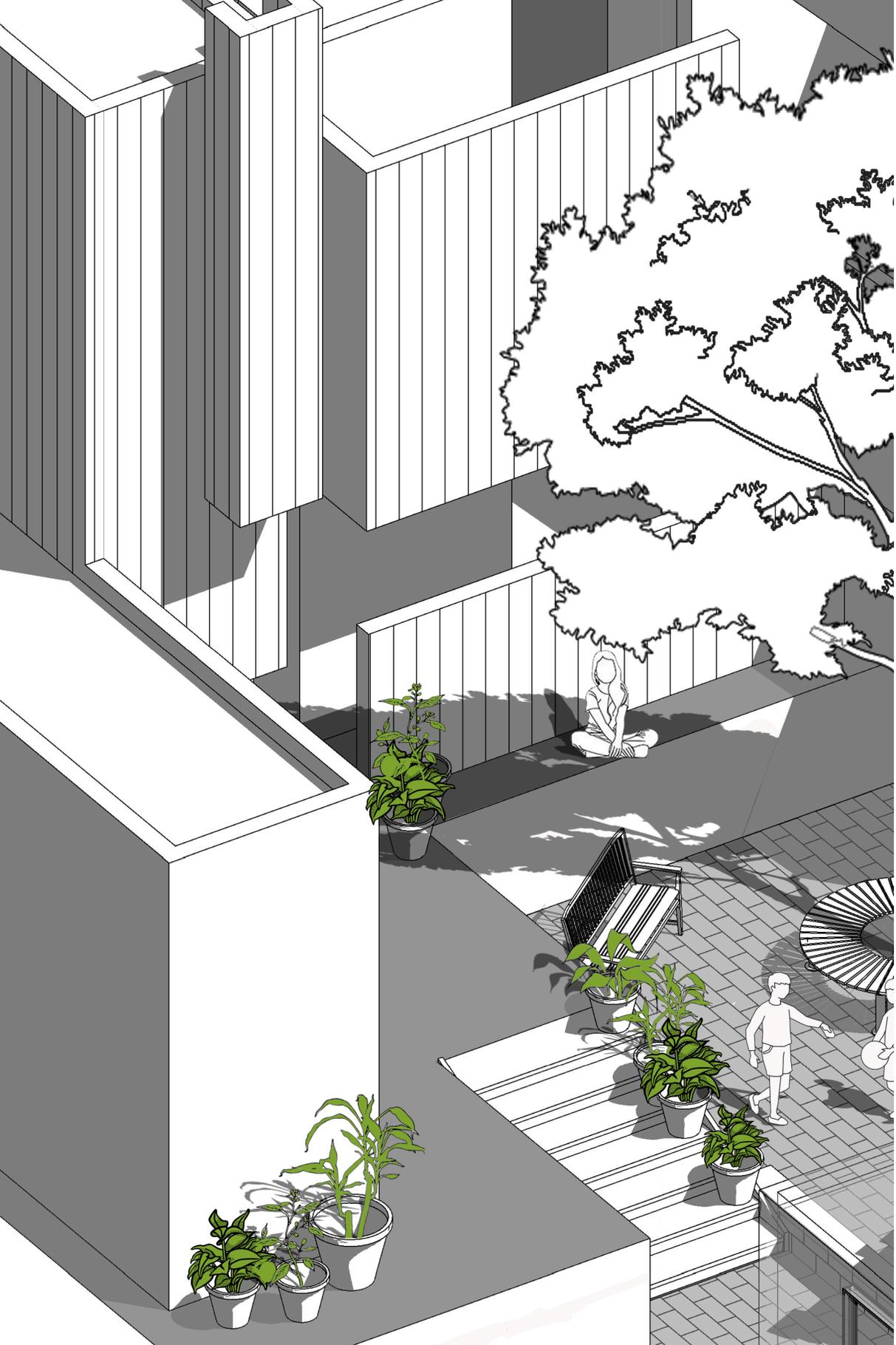


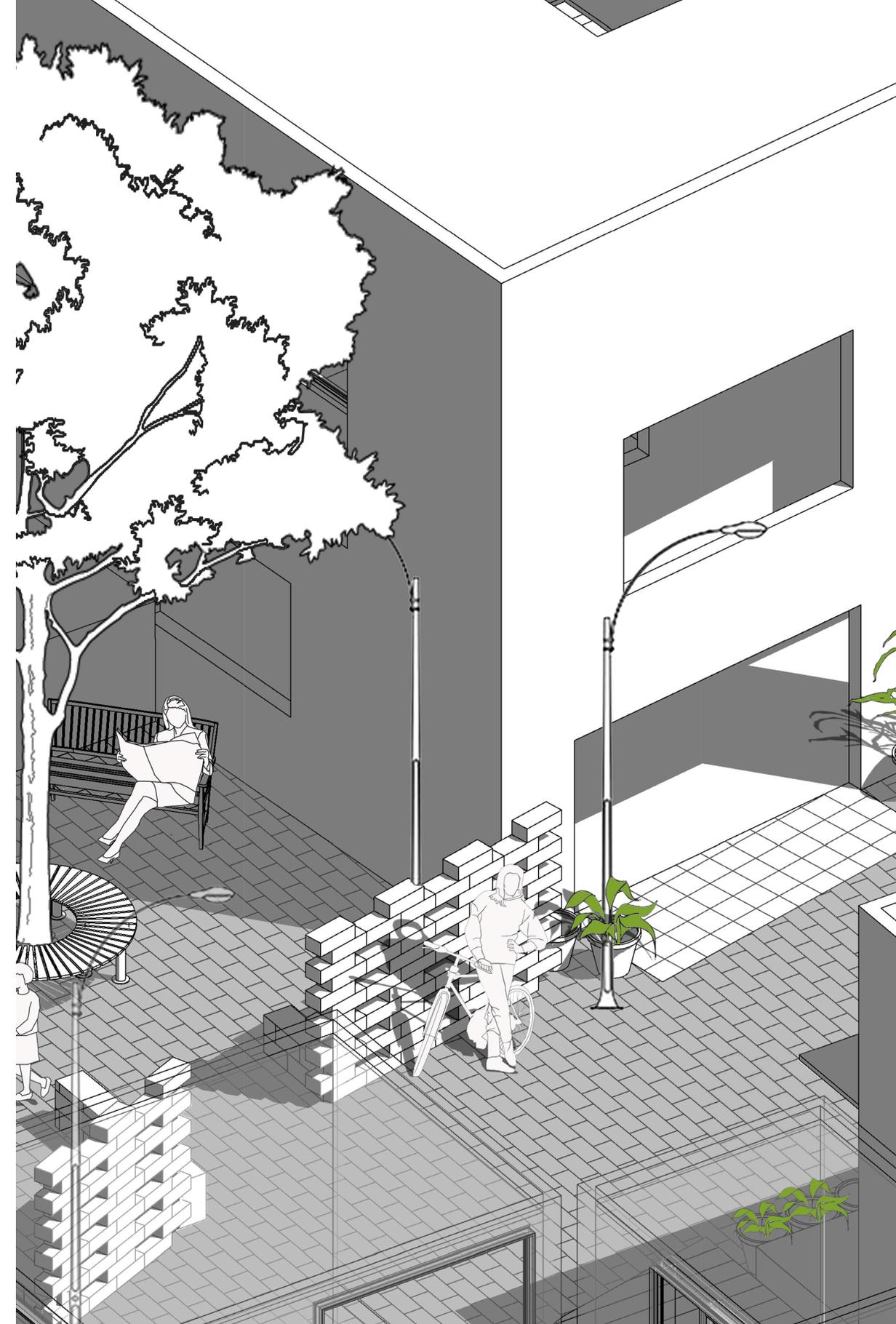
















DESIGN EXPLORATION 1

CONCLUSIONS

After placing the different projects of the archistars replacing the existing houses in the case of study of Mejiro, we can see that some of the attributes of the street re appear. Some kind of residual spaces start to appear along the street, (these spaces are also present in the existing streets). These spaces can be used as public space, considering some of them might be private, but since the boundary between public and private is in some way blurry or vanish it could be a great opportunity to improve and propose new things for the street. Engaging this way its users in social activities and encounters.

With the different interventions proposed, different aspects of the street can be promoted to improve. Some examples would be, the walkability of the street (making it a better a more amiable space to pedestrians), traffic safety, health improvement (by promoting more green areas), attachment to the community (this would be one of the mayor points of the interviews, to generate a sense of community and root to the place, this way to recuperate the meaning of the street), community promotion (to generate new social relations between the neighbors and create a more sociable space), and vitality⁹ (to the street, generating activities and spaces for people to remain and engage in social patterns).

