

**Building
Community
through
Design:
An Evaluation of a
Co-Living Project
in Milan**

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Dedicated to ourselves and our families who have been there for us.

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Abstract

Our research was in part influenced by the work done currently in the Architecture and Urban studies Apartment at Politecnico di Milano about the development of new ways of housing in the contemporary world. It takes a deep look at the collective living movement as an answer to many of the current problems that Italy and Europe are facing. Among the many trends affecting us nowadays are a lack of affordable housing, a growing gap between how much workers earn and rental prices, an ageing population in the EU and increasing inequality. Amid these problems, co-living has emerged as a response to a variety of issues. Collective housing is in fact nothing new, it has existed for many years as a solution to these problems, but interest in new types of them is on the rise once more. The demand for affordable housing is especially high in Milan, which added to the social problematic is creating new problems which are not being addressed in the current market. We think that the role of architects in this matter is to be informed on what has been done until now, studying case studies and what we can design being aware of the current housing crisis.

Our research tests if collective ways of living can be done in the context of social housing. Not done in a way that produces utopian buildings like it was done in the 19th century, but as a response to real needs and adaptation of existing regulations that have proved to be obsolete. The flexibility of an existing building which was originally built as social housing is where this can be tested. We explore this flexibility in terms of new typologies of mixed-use buildings, is it possible to combine living and working in our building, or to introduce public and commercial spaces in our buildings. We take a look at the boundaries of the private and the public because collective living is based on the idea of reducing privacy and placing greater emphasis on the community.

PART I

Different ways of living together

Current problematic

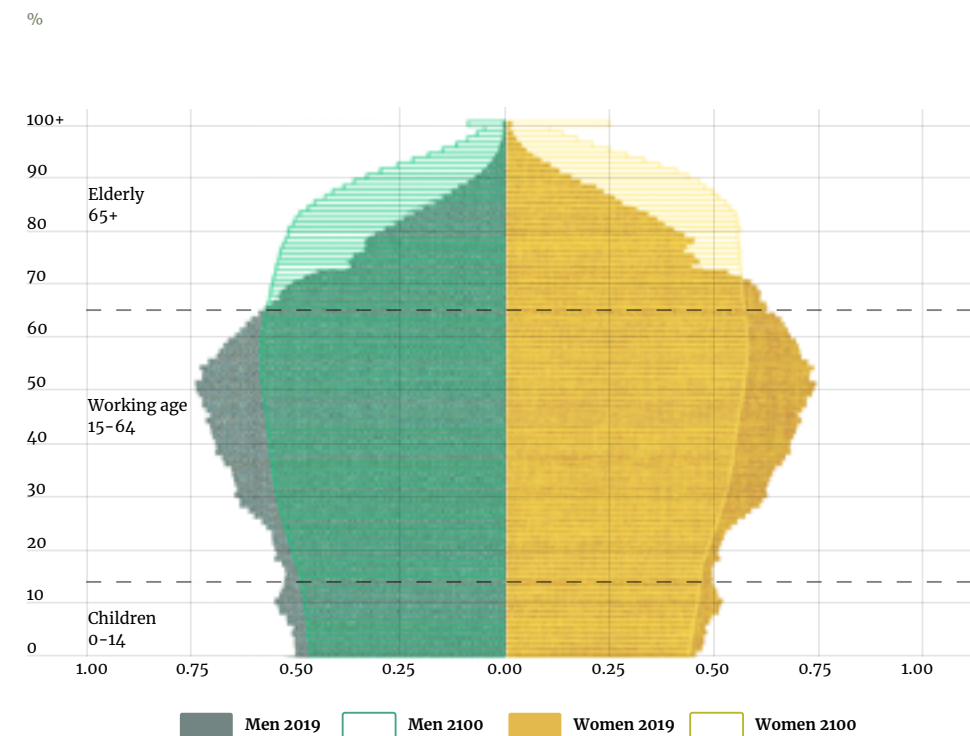
Changing Demographics

The European Union has been dealing with several demographic and societal changes in the last decades. The family structure has changed, the population is getting older and families are made up of less people, which has fragmented the housing demand. (N. Caruso, 2017). Because of this, society and architecture are transforming at different rates and, as the Canadian center for architecture (CCA) puts it: “Though architecture and society both change and evolve, they do not necessarily undergo transformation at the same pace, a condition that often leads contemporary life to be misaligned with the spaces it occupies” (CCA, What, If Not the Family?, 2021).

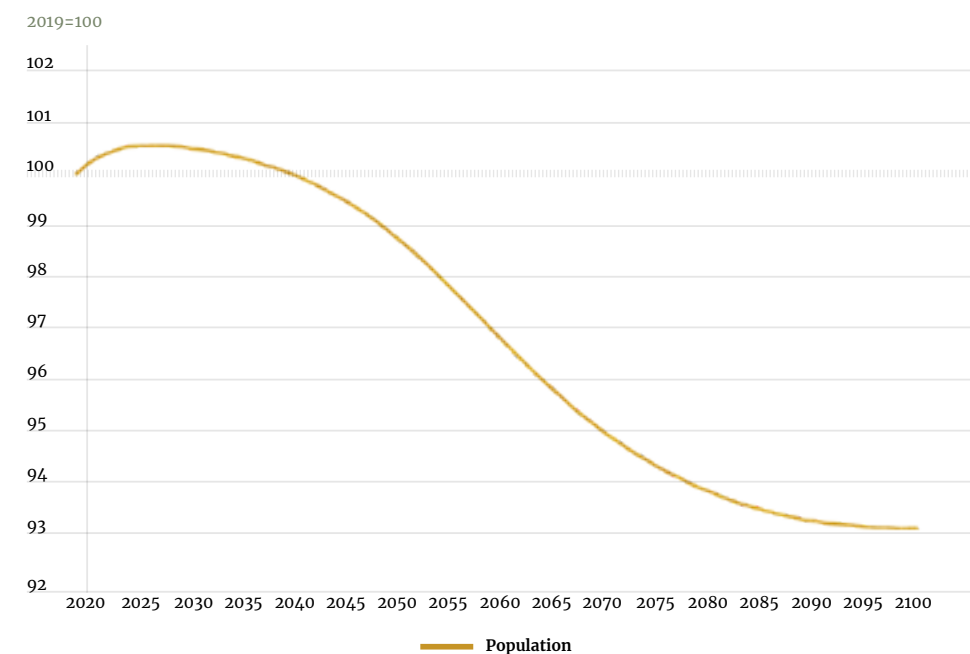
These trends are only going to continue, according to Eurostat the EU population is projected to increase from 446 million in 2019 and peak to 449 million in 2026 (+0.26%) but decrease to 441 million in 2050 and to 416 million in 2100, with an overall decrease of 30 million (-6.9%) from 2019 to 2100. This trend is especially notorious in Italy, where the population will go from 60.3 million in 2019 to 51.4 million in 2100 (-17%) (“Eurostat, Population Projections in the EU,” 2022).

The ageing of the European population will be one of the most visible changes in the years to come. The proportion of children (0-14 years) will go from 15.2% in 2019 to 13.9% in 2100. The proportion of working age population (15-64 years) in the EU total population is projected to fall from 64.6% in 2019 to 54.8 by 2100, which also means the increase of the older generation. This shift in the population structure towards an older society will continue in all European countries. The number of people over the age of 80 will more than double from 26.0 million in 2019 (5.8 %) to 60.8 million (14.6 %) in 2100. (“Eurostat, Population Projections in the EU,” 2022). Among the reasons for this is the lower number of births, also called “ageing at the bottom”. Low levels of fertility over the coming years will contribute to an ageing of the population, which also means the proportion of younger people will be lower in the total population. (Eurostat, Population Structure and Ageing, 2022). Another interesting fact is that the median age in 2020 is the highest in Italy among EU countries, which is 47.6 years.

Population pyramid EU: 2019-2100



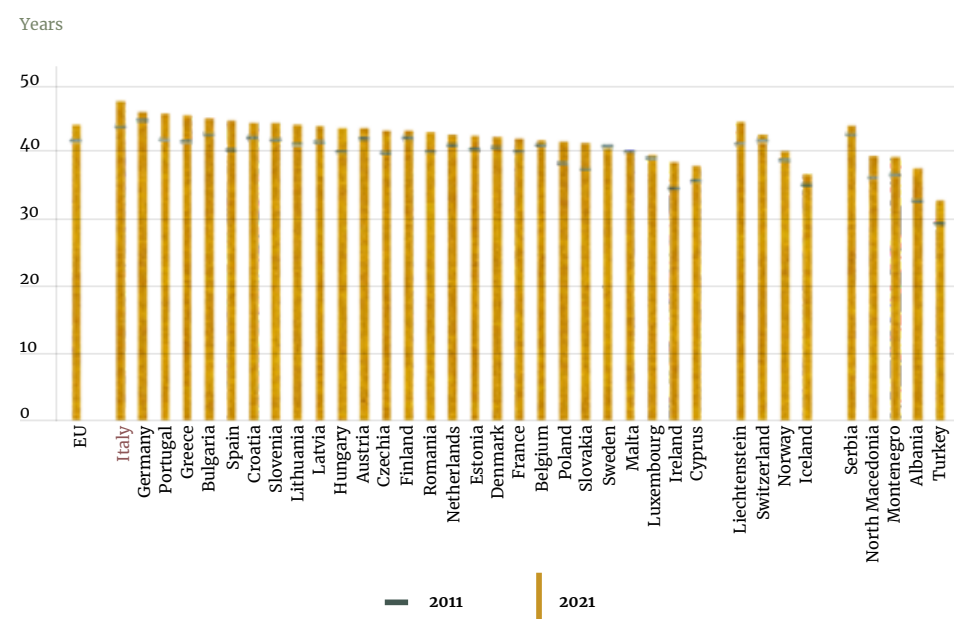
Projected population EU: 2019-2100



Since the 1960's the fertility rate has been in decline in the EU. At the beginning of this century, however, it began to show signs of rising, but this trend didn't continue after 2010. In 2020, the fertility rate is at 1.5 live births per woman, whereas in 2019 it was 1.53. (Eurostat, Fertility Statistics, 2022). In Italy alone the total fertility rate in 1960 was 2.40 and in 2020 it is 1.24. Fertility rates fell well below the level for population replacement, which is 2.1 children per woman on average. Europeans are simply having fewer children than before, which is why the population has been slowed down. At the same time women in the EU are having children older than they used to. In the year 2020, the fertility rate of women who are 30-34 years of age became the highest among all the age groups. The fertility rate at ages higher than 35 is also on the rise. Italy belongs to the group of EU countries where women have a higher mean age at the time of the birth of their first child and live in a country where the total fertility rate is lower than the EU average (Eurostat, Fertility Statistics, 2022).

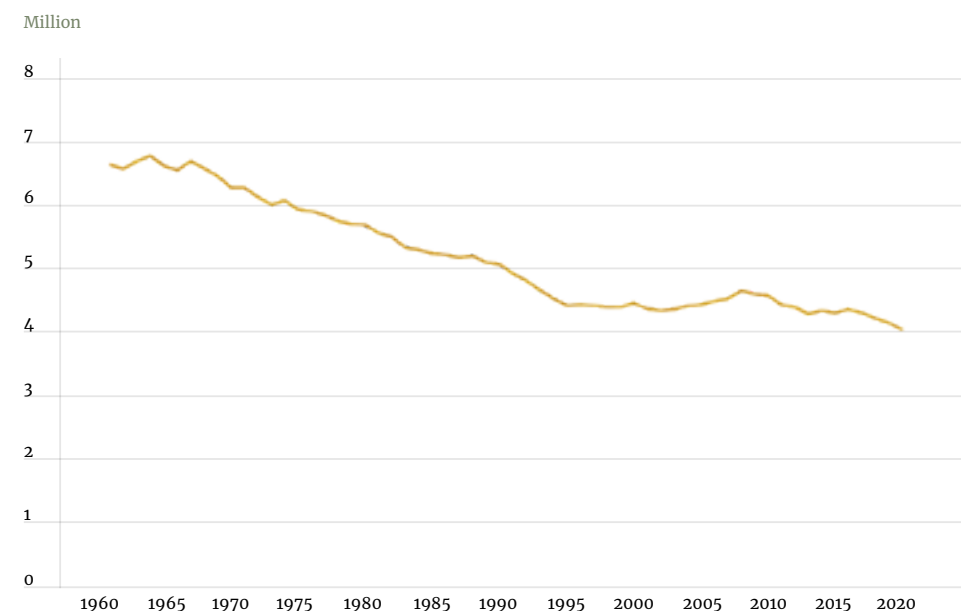
The consequences of this are a change in the structure of family patterns. We are seeing a diversification from the traditional family to a wide range of different partnership and childbearing trends. Parallel to low fertility rates and the postponement of parenthood, Europeans are also less prone to marry and if they do, they do it older than before. Since 1964, the marriage rate in the EU has declined by more than 50 % in relative terms (from 8.0 per 1 000 persons in 1964 to 3.2 in 2020). (Eurostat, Marriage and Divorce Statistics, 2022). This does not mean that young people refrain from co-habiting. The decline of marriage is also linked to the increasing

Median age of population, 2011 and 2021



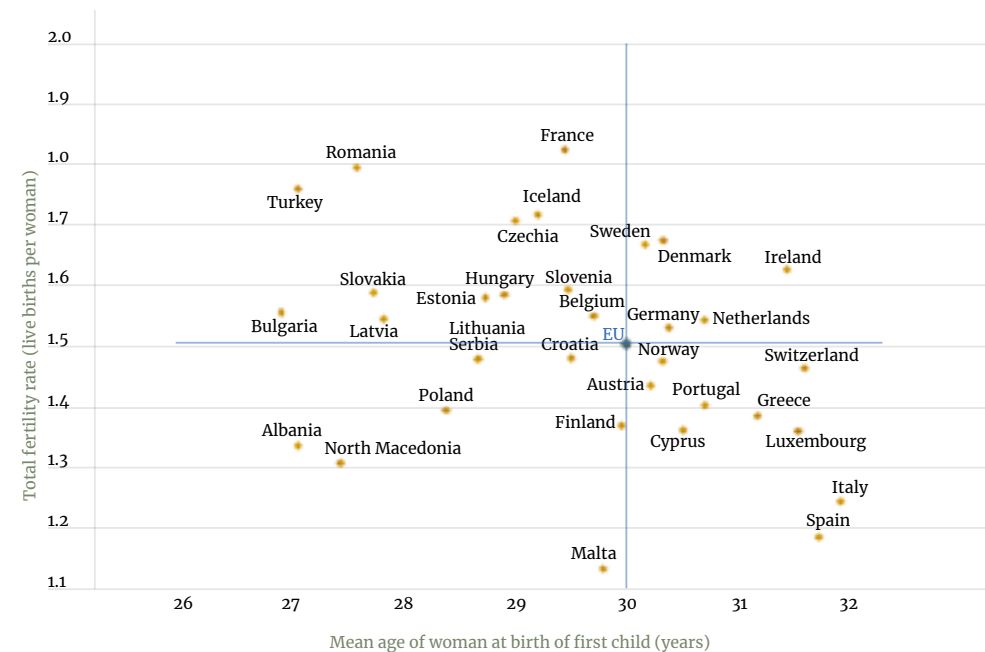
Source: Eurostat

Number of live births EU: 1961-2020



Source: Eurostat

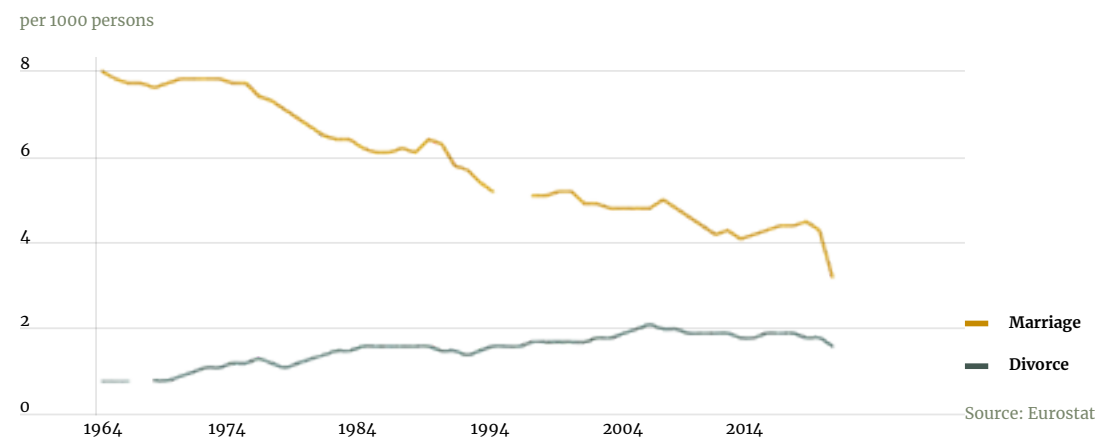
Fertility indicators: 2020



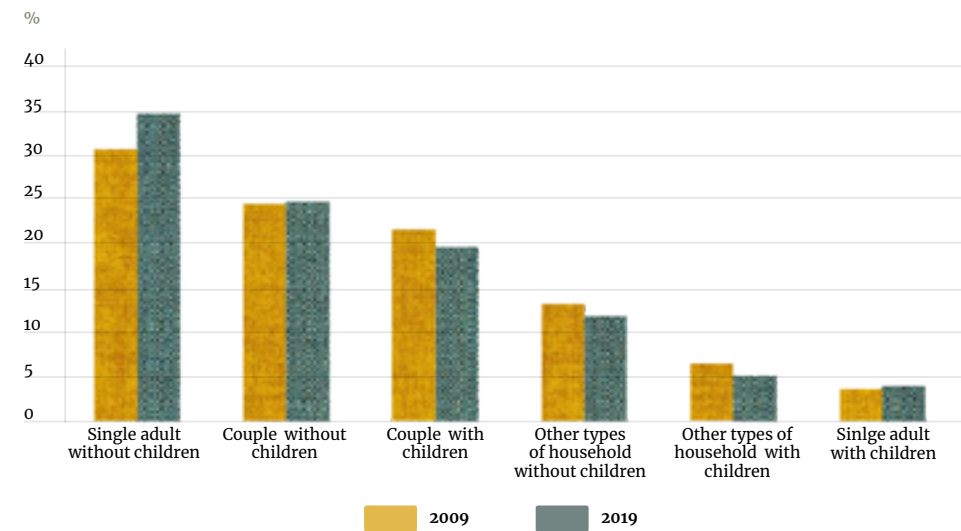
Source: Eurostat

of non-marital cohabitations (registered partnerships) in all of Europe, which have slowly been appearing as legal alternatives to marriage. The proportion of live births outside marriage has shown an increase the last years, it has doubled since 1993 (17.7% in that year and 41.9% in 2020). There is a large variety of household composition in EU households. The traditional “nuclear family”, composed of a couple with children, is becoming less common all over the world, including the EU, where the share of adults living alone is 34.6%. (Eurostat, Being Young in Europe Today – Family and Society, 2020). If you add this number to the percentage of couples without children (24.7%) you realize that they are well over 50% of all households. Men and women want to establish themselves in the labor market before risking having children. This is part of the “risk aversion” explanation, where future costs and benefits are difficult to foresee and calculate appropriately and thus young people postpone all family decisions and instead decide to focus their career paths (Ulrich Beck, 1999). After seeing this numbers, it is no surprise that all projections indicate an increase of couples living either without children or alone. Nuclear families as a proportion of all households are declining in all EU countries. The single-person household is increasing and is expected to continue to do so, although in the long term, retired-couple households will slowly appear more.

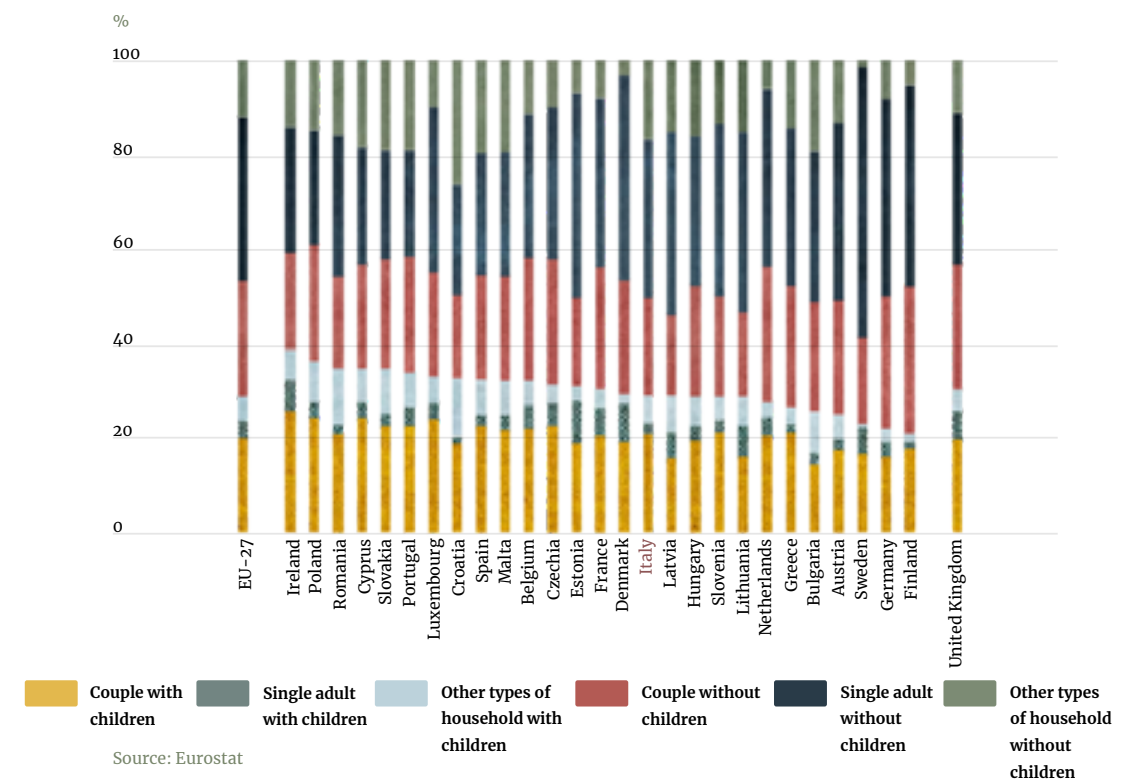
Crude marriage and divorce rates EU: 1964-2020



Private households EU: 2009 and 2019

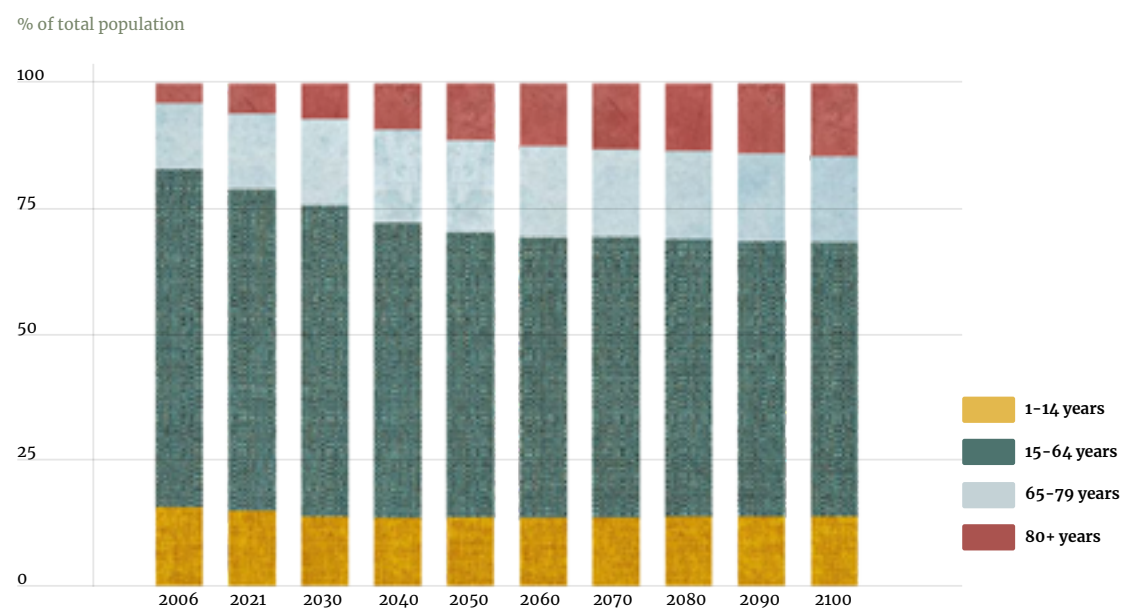


Private households EU: 2019



Another important aspect to consider is the transition to adulthood, which includes leaving your parents household to study or work, to go live with a partner or getting married. In 2019, young people left their homes until the average age of 27.1 for men and 25.2 for women. In Italy, the mean age of leaving the parental home was above 30 years, and also after emancipation, Italians are also more likely to live in continued proximity to their parents. (Eurostat, Age of Young People Leaving Their Parental Household, 2021). The late age at which Italians leave their home appears to be linked to the rate of employment and to wages being lower than the average for industrialized countries (Gian Carlo Blangiardo and Stefania Rimoldi, 2014). In eastern and southern European countries, the transition takes place later, which also results in late union formation and childbearing. Different economic conditions and culture affect largely these processes. The rising of rent in major cities across Europe in combination with economic crisis or the pandemic can heavily influence the living arrangement of young people. For example, in the Netherlands there is a strong government control of public housing, which makes it easier to live in an independent way. If you combine this with the fact that the competition among specialized jobs has become very intense, which has led to a prolongation of the education years you begin to understand why young adults are taking longer to leave their parents' house. One aspect that we want to mention is the mental wellbeing of people who live alone in the European Union. In the age group of 35-64, as well as those 65 and older, it is reported that they experience greater social exclusion and worse mental well-being

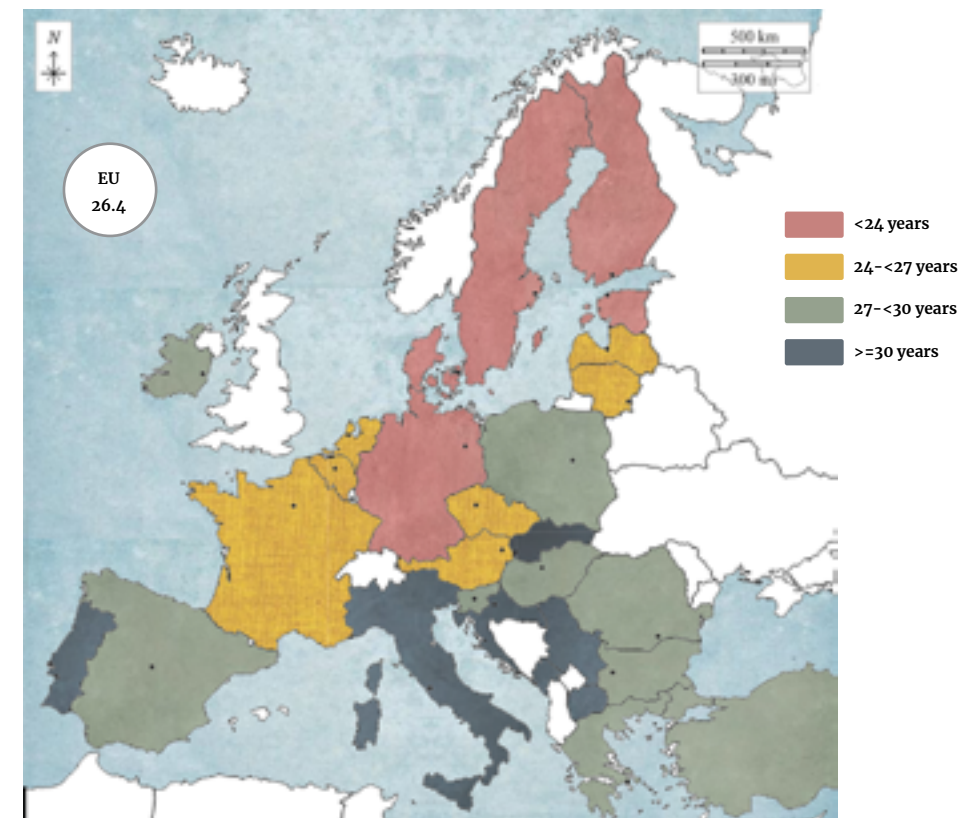
Population structure by major age groups EU: 2006-2100



Source: Eurostat

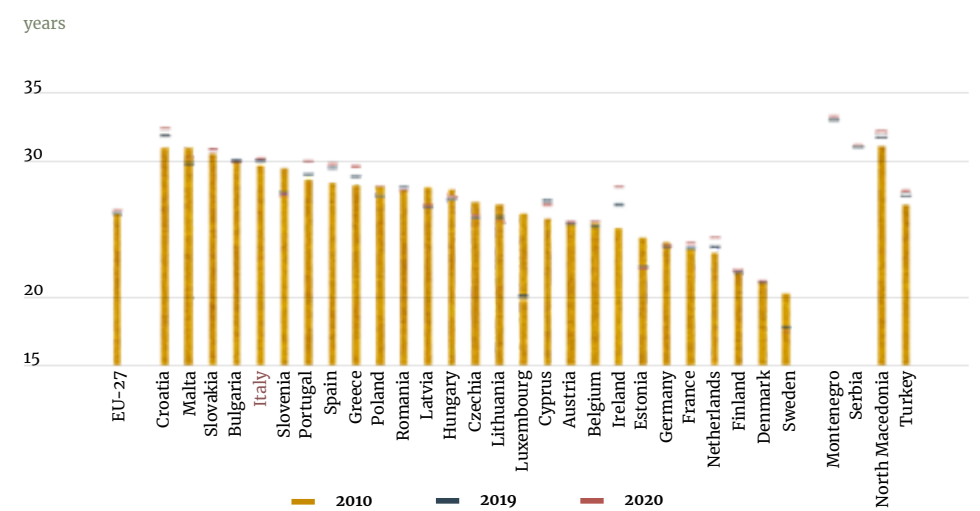
Young people leaving the parental household EU: 2020

estimated average age in years



Source: Eurostat

Estimated average age of young people leaving the parental household EU: 2010, 2019, 2020



Source: Eurostat

than people who are the same age but live with more people. So, although living alone can bring some benefits it can also cause loneliness and social exclusion (Eurofund, 2019).