These small spaces seem perfect to promote social interaction, due to the history of Japan, it seems people are more used to small and detail spaces than big scale and monumental social spaces, making a great opportunity to utilize these spaces.

DESIGN EXPLORATION 2

In the next part I decided to do the process backwards, what would happen if we start the design process from the void, from a straight street, and then adding the open spaces (public/private), determining their uses and functions first. This way not seeing them as residual spaces but as the main aspect for the society. A street thought for its users, and to improve and generate a more sociable street.

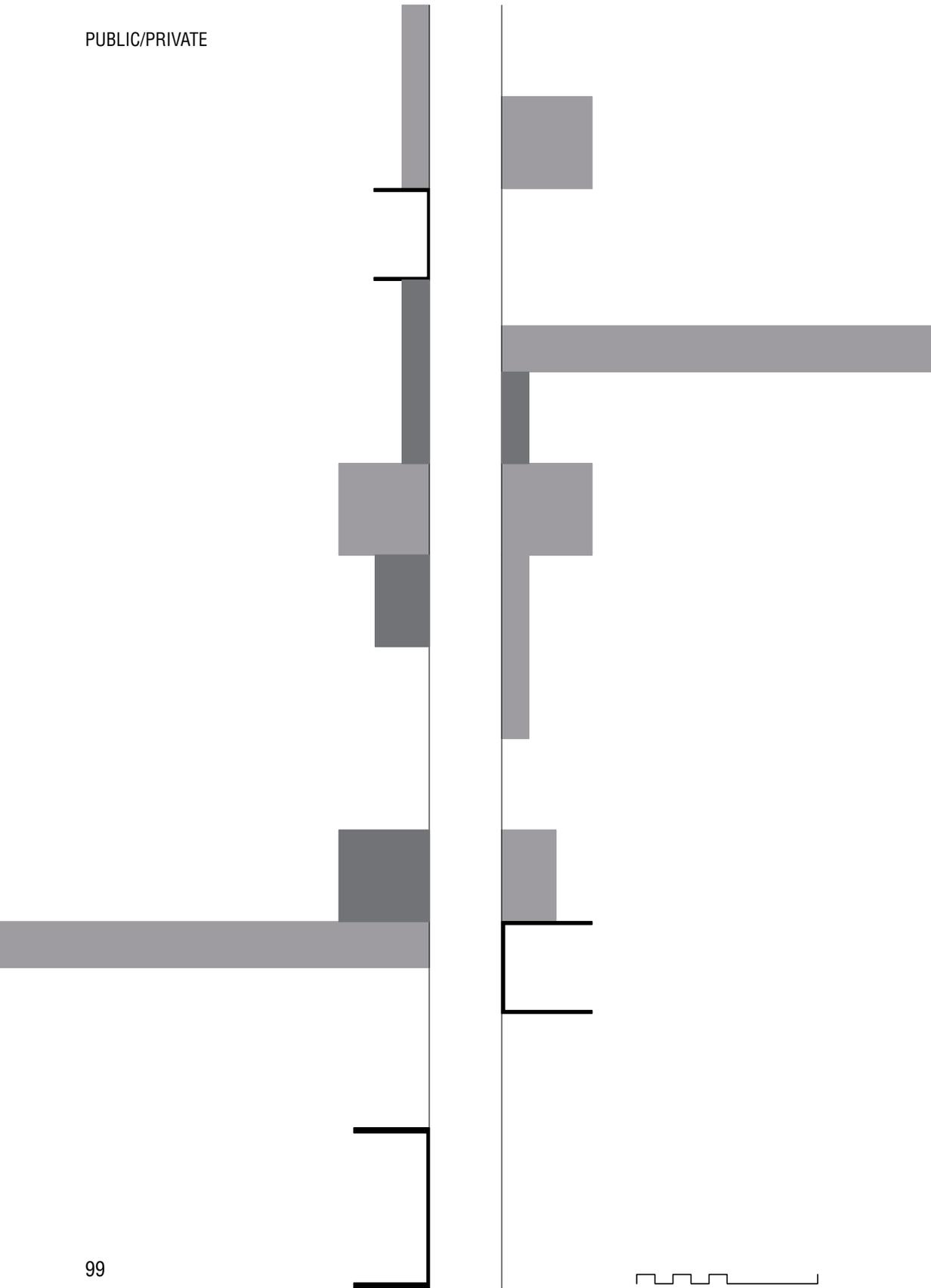
⁹These aspects were taken from Prof. Akito Murayama project Experiences in Nishiki 2 district, to mobilize the community and improve the public space.