Changes in family structure over the last decades is also heavily linked to a higher participation of females in the labor force. From the 1970's, women's participation has been the same as men in Scandinavian countries. Southern Europe is still behind but has certainly caught up with this trends since the late 1990's. Along with this, female aspirations for education have increased over the last decades. (Livia Sz. Oláh, Irena E. Kotowska, 2018). This has caused an expansion of the female role to an economic provider of the household and a transformation of the role of men, who are now more involved in family responsibilities. Women are outperforming men in formal education in the last years and have more education than in the past. Interestingly enough, women aged 65 or more (40.2%) are much likely to be living alone than older men (21.8%). (Eurostat, Ageing Europe - Statistics on Housing and Living Conditions, 2020).

Social exclusion, mental well-being and loneliness EU: 2016

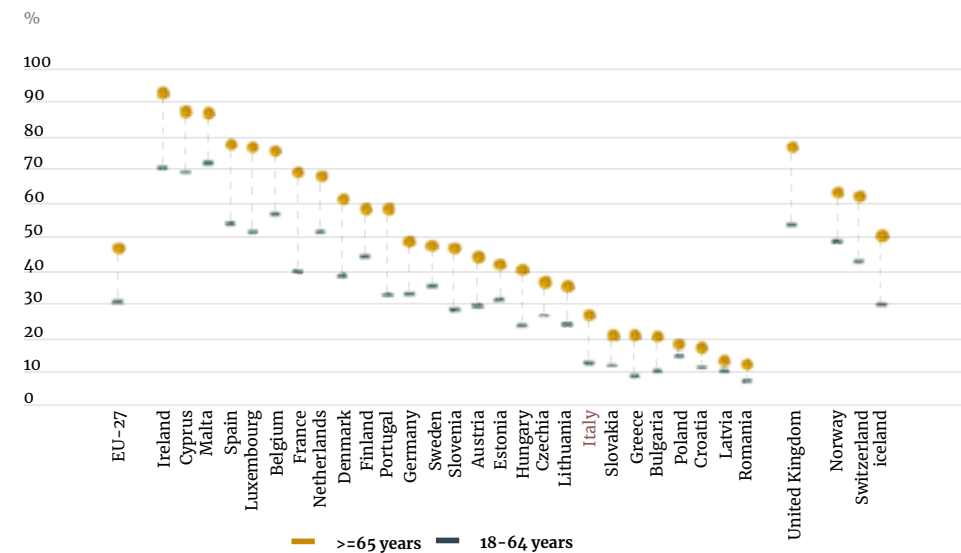
by age

	18-34		35-64		65+		Total	
	Lives with others	Lives alone	Lives with others	Lives alone	Lives with others	Lives alone	Lives with others	Lives alone
Social exclusion index	2.2	2.1	2.1	2.3	2.0	2.2	2.1	2.2
WHI-5 mental well-being index	68	67	64	60	63	59	65	61
Loneliness	3%	9%	5%	14%	5%	18%	5%	15%

Notes: Green shading indicated more favourable outcomes; red, less favourable. For the youngest age griup, differences in social exclusion and mental well-being between people living alone and others are not statistically significant.
Source: Eurostat

Another seemingly important reason for the changing demographics and family structure is migration, although as we will see, there are a few misconceptions in this subject. The openness and diversity of a city life emphasize the pleasures and challenges of dealing with different ideas and different cultures on a daily basis. The percentage of migrants in the world population in 2019 was more or less what it was in 1960 or in 1990, that is around 3% (United Nations, International Migration Population Facts, 2019). The EU receives on average between 1.5 and 2.5 million non-European migrants every year from all over the world. This is in fact less than 1% of the population of the EU. The majority of these are legal migrants, people who come to study or with job offers. In 2015 and 2016 there were unusually more refugees, but by 2018 the number was back to 638'000, about one for every twenty-five hundred EU residents. This is an especially controversial issue, but the winners of the 2019 Nobel Prize

People living in under-occupied dwellings, by age class: 2018

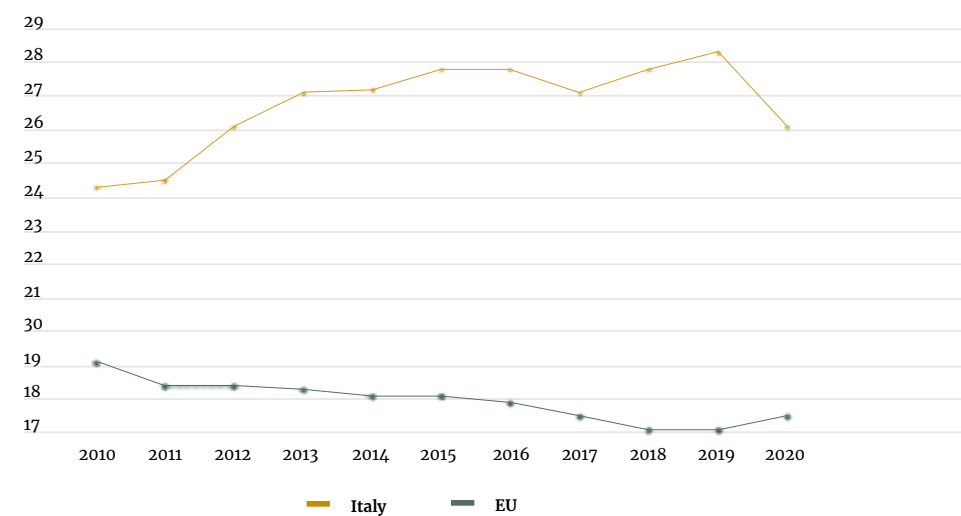


Note from eurostat: a dwelling is defined as under-occupied if the household living in it has at its disposal more than the minimum number of rooms considered adequate, which is equal to: One room for the household; one room per couple; one room for each single person 18+; one room per pair of single people of the same gender between 12 and 17 years old; one single room for each person between 12 and 17 years old not included in the previous category; one room per pair of children under 12 years old.

Source: Eurostat

Overcrowded homes

% of the total population living in an overcrowded home



Source: Eurostat

in economics, Abhijit V. Banerjee and Esther Duflo, think that we have the resources to address these challenges with intelligent interventionism to reach for a society built on respect and compassion:

“But the best way to help (and therefore perhaps encourage) migrants while making locals more accepting is probably to ease their integration. Offering housing assistance (rent subsidies?), pre-migration matching to a job, help with childcare arrangements, and so on would ensure that any newcomer quickly finds a place in society. This applies both to internal and international mobility. It would make those who hesitate more likely to make the trip and allow them to become more quickly a part of the normal existing fabric of the host communities.” (Abhijit V. Banerjee and Esther Duflo, 2019).

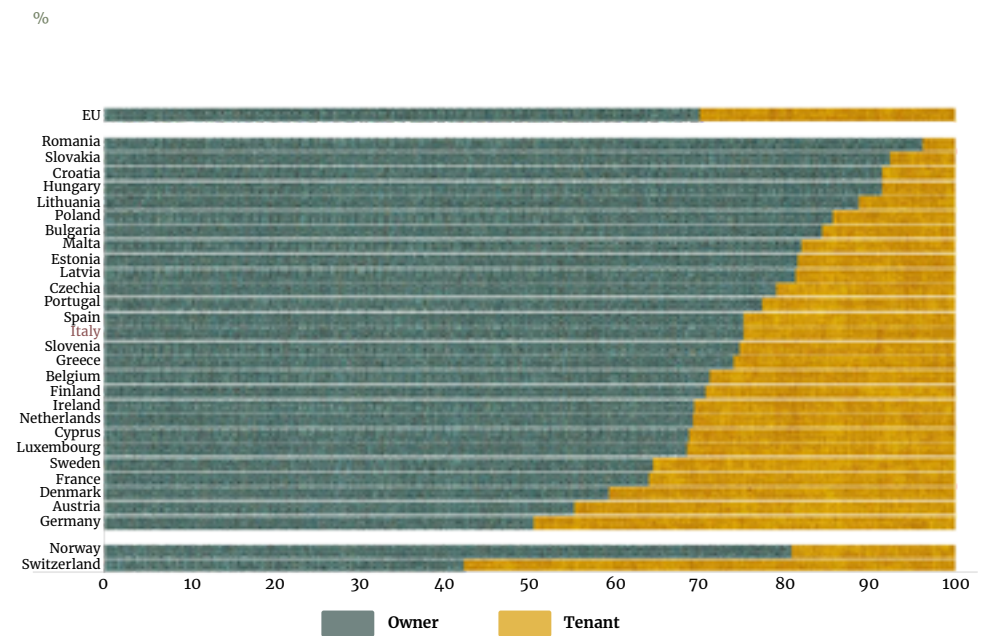
All of these changes have been causing a shift in the ways we are living and what the meaning of family really is. In order to better understand the current situation of modern societies, it is important to realize that the family is a dynamic and complex entity, which can change many times over its life course. Families are no longer about well-defined roles; they are being negotiated all the time and parallelly are being affected by the outside world of politics and economics.

Srtuggle to find a place to live

As society and culture shifts through time, the architectural solutions need to change as well. The current sociological and economic trends affecting western countries are creating complex problems for which the design responses need to be appropriate. The built environment conditions and the way we live, are important to observe because it molds the changes and evolution of our society and environment. The tendencies of the market economy over the last years keep increasing the prices of homeownership and rent and the stagnation of wages have created crisis in the housing sector and problems in affordability. On top of this, the notions of what it means to be a family and how to live together are also evolving, so as a result people are finding it harder and harder to find a fulfilling place to live.

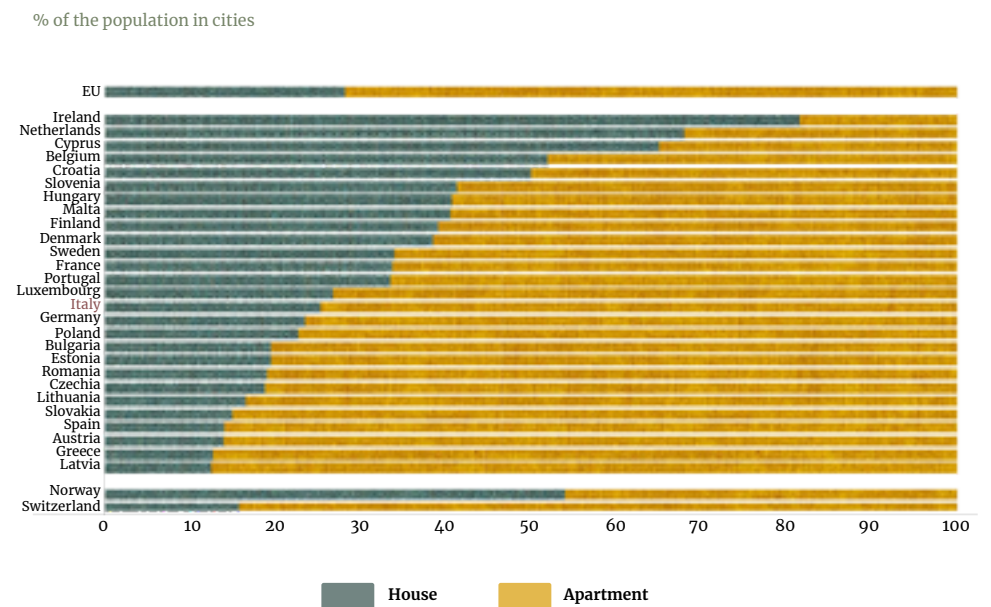
We have researched how the traditional family is no longer the majority of the population, but instead the image of the contemporary home does not look different than before. As the notions of family are evolving, we explore the current problematic of the west, where we seem to be living in a constant housing crisis, especially in dense cities. This crisis, which is related to macro-economic trends and, as we have seen, changing demographics, has led to questions about the efficiency of the owner-occupied

Share of people living in households owning or renting their home EU: 2020



Source: Eurostat

Type of housing in cities EU: 2020



Source: Eurostat

home for the traditional nuclear family. In 2020, 70% of the inhabitants of the EU lived in a household owning their home, while 30% lived in rented accommodation; 20.4 % of the population were tenants living in dwellings with a market rent, while 9.6 % lived in rent-free or reduced-price dwellings. Also, 46% of the people lives in a flat and 53% in a house, but in cities, which host about two thirds of Europeans, 72 % of the EU population lived in a flat and 28 % in a house (Eurostat, Housing In Europe, 2021).

When we look at the house prices between the years 2010 and 2020, we find that there has been an increase of 32.2% of house prices over the decade in the EU, particularly between 2015 and 2020. The rent prices have also been increasing in the last decade, there has been an increase of 14.8% of rent prices over the decade in the EU (Eurostat, Housing In Europe, 2021). The concerns about housing are ranked high among younger people, according to the OECD Risks that Matter 2018 Survey, on average a third of respondents in the 20 to 34 age group said that securing or maintaining adequate housing was among their top three short-term concerns. (OECD, “Building for a better tomorrow: Policies to make housing more affordable,” 2021, p. 12)

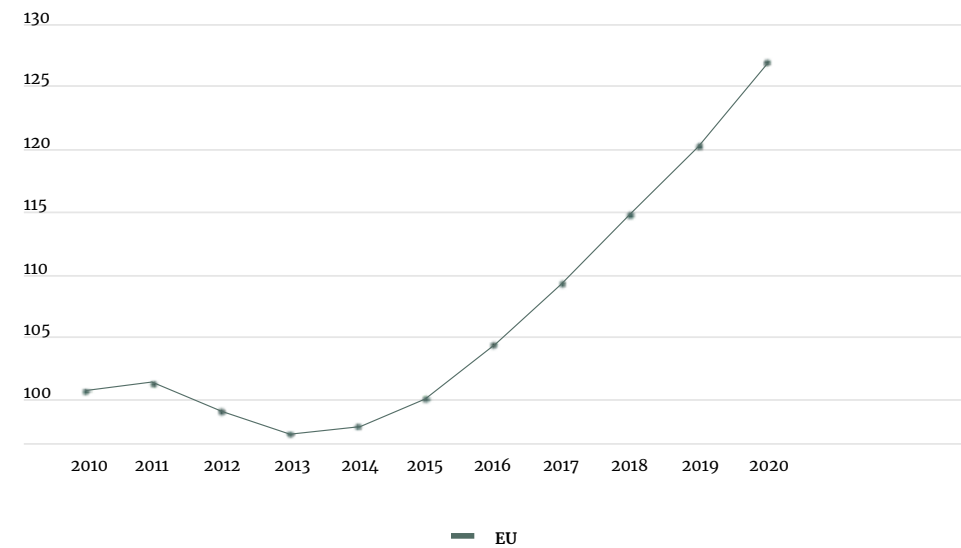
In most European countries, the house price continues to beat the increases in the incomes of most households, a fact that has in recent years also beginning to affect the middle-incomes, especially young workers. There are many factors contributing to this, one of them is the so-called “financialization” of housing. This phenomenon appears as housing markets have become vehicles for the accumulation of wealth by just a few private investors, considering it a commodity instead of a social good, thus failing to meet the needs of normal households. (Van Heerden, S., Ribeiro Baranco, R. and Lavalle, C., 2020)

On an historic level, between 1870 and 2012, real house prices increased in all advanced economies. If you adjust by the consumer price index, house prices in the 21st century are above the level of the end of the 19th century. On average, the house prices have been increased three times since the beginning of the 20th century with the steepest increase in the last decades. (Katharina Knolly, Moritz Schularickz, Thomas Stegerx, 2012).

The trend of rent increases is mostly focused in urban areas, where also the phenomenon of short-termed letting has been appearing. This trend began appearing in many touristic European cities supported by the growth of online platforms, like Airbnb, which has caused a decline in the number of available short-term rentals in many cities in Europe. (Housing Europe, The State Of Housing In Europe 2021, 2021). Basically, rising housing prices, stagnating salaries and declining public investment in housing are increasingly challenging housing affordability in many European countries.

House price evolution

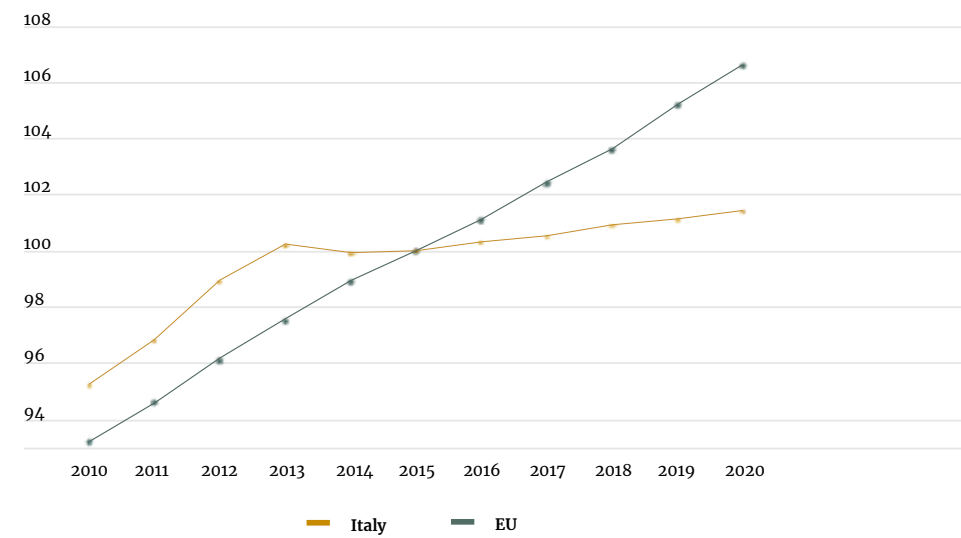
2013=100



Source: Eurostat

Rent evolution

2015=100



Source: Eurostat

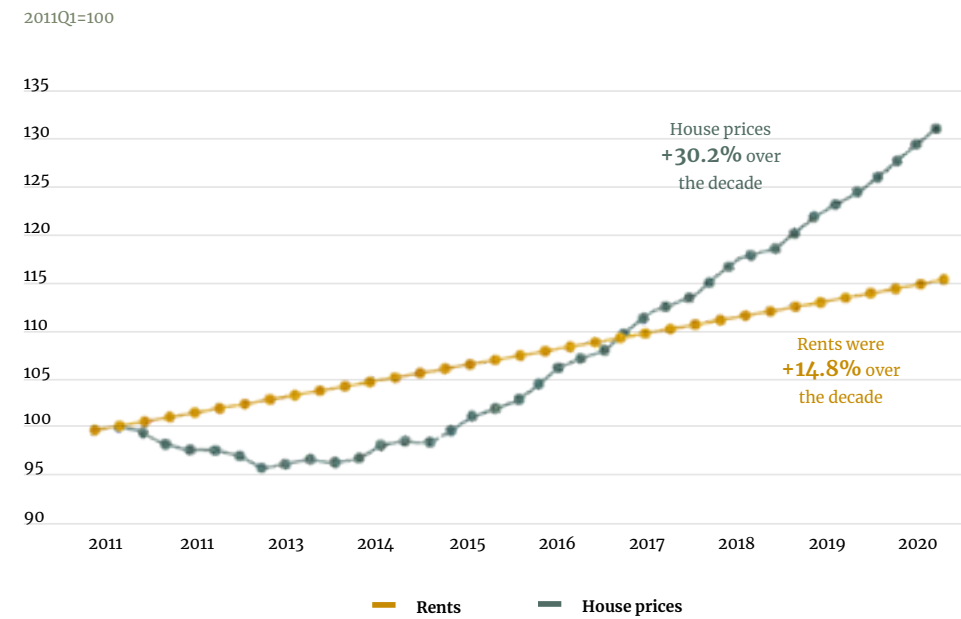
One of the challenges the OECD notes in recent reports is the decline in public investment in housing, which is in part thanks to a shift from the so called “bricks and mortar” investment policies to governments just providing income aid to low-income families, which has also caused an increase in prices. Along the many recommendations the OECD makes in their last report it says: “Investments in social housing construction and renovation can be a central part of a more sustainable, inclusive economic recovery as countries chart the path towards economic recovery in the wake of COVID-19” (“Social Housing: A Key Part of Past and Future Housing Policy”, Employment, Labour and Social Affairs Policy Briefs, OECD, Paris, 2020).

We must also consider recent trends that show the appearance of new categories of people in need of adequate and affordable housing, people from lower middle class with jobs that are not providing enough financial support to access housing on the private market. The most common groups that ask for housing assistance are single parents, couples with two or more children, people with disabilities, elderly men and people with precarious jobs (Eurocities, 2020).

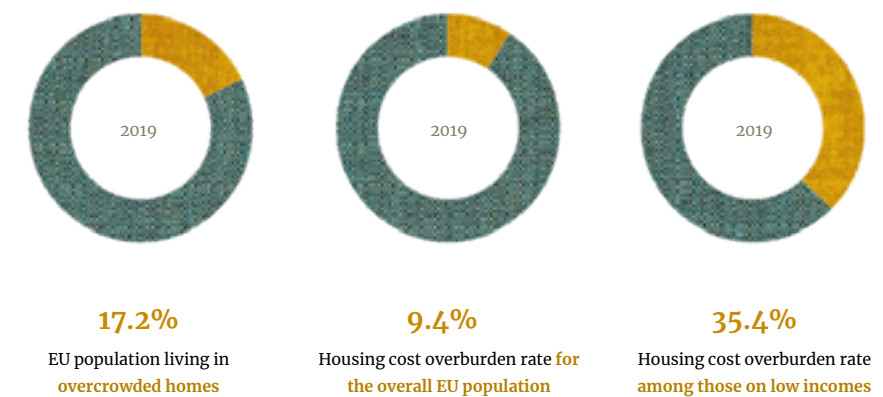
A way of measuring if housing is affordable is with the housing cost overburden cost, which measures the percentage of the population living in households where the total housing costs (‘net’ of housing allowances) represent more than 40 % of disposable income (‘net’ of housing allowances) (Eurostat, Glossary:Housing Cost Overburden Rate, 2021). In the EU in 2020, 12.3% of the population in cities lived in such a household, while the corresponding rate for rural areas was 7.0%. The housing cost overburden was higher in cities than in rural areas in all Member States, except Bulgaria, Romania, Croatia and Lithuania. The highest housing cost overburden rates in cities were observed in Greece (36.9 %), Germany (22.2 %) and Denmark (20.3 %), while in rural areas they were in Greece (23.9 %), Germany (17.6 %) and Bulgaria (16.4 %). We can also discover if housing is affordable by looking at the share of housing cost in total disposable income. On average, 20.1 % of disposable income was dedicated to housing costs in the EU in 2020. If we look the same statistic but for people with an income of below the 60% median in the EU, people at risk of poverty, then the share of housing in disposable income was 40.2 % on average (Housing Europe, The State Of Housing In Europe 2021, 2021).

As we have seen, there is currently an ageing society that will need support in their changing physical needs and in their surrounding environment. As the workforce shrinks, and more pressure for public pension systems start to appear, the demand for social housing will increase. This sector will also have to respond to the new trends, even for the new generations, who are facing a rising in rents and house prices and more instability in the labor market.

Trends in house prices and rents EU



Source: Eurostat



Tenants are almost **X4 times** as likely than home-owners to suffer from housing cost overburden

Source: Eurostat

The impact of Covid-19

While data is still being gathered, the pandemic left an impact on people and countries around Europe and the world. Despite these facts, the pandemic provided an opportunity for reflection on what could be improved and on what's already working. The economy in the EU is starting to recover from the 5.9 % downfall in 2020, growing 5.4% in 2021 and with a 2022 forecast growth of 2.7% (Eurostat, A Macro-Economic Overview, 2022). The unemployment rate, the period from 2009 to 2013 increased from 9.3% to 11.6%. After those years, and coinciding with the recovery after the 09' crash, it decreased continuously until 2019 when it reached 6.8%. In 2020, when the COVID-19 crisis hit Europe, the unemployment rate rose to 7.2%, but in 2021 it stabilized to 7.0%. Unemployment is on decline, but it is still above the pre-pandemic years. The trends remain similar for male, female and youth unemployment, however slightly higher rates for women than men and the rates double when it comes to young people (Eurostat, Unemployment Statistics, 2022).

Inflation in the EU is measured by the evolution of the Harmonized Index of Consumer Prices. In the years from 2001 until 2007 the annual inflation rate was a steady +2%. After 2008, it has shown more variations and in 2021 it reached 2.9%. This year, however, the war in Ukraine has pushed the inflation rate to almost 8.1%. There are significant price variations at a detailed level. Between 2001 and 2021, prices have risen 46% overall, and in Italy, prices have increased by 41.5% in the last 20 years. If you look at the prices of housing, water, gas, electricity and other fuels you see that prices have risen 71.7% in the EU and 64.4% in Italy, and this year it is expected to rise even further (European Union, 2022). When we look at the household disposable income per capita in the EU, we also noticed that it was affected in the last couple of years. From 2000 until 2009, it had grown in total by 14%, then, following the financial crisis it fell by 3% and then rose again between 2013 and 2021 by 14%. In the most recent years, in 2020, household income recorded only 0.4% increase compared to 2019, while in 2021 comparing it to 2020, it rose 2.6%. Italy was one of the first countries to be hit by the pandemic and implemented one of the stricter lockdowns in Europe and was therefore impacted severely: Their GDP fell from 0.9% in 2019 to -9.0% in 2020 and there's been a 10.3% decrease in employment (European Union, 2022). The construction sector was hit considerably in the pandemic, according to Eurostat its growth rate fell 70% from February to April 2020.

Among the many effects of the global COVID-19 pandemic was the general recognition of the importance of having access to a secure, adequate and affordable dwelling place. Trying to come to terms with understanding the impact of the pandemic on our lives and on the housing sector is a complex

exercise, because it has affected the markets, users and the providers in different forms. As the OECD pointed out "the long-term COVID impact is difficult to predict at this point. Possible effects may include companies and workers shifting their preferences towards teleworking on a more permanent basis, changing the nature of demand for housing, as well as commercial real-estate, as well as greater emphasis on quality of and space in our homes." (OECD, "Building for a better tomorrow: Policies to make housing more affordable," 2021). There is no doubt that the pandemic has triggered a reflection of the quality of spaces we need to design to be able to adjust to these new times. And we can see this in the study made by



Source: Medina, <https://www.dw.com/en/coronavirus-what-are-the-lockdown-measures-across-europe/a-52905137>

Maryam Khatibi about two communal housing in Zurich where she analyzes what happened in this typology of dwelling in the previous lockdowns. She studied the clusters -that she describes as apartment housing typologies that combine smaller privately used flats with collective spaces- of the building and by doing a series of methodologies to interview the residents she found out that

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"The residents of the studied cluster-concept apartment have modified the communal spaces in accordance with their needs and conditions in time of Covid-19 pandemic" and one resident shares "it was for sure quite an advantage to live in a community during the pandemic: we had a lot of social contacts during lockdown inside our cluster unit. It was also challenging with the same combination of people that might create some conflicts. Still, I think the advantages are greater"  
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And in her findings, she points out that it is very important for the residents to have a connection with natural light, ventilation and nature or open spaces. That the communal areas between the private units should have the possibility to be adaptable for the residents because this helps them not to feel separate but like an extended family (Khatibi, n.d.).