Linear typical street
4m wide

Public space



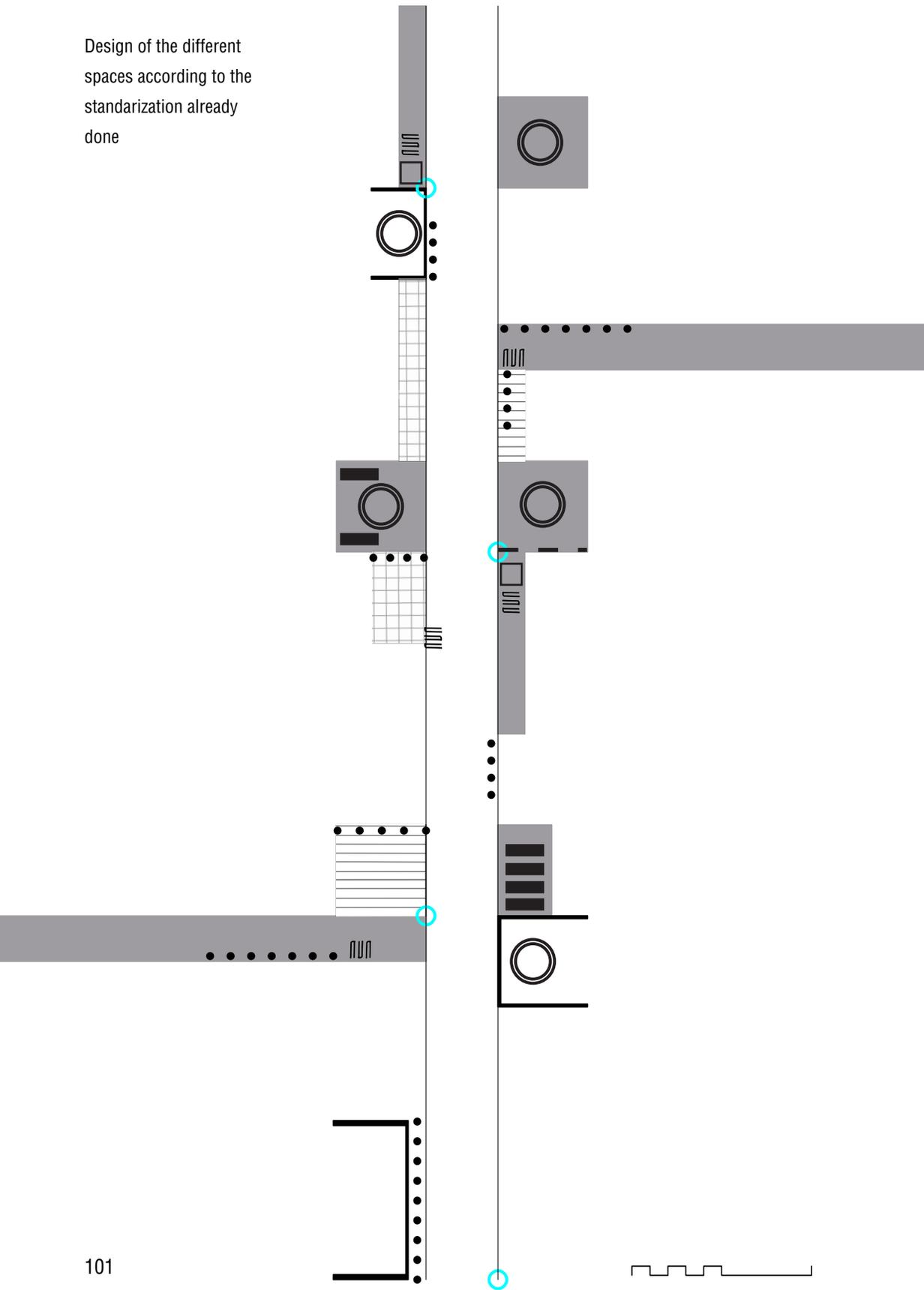




Real shape of the street
Not linear, with no
straight boundary



Design of the different spaces according to the standarization already done



CONCLUSIONS

In the aims of understanding the Japanese street, the first design exploration was done to create an example of road and see how the vision of housing is being seen now by the new architects in Japan. It was seen that several types of housing are being developed, from narrow houses probably due to densification in the different cities (some of the projects chosen are not in Tokyo), to houses that completely dissolve the boundaries between public and private, like SANAA's proposal in which it can be seen in side the house some streets, that merge in to the city making it difficult to differentiate the boundaries between public and private. The conception of housing affects also the way the street is arranged, as it is a n important element of it, the singles houses as main units and detached from each other are an important determinant for the street in Tokyo.

The conception of public space is completely different in western cities than in Japanese ones, is because of this that it results very complicated to do a parallel between them. The culture influences so much in the understanding of spaces, in this case of public space that conceiving public space as we do in Japan can result