From nuclear to chosen families

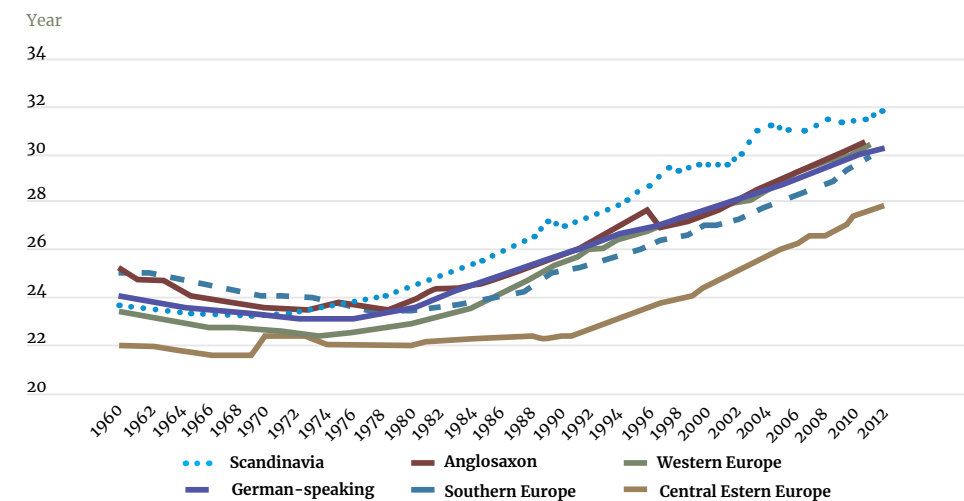
We are probably living through the fastest change in family structure in human history, and as we will find out, the causes are economic, cultural, and institutional all at once. The image we have of the traditional family with the heterosexual parents and the 2.5 children is far from what most people experience in their own life, what we have now is a vast collection and complexity of contemporary families.

Over the last 150 years there was a shift from bigger and interconnected extended families to nuclear smaller families which is nowadays again changing and turning into a spectrum of different categories of family structures. In the mid-nineteen century in United States most people lived in big multigenerational households organized around family business. Steven Ruggles, American professor and historian, calls them “corporate families” and they were 90% of families. During these times, 74 % of persons aged 65 or older resided in multigenerational families, from 1859 to 1990, this trend declined continuously and reached a low point of 18% before starting to increase slightly during the last decades (Steven Ruggles, 2015). Living in a “corporate family” has its advantages and disadvantages, for instance, there is a kind of resilience in having a web of support, if there is an unexpected crisis, more people mean the burden gets shared inside the community. On the other hand, there were issues regarding individual freedom and the fact that most of these families were organized in a patriarchal manner, which meant that men were more favored than women. As we will see later in our work, in Europe there existed a similar concept called the “Whole House”, a self-sufficient unit that produced, lived, and carried out household tasks together. This term describes the living and working group that characterized housing in the “agricultural, trade and commercial sectors prior to industrialization” (Susanne Schmid, 2019). This model evolved after the 18th century into “The Bourgeois House”, where unrelated relatives, servants and employees lived in separate houses, and which became a model for the nuclear family house that was established after the industrial revolution.

As the industrialization began, and factories and work offer began appearing in many cities in late 19th and early 20th centuries, many young men and women started to move there. As this urbanization happened, young people also started to get married and having children earlier than before. When we look at the age at first marriage for men and women, we notice a drop at the beginning of the 20th century with the lowest point in the 1950’s and 1960’s and again an increase until today. A man living in a farm in the 19th century waited until 26 to get married, whilst in the city in the 1960’s, he would marry at 22 or 23, today, the average age of a man at first marriage is around 30 years old (U.S. Census Bureau, Decennial Censuses,

1890 to 1940, and Current Population Survey, Annual Social and Economic Supplements, 1947 to 2021., 2021). The nuclear family boomed in the first half of the 20th century. From 1950 until 1965 divorce rates fell and fertility rates increased. It is during this period that the ideal western family image formed in the minds and culture of most people. The ideal suburban family living in some isolated house with one or two kids was born during these times, but, as we have seen it wasn’t the norm a couple of decades before and it has not been the norm since then. In fact, as Kreider and Ellis point out, in 1970, 80% of children lived with two married parents and about 10% lived only with their mother, but by 2009, the number of children living with married parents dropped to 65% and 24% lived only with their mother (Kreider, Rose Marie, and Renee Ellis, 2011).

Mean age at first marriage for women, 196–2012



Source: Council of Europe (2004); Eurostat

An important factor in the transformation of family structures is the rise of women’s employment. In the 19th century we had a corporate family, with all members invested in the work and the authority put in the senior male. With the industrial revolution came more opportunities for paid male employment which ended slowly the multigenerational family structure of the 1800’s. Then, from 1930 to 1970, the male breadwinner family dominated, but by 1980, female or dual-income families corresponded to more than 50% of married households, today, female breadwinner families are an important category (Steven Ruggles, 2015).

We are seeing a dissolution in the structure of the traditional nuclear family, in 2021 the Canadian Center for Architecture (CCA) made a yearlong project consisting of a series of lectures, an exhibition and articles regarding these subjects related to architecture called “Catching Up with Life”. In an event called “what if not the family” they argue that “fundamental western ideas of family now go beyond genetic ties, a safe haven from the world or a building block of society.” They investigate how architecture

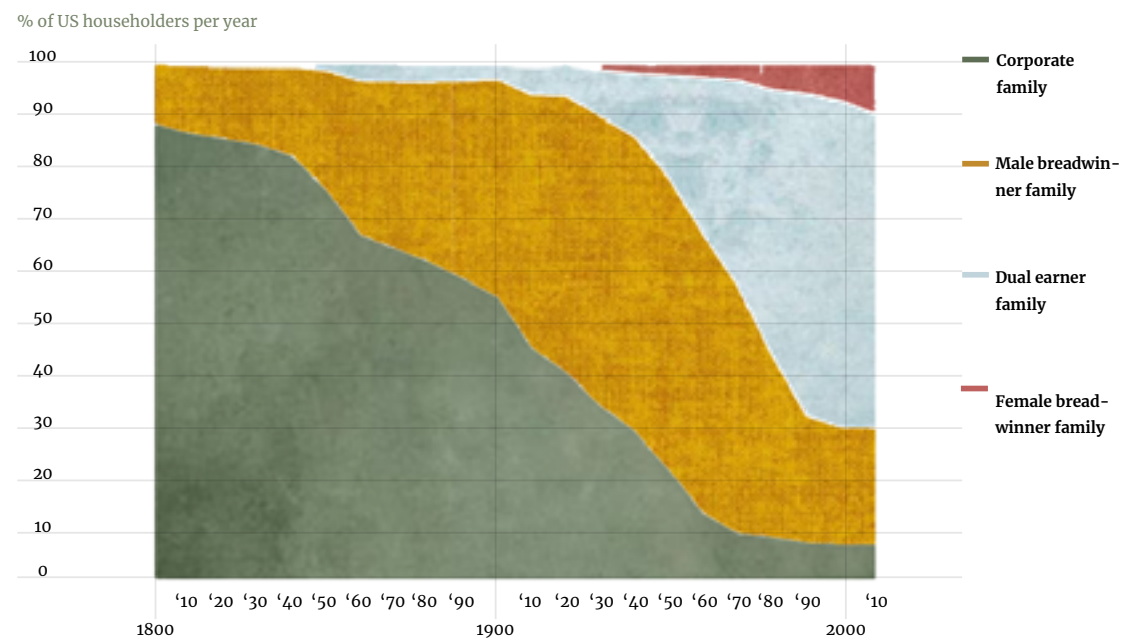
can respond to these current social and demographic shifts and how we may want to rethink the topic of family in the future (CCA, What, If Not the Family?, 2021). Over the past couple of decades, it has become more common to critically analyze the history of the nuclear house in order to problematize the present and the responsibility of architecture in the future. In their essay titled “Familiar Horror: Toward a Critique of Domestic Space”, Vittorio Aureli & Maria Shéhérazade Giudici, trace the history of family housing since the first horticultural communities until today. The word family stems from the Latin word familia, which means a congregation of slaves and relatives headed by a paterfamilias. As they point out

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*“as such, the family is not simply a biological or affective unit but rather an economic and juridical construct whose goal is to ensure both the reproduction of the population and the general order of society”.* (Maria Shéhérazade Giudici, Vittorio Aureli, 2016). And continue: *“Family roles we consider today to be strictly natural: the titles of father, mother, son, or heir had nothing to do with biology and everything to do with the rationale of preserving the ownership, and thus the order, of the house.”*  
 ~~~~~

They argue that the house in roman times became a symbol that represents the owner’s status, completely separated from the rest of society.

Thousands of years ago, humans used to live in small bands as foragers and hunters. These groups of approximately 25 people were also linked to other bands to form tribes combining resources and unlocking a variety benefit. In these societies, in group bonding was fundamental for the survival of the groups (St John’s College, University of Cambridge., 2017).

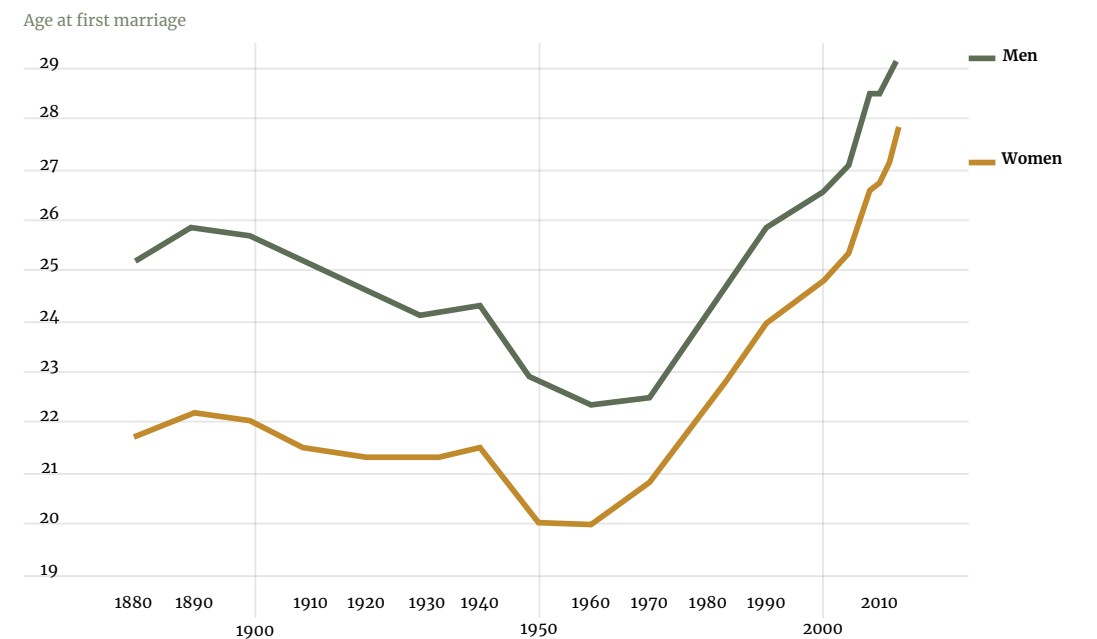
Shifting family economies



Source: Steven Ruggles. (2015). Patriarchy, Power, and Pay: The Transformation of American Families, 1800–2015.

Even recent research among forager societal groups today such as the East African Hadza or Australian Martu show that while they may be numerically small, their composition is remarkably cosmopolitan. When these forager bands gather into larger groups, these are not made up of related kin; in fact, nuclear biological relations are only a mere 10 per cent of the total members. Most of them come from a wider pool of individuals, sometimes from far away who may not even speak the same language (David Wengrow & David Graeber, 2021).

Transformation of American Families 1800–2015



Source: Steven Ruggles. (2015). Patriarchy, Power, and Pay: The Transformation of American Families, 1800–2015.

From a very young age, human beings seem to be wired to interact with other humans in a positive way, thinking about other people’s intentions a caring about being fair (Felix Warneken, Michael Tomasello, 2006). They used to gather food, hunt, fight and take care of their children together, they relied on an extended family and kinship system based on cooperation and reciprocity. Nowadays we are used to thinking about families as something biological, but for most of human history it was something you could choose. As we have seen it was only until the 20th century that the idea of the nuclear family became a worldwide way of living. In his 2019 book *Blueprint*, MIT professor and sociologist Nicholas Christakis argues that the “social suite” are the deep social features all humans share that made possible what evolutionary biologist E. O. Wilson has called “the social conquest of earth”: the human ability to construct societies (E. O. Wilson, 2013; Nicholas A. Christakis, 2019). If being social is such an important part of being human, it is striking to see that there is a strong correlation between GDP of a country and their percentage of people living alone (See Graph). In Denmark and Finland almost one quarter of people lives alone

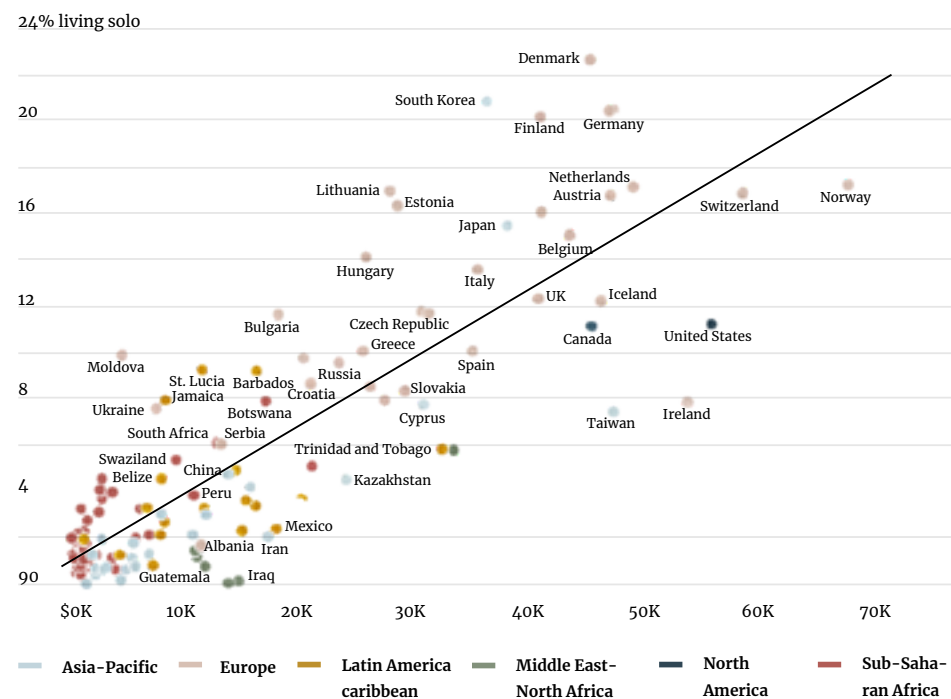
in comparison to countries in Africa and Latin America, where almost no one does. The current system promotes that becoming rich buys us privacy, which means being detached, like remote satellites, available to spend enormous amounts of hours to our jobs and our homes become the tranquil escape to the pressures of our working lives. In his book “Going Solo” Eric Klinenberg says that it was only in the second half of the 20th century when living alone became socially accepted. Since then, it has become more and more common throughout rich countries. He cites wealth, women’s emancipation, technology, and urbanization as the causes for these shifts. For him: “There’s little question that residential environments that are better designed for singleton societies could greatly reduce the most serious risks related to going solo. People who live alone do not need as much interior space as nuclear families... if they are located in buildings with well-designed public spaces and common facilities for eating, socializing, exercising, and the like.”(Eric Klinenberg, 2012)

The economic and socio-demographic changes we have shown and that we have been experiencing in the last decades have affected and will continue to affect the lives of people and family configuration that live in cities. The constant state of crisis, being a pandemic, economic or a housing crisis, the instability and decline of wage labor opportunities of young men and women in the last decades, the precipitous decline in the relative income, the changing of family structures and the fact that societies are getting older

have contributed to a longer transition to adulthood. People get married later or they don’t get married at all, are having less children than before and as a result the EU population will decrease in the years to come. In rich countries people are living more and more alone, especially senior citizens, but there seems to be a sense of group identity and solidarity in all of us, a *Gemeinschaft*, the sense of a collective self or a feeling of natural belonging. Balancing this sense of connection to a group and a unique individuality seems to be the key for any successful social system.

Living alone is more common in wealthier countries

% of individuals in solo households by per-capita GDP



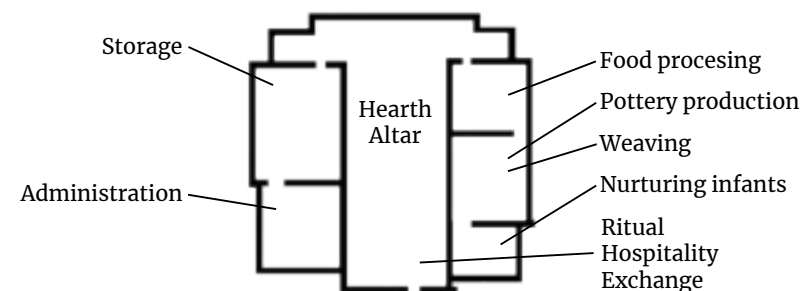
Note: GDP data are not available for Kosovo, the Palestinian territories, Puerto Rico or Somalia. Pew research center analysis of 2010-2018 census and survey data. See Methodology for details. GDP data are in U.S. dollars and come from the International Monetary Fund.

History of cohabitation

Before the industrial revolution

Man is a curious and creative being that shapes his environment to protect himself from hostile territory. Twenty thousand years ago humans in all parts of the world lived as foragers and hunters in small nomadic communities. In those days, there was no sense of owning things, it was impossible to carry heavy things that were not needed for there is no room for innovation when you are constantly on the move. Ten thousand years ago, that changed when men and women started to domesticate some animals and cultivate plants, they started to dominate their environment: “And this creature that had roamed and marched for a million years had to make the crucial decision: whether he would cease to be a nomad and become a villager” (Jacob Bronowski, 1973). It is during this transition that the house helped in giving a routine to the unpredictability of being constantly on the move. Houses were at the same time places to rest, production and places of exchange and ritual (David Wengrow, 1998). The word ritual here refers to a different meaning than today when it is mostly used in a religious context. Most notably the research by David Wengrow shows us how houses in the Fertile Crescent in the fourth millennium BC were used by men to create “spaces symbolically elaborated to reflect the disparate economic functions of men and women, provided discrete realms for the performance of activities perceived as socially incommensurate.” Houses

Tripartite ‘house’ as extended metaphor (5000–4300 cal BC)



Source: David Wengrow. (1998). ‘The changing face of clay’: Continuity and change in the transition from village to urban life in the Near East. *ANTIQUITY*, 72.

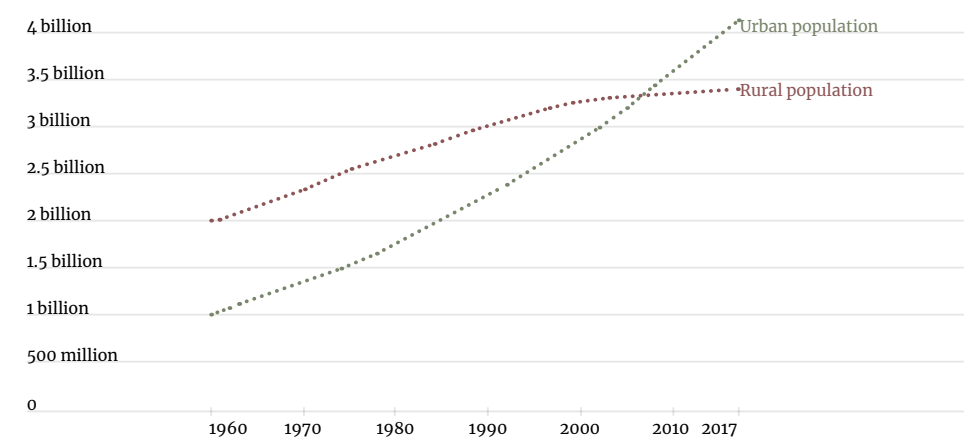
have always been more than just a roof over our heads, its purpose is to fulfill emotional and psychological needs and to establish essential social connections; how we live reflects our lifestyles and surroundings.

Recent research shows that maybe our transition from nomad bands of foragers and hunters to current cities and states was not as simple as we thought. The book *The Dawn of Everything: A New History of Humanity* questions this. Written by David Wengrow and David Graeber in 2020, they argue that before we had cities and agriculture we didn’t live in a state of violence but neither as completely egalitarian pacific groups. The world of hunter-gatherers before the coming of agriculture was full of bold social experiments, “resembling a carnival parade of political forms”. If there is something distinctive about our species is that we have, and always had, the capacity to choose collectively between different alternatives of living, we are projects of collective self-creation. The question that arises is how we came to be trapped in such narrow ways of living that we cannot even imagine the possibility of reinventing ourselves. (David Wengrow & David Graeber, 2021).

Nowadays, the majority of the world lives in a city, in the last centuries there has been a mass migration from rural areas to urban areas, the UN World Urbanization Prospects puts on the number of people globally who live in urban areas as 4.3 billion people, compared to 3.4 billion who live in rural areas (UN, 2018). We can see clearly how urbanization has largely occurred in the last 200 years, by 1800, still over 90% of humans lived in rural areas, but since then, the rates of urbanization have been increasing rapidly across all regions. Urbanization is expected to continue to increase in the next decades with rising incomes and shifts away from employment in agriculture, by 2050, nearly 7 in 10 of us will live in an urban area (Hannah Ritchie and Max Roser, 2019).

The last couple of centuries have brought many shifts in the ways we live inside the cities; on the ways we define families and community and our perception of what it means to share a home. In the last 150 years, as we

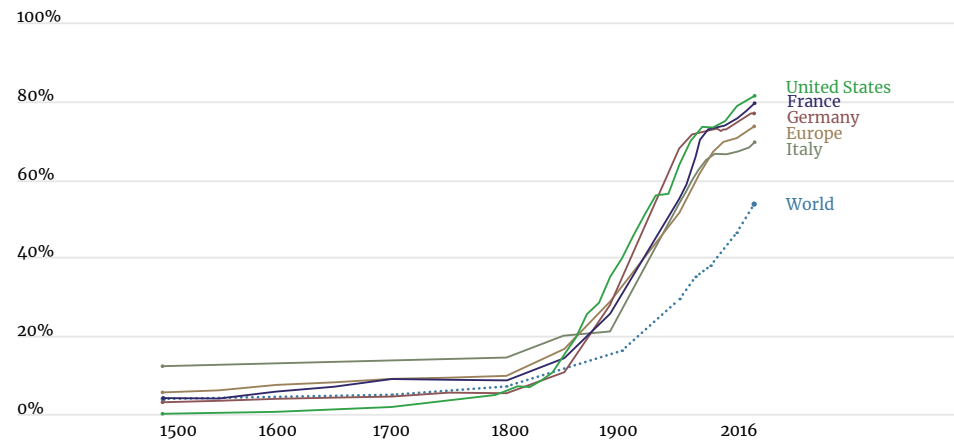
Number of people living in urban and rural areas, world



Source: World Bank based on data from the UN population division

Urbanization over the past 500 years, 1500 to 2016

Share of the total population living in urban areas



Source: OWID based on UN World Urbanization Prospects 2018 and historical sources

will see, besides the traditional way of living there have been alternative ways of sharing spaces and defining boundaries between the private and the public to satisfy the changing needs of the population. The cohabitation movement is nothing new, living in a shared experience has had many attempts over the past, some successful and some not. As cities continue to increase their populations struggling with challenges like adequate and affordable housing, shared living has been questioning our understanding of the home, the private and the public.

To better understand the concepts of private and public we have to go back a bit further, because the historical evolution of the modern city is unthinkable without the concept of private property. In medieval times, the house was public in that

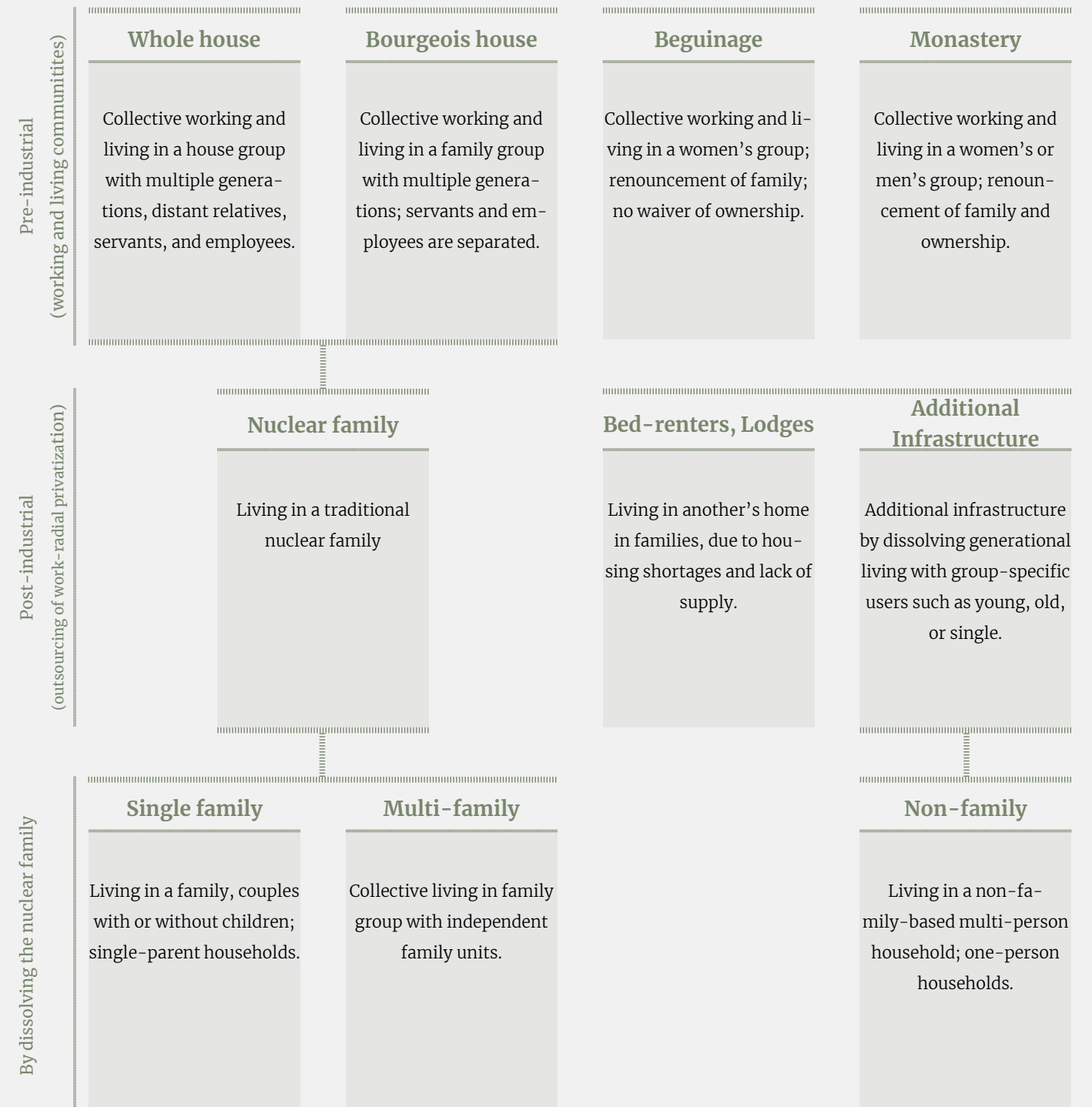
“it accommodated numerous functions of business and domestic life and numerous people – family, relatives, employees, servants and guests – in shared spaces. Even sleeping was a communal activity, with many people sharing a bed and many beds sharing a room” (Jonathan Hill, 2006).

In general, medieval houses were rather rudimentary buildings with almost no separation between the work, the living, production and the reproduction spaces: “if there was any internal form of segregation in the medieval house, it was imposed vertically through various levels or floors, rather than horizontally through the insertions of partitions” (Dogma, 2018).

With the downfall of the feudal system and the rise of waged labor, owning private property and exploiting it became an important part of being a citizen and gave birth to a new market economy. The idea came from 17th century England, where land started to be divided into enclosed fields that allowed more profit, hence this period is known by the name Enclosure. Before that, most of the land was owned either by a monarch or church or it belonged communally to traditional societies. According to historian Andro Linklater:

“The idea of individual, exclusive ownership, not just of what can be carried or occupied, but of the immovable, near-eternal earth, has

Social organizational structures of housing



Source: Table taken by the book / Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser.

proved to be the most destructive and creative cultural force in written history” and finishes: “In other words, there is an alternative to the single, ultimately unviable measure of success imposed by economics. Around the world and throughout history, neighborhoods have succeeded in a million different ways. It all depends on how the earth is owned” (Andro Linklater, 2013).

The private arises from the public, because it is only when you remove the public from an environment that what is left becomes the private (Susanne Schmid, 2019). These two poles form a basic principle of shared social life. In the last decades, and more recently after the 08’ housing bubble crash, there has been a movement around the cultural category of the “Commons”. Authors like David Bollier and David Harvey have been questioning “the expropriation and commercialization of shared resources” and argue that “a commons arises whenever a given community decides it wishes to manage a resource in a collective manner, with special regard for equitable access, use and sustainability” (David Bollier, 2011).