controversial and not embraced by the community. The role that the square or piazza played in western cities is occupied here by the street. Through history it has shift from place to place, but it is spontaneity the quality that marks the difference, the fact that there is no designated place for this. Most of the time social gatherings and interactions occurred in the backstreets and fire brakes, becoming the main points of society, but with the pass of time some of these characteristics have being lost, and remain just as a memory.

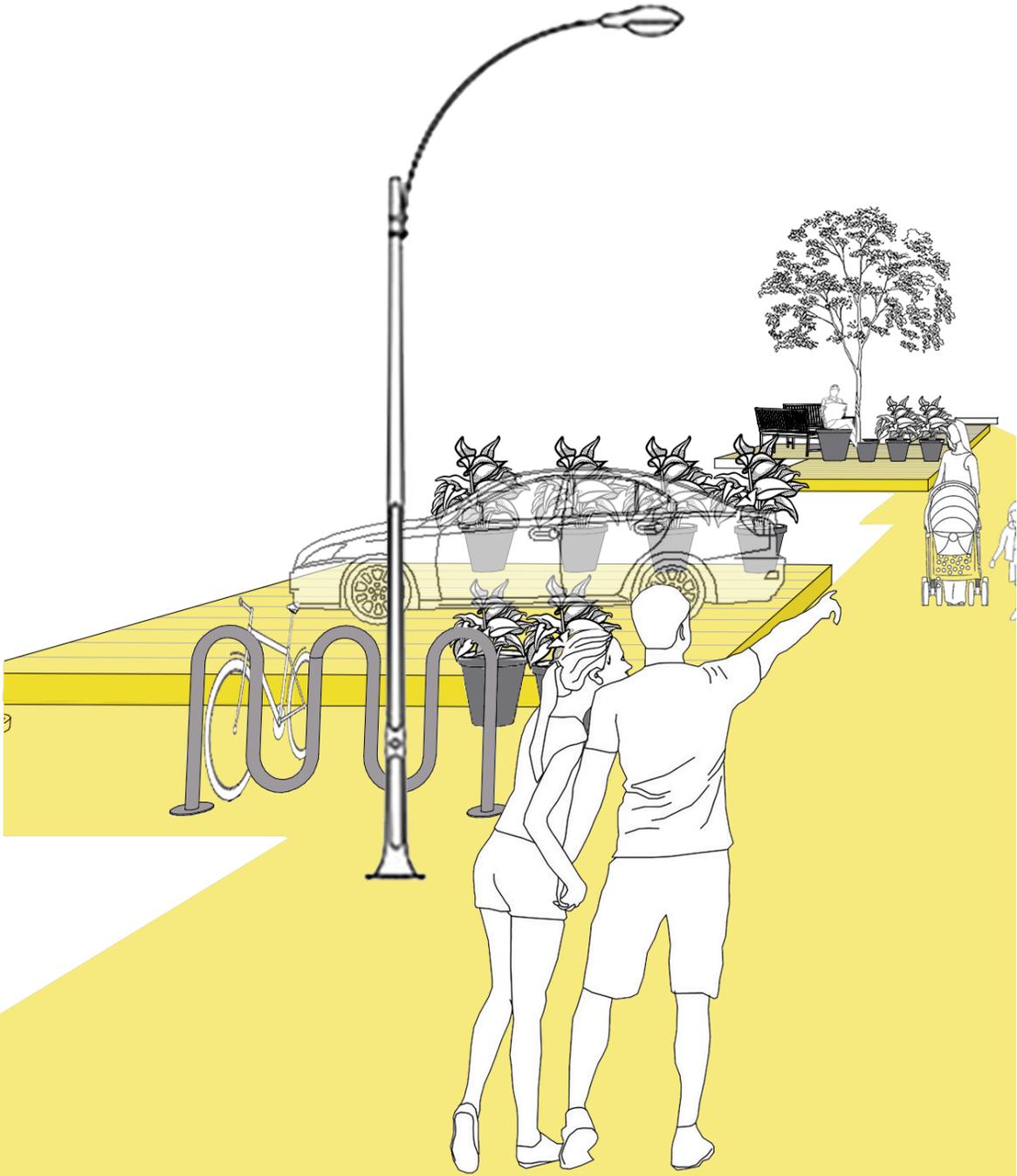
The Japanese street has a complex character, for understanding it is necessary to take several aspects into account. Its not only about the complexity of its forms and the morphology of the city, understanding its history helps to give meaning to the several actions happening on it. To its compositions, and to its different parts. The Japanese residential street is more than a mobilization place, its users appropriate it as it was part of their own house, the free vegetation that invades the streets dissolve the barrier between private and public and makes it a place for its residents to socialize and remain. Also, the vending machines that can be found through the streets give the impression of being in a place to remain. The nonexistence of a sidewalk can be considered a disadvantage for pedestrians, but when looking carefully this avoids high speed in cars. Making