When the idea of private property appeared in the 17th century, it quickly spread to many western countries. As Vittorio Aureli writes: “it is only between the 18th and 19th century that the private room – in the form of the closet, the boudoir, the bachelor chamber and finally, the single worker’s bedroom – becomes an essential component of domestic space” (Dogma, 2018). It was only after this idea became the new normal that collective living became unconventional, something that needed to be justified because it was no longer the norm. When analyzing a collective housing project, the question of intention almost always arises, whether it was freely chosen or due to a lack of alternatives; Collective living has become a conscious chosen alternative way of living, a critique of the conventional. The boundaries between the public and the private have been since then continually being negotiated reflecting social developments, how and where we work, and how we move inside the cities.

Starting in the 19th century, two models of housing became dominant with industrialization: the *apartment* and the *single-family house*, which ideally should be owned but in reality, it sinks people into debt. Both of these models were intended for the nuclear family. At this time, the idea of the *domestic* proliferated. Given that the cities were dirty, hectic and mechanic, the interior of the house overcompensated by turning into an “introverted haven” (Maria Shéhérazade Giudici, Vittorio Aureli, 2016). From a socio-psychological point of view, a home should fulfill the need for retreat and security, “providing protection from external influences, and forming a contrast to public life” (Susanne Schmid, 2019), but during the industrial revolution the interior spaces offered no real relief from the chaotic rhythms of the big cities. Since then, there have been several collective housing formats conceived as alternatives which can help us to reflect on the reasons why some people decide to live together as a community.

Economic, political and social motivations

The book *A History of Collective Living*, edited by the ETH Wohnforum and Susanne Schmid, identifies the resurgence and relevance of living collectively and looks back at its history over the last 150 years. They look deep into the issue of moving spaces from a private setting to a public one. They go into detail on the intentions behind collective housing and divide them into three categories: sharing based on political intentions, on economic intentions and on social intentions. The book aims to orient contemporary communal living models in history and to discuss and correlate the respective forms of sharing, the driving social factors behind them and their economic, social and political parameters (Susanne Schmid, 2019).

Another source of information for tracing the origins of collective living was the one provided by the Vitra Design Museum on occasion of their exhibition *Together! The New Architecture of the Collective*, which opened June 2017 at the Vitra Design Museum. They organize their timeline in the following way:

- | | |
|---|---------------------------------|
| 1. Utopian settlements | 6. Modernist housing experiment |
| 2. 19th century reform projects | 7. Postwar modernism / |
| 3. Cooperative movement | Megastructures |
| 4. Central-kitchen home / Serviced home | 8. Participatory design |
| 5. Garden City Movement | 9. Scandinavian co-housing |
| | 10. Countercultural movements |

As we will see, the different collective models of living may fall into more than one intention or category because of the complex nature of the intentions behind them. At the end, these are all complex systems with various inputs and outputs that create more of a spectrum behind the intentions, but we think that this way of organizing the history of cohabitation is useful to have a general picture of how we arrive to today, where shared living comes in many shapes and sizes, from huge collaborative co-housing projects to small-scale community initiatives. Although we divided the history by motivations like in Susanne Schmid’s book, we still follow a chronological order to how we explain the history and we include more models and examples from other parts of the world. The models of collective living during the last centuries have been fundamentally different, they have been reflections of their political, social and economic conditions, but they also reveal a lot about the lifestyles of the traditional ways of living; Collective models historically include a critique of the conservative spatial expression of their time.

Economic Motivations

Starting in the industrial revolution, the motives behind collective living models have been for the most part based on *economic* motivations. Starting in the 1800s, many examples with these intentions began to appear: the housing models of the utopian socialists' Large Housing Complex in the 1820s, the Men and Women Hostels and Boarding Houses in the 1900s and in the Central Kitchen-Houses of 1905. The main reason for the construction of these examples was to relieve the dual pressures of the working women of that time and to help young groups of people who had not yet been able to establish themselves. In these, we can start to see the centralization of housework and the sharing of services such as bathrooms and laundry rooms, which was a great improvement in hygienic conditions.

From industrialization until the second world war the primary motive of these collective housing examples was to improve access to affordable and high-quality facilities for the more disadvantaged groups.

Maybe the most famous example of one the first economically motivated collective housing is the Phalanstère Concept by Charles Fourier. In this Large Housing Complex conceived in 1829, there were no individual rooms for families, instead, the French social theorist imagined a variety of different apartments with diverse floorplans, disposition and price ranges. It could give housing to 1620 residents from different societal classes and there was special attention put to the collective access areas, or *rues galeries*, which connected various parts of the building. The ground floor was for the elderly, the mezzanine for children and the other floors for general residents and the roof area was a walkable extra communication zone. Fourier had to limit himself to plans and theory because of lack of money, but Albert Brisbane, one of his protégés, succeeded in exporting his ideas to the United States, where several phalanxes were built. Back in



Phalanstère by Jules Arnou 1847.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen) Birkhauser. from the National Library of Paris, France

France, the famous Familistère Residential Complex was built in 1859 in the town of Guise. The concept came mainly from Charles Fourier's ideas, but, as the name implies, families were not to be dissolved but supported through a "broad array of shared living spaces and supplementary facilities" (Susanne Schmid, 2019).



Robert Owen's textile factory.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen) Birkhauser from © Ullstein bild - Granger, New York

Economically driven models were characterized by their service-oriented design, they take some functions out of the apartment so that they function more efficiently, this also meant that a lot of the housework like "shopping for groceries, preparing meals, and cooking, were carried out by employees in the main kitchen" (Susanne Schmid, 2019). Additionally, there were rooms for doing your laundry, libraries, communal bathrooms, cafeteria and dining room and, in some cases, childcare and educational facilities. The individual rooms were, in contrast, kept to the minimal and essential possible square meters. An interesting fact of these examples is that they were made in a "top-down" way of decision-making. The architects and the developers worked together to decide by themselves which spaces were for sharing and they reflected the avant-garde lifestyle of those days. An example from the beginning of the 20th century is part of the Men and Women Hostels and Boarding Houses and is the Renhoffstrasse Men's Hostel in Hamburg, Germany by Architects Wilhelm Behrens and Ernst Vicenz in 1913.



Up two: Large housing complex. ©Erwin Mühlestein



Last: Balconies facing the courtyard. ©Zurcuh University of the Arts, archiv-zhdk

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser.

It was built close to the center of the city and, as a non-profit organization, offered individual affordable rooms to all trades to live close to their works. A total of 112 rooms were available for long-term rent, with collective bathrooms, kitchen and laundry rooms and on the ground floor, residents had access to a communal dining and reading room. In German speaking countries, the Men and Women Hostels and Boarding Houses that were built in the inter war period, halted by Nazi ideology, were a unique niche product of the housing market only revived almost 80 years later at the turn of the century with the Co-living and Cluster Apartment models.

In both the UK and the United States, but especially in the latter, Boarding Houses appeared and reached its highest popularity between 1820 and 1850. Inspired by examples like Charles Fourier and his movement, many of these collective houses were conceived and built as alternatives for the isolated family house and provided individual rooms and communal facilities. The flexibility of the system, which allowed workers to follow job opportunities moving from city to city and was particularly popular “during periods of economic expansion and social fluidity, as well as during periods of recession” (Dogma, 2016). The boarding model, which was neither a house nor a hotel, started as a domestic enterprise and soon was replicated by more organized forms of dwelling, like hostels and hotels, in which residents paid for professional domestic labor. A lot of them were not built with this purpose; they used to be houses with extra rooms to rent and mostly led by woman who labored to make money. Taking in boarders became one of the main forms of income women of that time could have. Boarding Houses had the flexibility for people to create families because the residents ate, lived and socialized together. There were communities of strangers that might make houses into homes with extended families, which meant that “well-functioning boarding house communities sustained the good character of their inhabitants.”(Wendy Gamber, 2006)

These types of housing would have been impossible without the social and economic conditions of the 19th century, it was a response to the ruthlessness of the market. These were years of reforms, turmoil and restoration, as people started to move into the cities, the majority wanted to take part of the prosperity that the industrial revolution



Up two: Street view of the hostel and common areas.

Bottom three: Entrance, hallway distribution and private rooms.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser. from ©Hamburgisches Architekturarchiv, Photographer: G. Koppmann & Co



Boargind house

Source: Lead Image c T.A. Rickard - Wikimedia Commons



London boarding house evening dinner .

Source:



Tacoma boarding house.

Source: <https://tacamahistory.live/2018/01/18/boarding-house-1890/>

promised. The rapid growth that this urbanization caused, triggered an impossible demand for housing, which property owners used to their advantage. In some cases, this meant living in very detrimental conditions and it quickly became clear that not everyone was benefitting from the new urban prosperity.

The Central Kitchen Houses started to appear in Europe at the beginning of the 20th century. As other models from this time, they were motivated by the social and economic reforms of the era, focused on the “socialization and centralization of households” (Susanne Schmid, 2019) and were inspired by discussions about the role of women and their value in society. Socialist authors and thinkers like August Bebel and Lily Braun promoted collective housing and community living as preconditions for true equality for women. Mainly, the reduction of costs and efficiency of the Central-Kitchen Houses were the reasons for their existence, but as other examples the social aspects inevitably intertwine, like the women movements and new income opportunities for people. Ultimately the Central Kitchen model faded away as it did not succeed in integrating women into the workforce and the model where men were the main providers of the household became the norm of the second half of the 20th century.

The central kitchen model did not arise out of nowhere, it was an idea that had been floating around since the middle of the 19th century when the Utopian Large Housing models were happening. Specially in the Nordic countries, society at large and specific groups, like utopian socialists, who were in favor of integrating women into the workforce. Women were participating for the first time in political and housing policy debates, which led to actually building a Central-Kitchen House. The first example of this model, simply called Service House, was built in Denmark by an old school principal called Otto Fick in 1905. He conceived 26 three to five-room apartments, which were completely separate for privacy. However, instead of kitchen, each apartment had only a sidebar with a small gas heater and a small food elevator that was connected to a central kitchen. In addition to the two or three bedrooms, each apartment had a dining room and the whole building had central heating, hot water and a telephone system, which were superior technically than other buildings of the time.