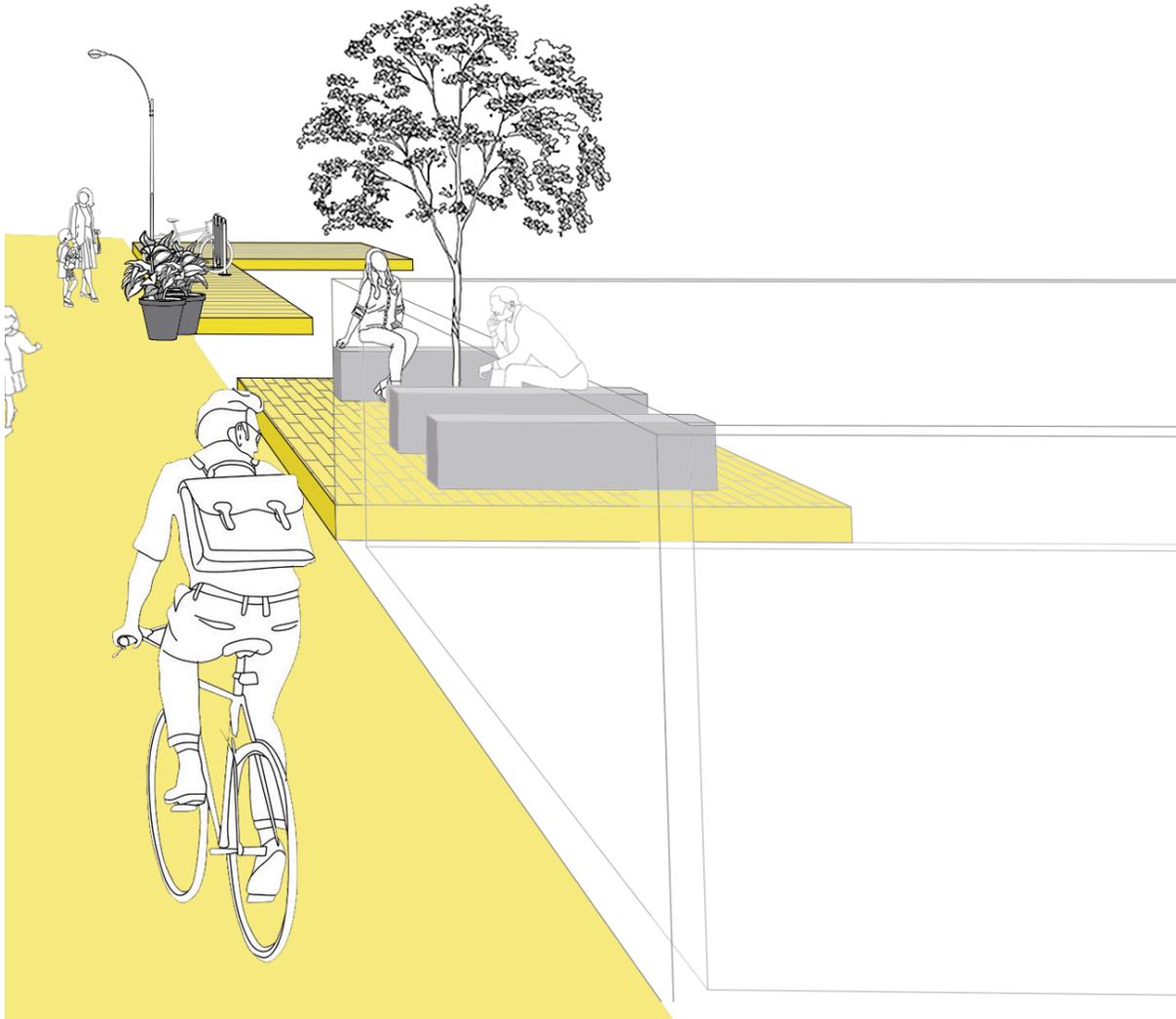
cars, bicycles and pedestrians coexist, being one of the few spaces that cars have not gain more importance over pedestrians.

Engaging people into social activities is vital to promote, more livable cities. The street plays an important role in the live of cities and should be plan more carefully to promote a community sense and attachment to a place. Its true cars and mobility are important for society now but considering the importance of the street in the Japanese society would be interesting to promote and try to maintain the character it has. Preventing the continuous “westernization” of Tokyo (even though Tokyo is already a cosmopolitan city). This can be achieved by micro scale interventions that would engage people into socializing, taking advantage of its not linear and solidified limit. Another aspect that could be improved would be the promotion of local commercial places, this to generate stationary social activities, as it is said by Mehta.

In the last design exploration made the goal was to propose an imaginary, considering the that the Japanese street carries this important connotation of social space, and for many years was the center of social activity, what would happen if this public space was not the remaining space that adapts after the architecture is done, but it turns into what is conceived first (thinking in the community first than in the individuals) and is architecture later who must adapt and dialog with it? Would this spaces work (knowing that they are design under some parameters, taken from the existing roads and understanding the behavior of its users) in a society where public space is characterized to emerge by spontaneity?

“ “Hokousha Tengoku”; the day when people may walk on the road as the dominant occupants because cars are forbidden... This paradise only appears on Sundays. People feel freedom for a moment. I would say real public space is a dream for the Japanese, which disappears when they wake up in the morning” (Takaharu Tezuka, 2017)





GLOSSARY

HIROBA

Square, open space

HOKOUSHA TENGOKU

“The day when people may walk on the road as the dominant occupants because cars are forbidden. Hokousha means pedestrian. Tengoku means paradise.” Takaharu Tezuka

INUYARI

Dod-spear. Is a type of skirt, of curved bamboo located in the bottom part of the houses, its use in the pass seems to be to prevent dogs from peeing in the border of the houses.

KOMAYOSE

Small fence to keep put people and horses, more used during the Edo period.

MICHI

combination of the prefixed MI (used to praise the beauty of a thing) and CHI (vaguely indicates a direction).

NAGAYA

House, tenement

ROJI

Alley, alleyway. Can also mean un cover earth (without a roof)

SAKA

Not only a road but a boundary (sakai)

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GOOGLE MAPS

NAKACHO

<https://www.google.it/maps/@35.6991641,139.7357424,3a,75y,74.07h,88.75t/data=!3m6!1e1!3m4!1sjXWrPRemWaAHLajS0yiz0Q!2e0!7i13312!8i6656>

MEJIRO

https://www.google.it/maps/@35.721994,139.6939682,3a,75y,254.73h,87.03t/data=!3m6!1e1!3m4!1sR94AHbNiKthSEveD_Av6Xw!2e0!7i13312!8i6656

TOMIGAYA, SHIBUYA

<https://www.google.it/maps/@35.6656457,139.6899475,3a,75y,208.48h,85.35t/data=!3m6!1e1!3m4!1sIXjyYoqOEP07v00pv5Chyg!2e0!7i13312!8i6656>