In the United States, there was also a Central Kitchen model in the second half of the 19th century and beginning of the 20th century. In cities like New York, the economic situation after the Civil War, the strong industrialization and the consolidation of the train system caused an increase in population of almost 200,000 new citizens. Through her research Kitchenless City, architect Anna Puigjaner describes the kitchenless residential typology, with collective domestic services that emerged in that city in late 19th century. She describes how “these solutions, recalling hotel-living examples, eliminated the kitchen combining the European apartment type with the American hotel type”. Moreover, she understands the lack of kitchen as a “social and urban relation that presupposes the collective and therefore has been a form of political construction used ambivalently

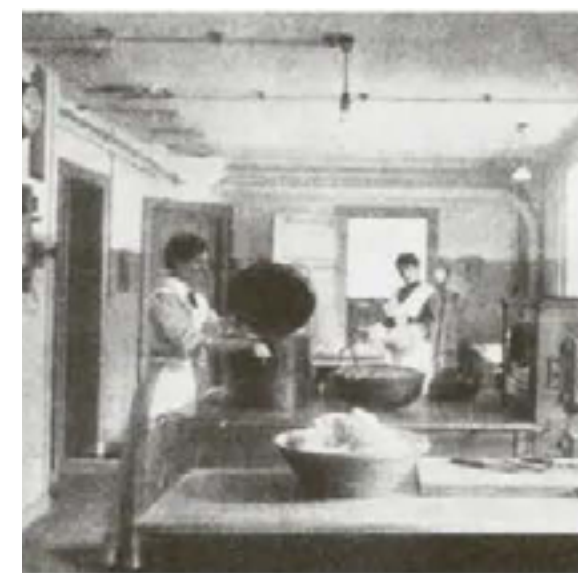


Waldorf Astoria starlightroof.

Source: Anna Puigjaner. (2014). Kitchenless City.

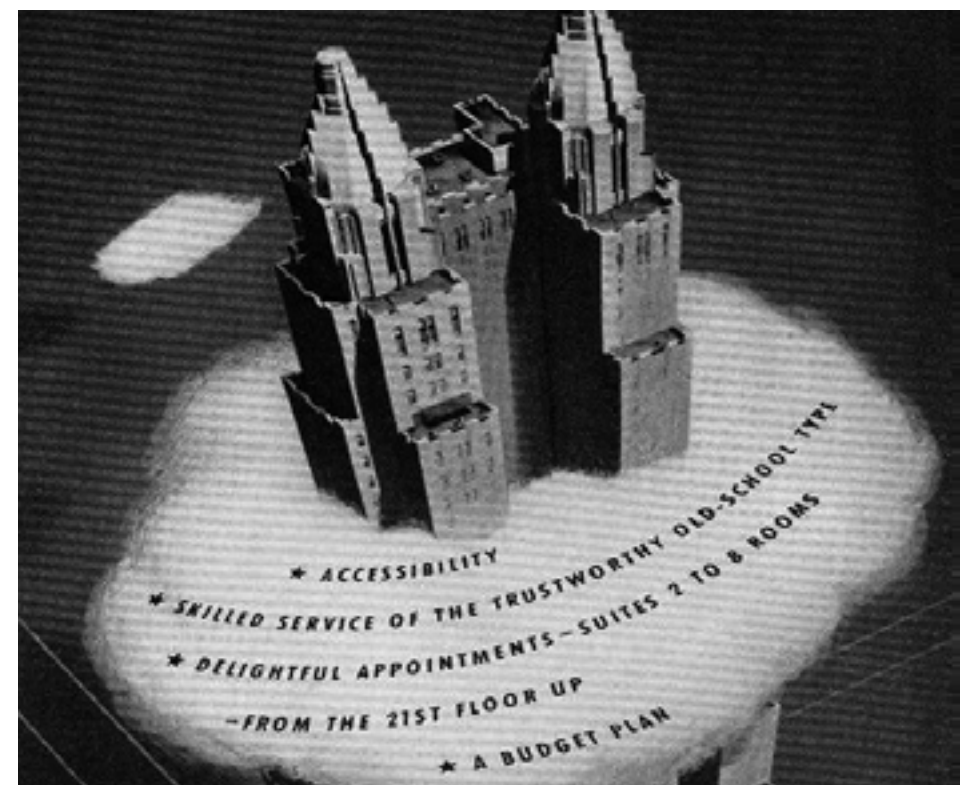


Left: Cover page of Neue Heimkultur by Rosika Schwimmer. 1909



Right: Basement central kitchen. 1900-1933. Günther Uhlig.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser.



Waldorf Astoria publicity as an accessible place to live.

Source: Anna Puigjaner. (2014). Kitchenless City.

both in capitalist as in communists systems” (Anna Puigjaner, 2014). She underlines the provocative act of removing a kitchen from a house and is clear about how our reaction and refusal that this action provokes, reveals many historical and ideological facts about this type of domesticity.

Puigjaner’s research stems from a study on the Waldorf Astoria, a hotel which contains a set of dwellings that despite their independent functioning take advantage of the domestic hotel services. This way of living or “à la carte”, was quite common in New York City at the beginning of the 20th century. The Waldorf hotel belonged to a wider set of similarly organized buildings and, according to the research, could be understood as “paradigm of this short life experimental typology”. This typology serves as a provocation and to start a discussion about how we currently live. Today would be very difficult to imagine a house without a kitchen. In the second half of the 20th century, the kitchen became a political tool and a symbol for different ideologies. The author uses this provocation to visualize the values we put to the kitchen; she is not proposing to live without a kitchen but to start a dialogue, what would happen if besides of our kitchen we could have a community kitchen; your house as an entity that helps you.

The interesting aspect is how normal it was to find this typology in New York at the end of the 19th century. Through her work, she is trying to expose how the idea of comfort is a cultural construct; what we value as comfortable and uncomfortable can change over time. Domestic labor is also important in her research, she compares how much time we spend doing this domestic labors. Sharing the kitchen is one of the first steps in becoming more sustainable because being collective is more efficient. She argues for having the chance to choose, not to oblige people into things. We take for granted that we have to cook and do domestic labor as something we do because we “love” others, and so expect no economical trade, but at the same time, we live in a society where things that we do for free are valued as less.

Italy was no exception to the urbanization that happened in the 19th century, and interestingly enough, we can find an examples of hotels and hostels as collective models of living. Being not able to offer an adequate living space to all the citizens, Luigi Buffolli answered this social emergency founding the Milanese ‘Cooperativa Alberghi Popolari’ (1899). In order to “raise the condition of the humble to a higher dignity” and thanks to its members and the collected capital, he commissioned the construction of a large building close to Naviglio. Recalling the Anglo-Saxon model of the Rowton Houses, the Social Hotel was inaugurated in 1901. (Brunati, M. C., n.d.)

Political Motivations

From the early 20th century until the postwar period of the 1950s, the *politically motivated* models arose from an embrace of social democratic ideals like improving housing quality and increasing social stability. In addition to unions and cooperatives, municipal authorities became involved in the planning and construction of the collective developments. The growing standardization and use of materials of those day also helped in managing the objectives of these housing models, for example having qualities like natural ventilation and good lighting conditions became essential.

The first examples of politically motivated housing models are the Garden Cities and Courtyard Apartment Buildings with their vision of social reform. They were very much influenced by planner and visionary Ebenezer Howard, whose writings from 1898 “introduced a settlement concept that saw the city and the country as magnets, and united them” (Susanne Schmid, 2019). His Garden City model envisioned 58,000 inhabitants surrounded by smaller green cities with 32,000 people where the community became the owners of the land and so in the early years of the 20th century many



Up: Sketch of a garden city.



Bottom: Sketch of a city segment.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser from Howard Ebenezer, To-morrow: A peaceful path to real form, 1898.



Left: Homesgarth house facade.



Right up: Collective dining area.



Right bottom: Private living area, kitchenless house.

Source: Anna Puigjaner. (2014). Kitchenless City from © Garden City Collection.

settlements had the characteristics of Garden Cities. For the first time many workers residences included green courtyards, kitchen gardens and better quality of life. One of the first Garden cities, called Sollershot House, was located in London and was finished in 1909. It had a total of 48 apartments, which functioned independently and shared a kitchen, a dining hall and several collective recreation rooms. Similar models of living were built in Austria and Germany during this period, like the Karl-Marx Hof in 1927 by Karl Ehn and the Britz Hufeisen Settlement by Bruno Taut in 1930 Berlin.



Kibbutz babies.

Source: <https://communellife-blog.wordpress.com/category/what-else/israeli-kibbutzim/>

It is necessary to mention the Israeli kibbutzim (the Hebrew word for “groups”), which are voluntary, democratic communities ranging in size from eighty to two thousand residents in which people live and work cooperatively. The first kibbutzim were founded in Palestine in 1910, and, by 2009, there were 267 kibbutzim scattered throughout modern Israel.

These groups account for only 2.1 percent of the country’s Jewish population but 40 percent of the national economic agricultural output and 7 percent of the industrial output (M. Palgi and S. Reinharz, 2014). Without the need for distinct kitchens, living rooms and utility areas, the dwelling unit was reduced to a sleeping room for an individual or couple (Rafi Segal, 2021). Originally these groups were collectively educating all children, who lived together, but by the twenty-first century, collective sleeping arrangements for children and related practices had more or less died out, and most caregiving functions were transferred back to the family, mainly to women (Nicholas A. Christakis, 2019).



Laughing children, 1930-. Photograph by Alexander Rodchenko.

Source: Christina E. Crawford. (2015). From the Old Family—To the New. Harvard Design Magazine, Family Planning(41).

In addition to discarding collective child-rearing, kibbutzim also slowly discarded other communal characteristics; the chores, laundry and dining that were originally done communally returned to the private domain by the 1970s. It is also worth mentioning the creation of many big apartments complexes with collective living that were built after the Russian Revolution of 1917. The many examples, built in utopian socialist ideals, were major inspiration on later collective models in all of central Europe. The Soviet Union was trying to establish a “modern socialist society”, and in order to do that,

they gave rise to four forms of collective housing between the 1920s and the 1930s: communal apartments (Kommunalki), youth communes, transitional communes and fully collectivized housing (Susanne Schmid, 2019). Theorists like Alexandra Kollontai established the early foundation for the socialist family life and then, during the Five-Year Plan, the soviet state expanded enormous capital to construct hundreds of new industrial-residential complex on “tabula rasa sites”(Christina E. Crawford, 2015). The living cell was the architectural analog to the individual worker, so every family was given one room, if it was larger than 13m2 it would be again divided, and all families shared kitchens and bathrooms. In 1932, a new housing policy withdrew support from the local avant-garde soviet architects and condemned communal living in collective housing, which also cut connections to architects from central Europe. The end result was that there never was a movement towards collective housing and “by the mid-1930s, the nuclear family was reinstated as the primary economic unit in the Soviet Union” (Christina E. Crawford, 2015). The most famous example of Russian avant-garde housing and a seminal example of collective housing is the Narkomfin Collective Residence, by architects Moisej Ginsburg and Ignatij Milinis.



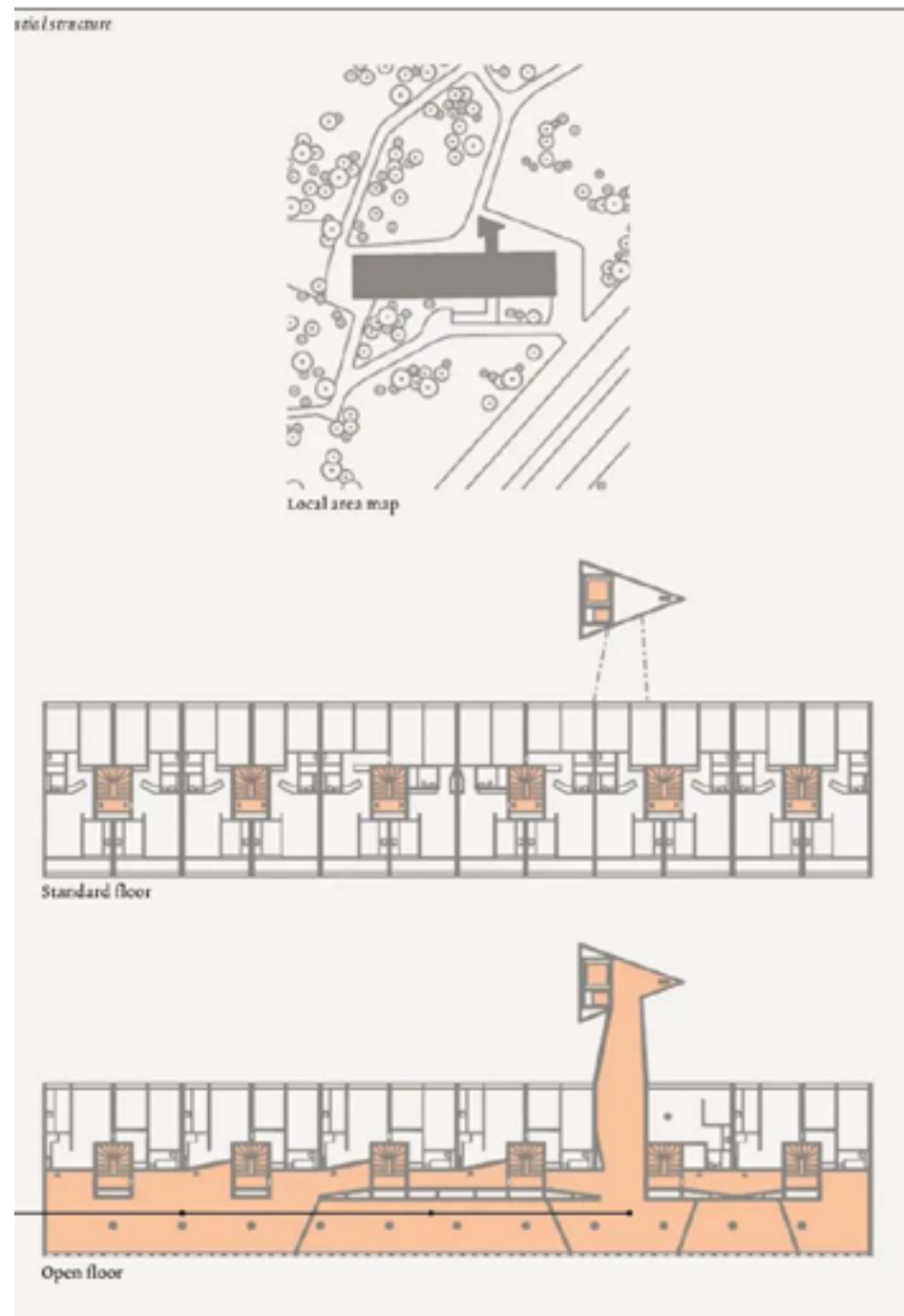
Collective building. Chan-Magomedow, Selim O. 1983

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser

Social continuity and reconstruction characterized the post-war era of central Europe. At the end of the second World War, organization such as the United Nations and the European Economic Community (precursor of the European Union) were born, providing stability and security. At the same time, this period ended up also with some divisions, specially in Germany, with the construction of the Berlin Wall. This period after the war is increasingly being called, by authors like Thomas Piketty, the golden age of social democracy. For Picketty, the three decades in which social inequality was tackled by the state sit in stark contrast to the Thatcherism and so-called neo-liberalism from 1980 to the present, in which the state appeared to retreat, and social inequality grew. (Thomas Piketty, 2014)

Maybe it is for this reason that after the war Western Europe in general supported social models and basic ideas about social welfare. On the other hand, a trend towards more and more privacy began to occur, and the nuclear family and the family home started to become a refuge from the urban life. Although the war left the Housing sector destroyed and scarce, once the Marshall Plan was launched, the reconstruction and growth phase began that lasted until the 1970s. The policies focused mainly on

functional three- or four-bedroom apartments for nuclear families and the few collective building that were built were based on ideas from the inter-war years. These examples of collective living were now more for the growing middle class from the post-war years and no longer for the working class. The 1950s and 1960s saw many technological innovations that also allowed for example to have washing machines inside the home, which made the housework easier. The efforts of community living from these days are known as Community Settlements and an example is Conjunto Residential Tower, designed by Oscar Niemeyer in Berlin, Germany as part of the International Building Exhibition (IBA 57) in 1957.

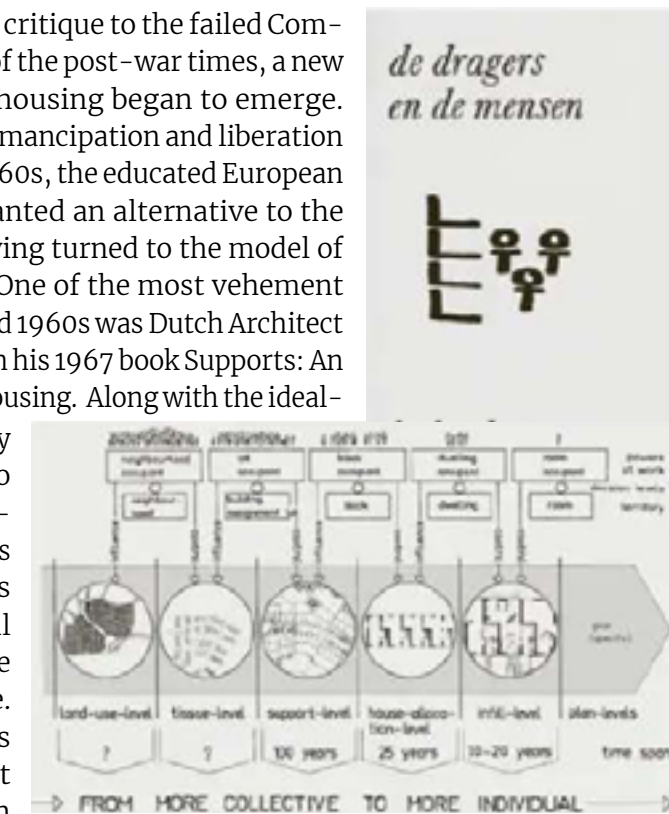


Conjunto Residential Tower
Oscar Niemeyer

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser

Niemeyer was influenced by Le Corbusier's Unité d'Habitation, with only the fifth and eighth floor reachable by elevator, and created a design with generous floor plans, loggias, and light-filled spaces. All other floor plans can be reached with internal staircases, these type of internal collective circulation areas are in turn inspired by the Russian avant-garde. The collective areas never really worked as they were abandoned in favor of six 3-room apartments along a narrow corridor and by the end of the millennium the whole building was turned into condominiums. (Bürgerverein Hansaviertel e. V, n.d.).

By the 1970s and as a critique to the failed Community Settlements of the post-war times, a new collective model of housing began to emerge. With a new sense of emancipation and liberation that came with the 1960s, the educated European middle class that wanted an alternative to the traditional way of living turned to the model of Cooperative Living. One of the most vehement critics of the 1950s and 1960s was Dutch Architect N. John Habraken with his 1967 book Supports: An alternative to Mass Housing. Along with the idealized traditional family values that started to dissolve, many written and unwritten laws regarding women's rights and traditional marriage changed the lifestyle and culture. For example, it was only until 1970 that divorce was legal in



Cover page of N. John Habraken's volume, An alternative to mass housing, 1961.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser

Italy (The New York Times, 1970) or until 1971 that women were allowed to vote in Switzerland (The Swiss Parliament, n.d.). This new ways of planning your family and lifestyles were added to the women's emancipation movements, which affected how we live at home. Everyone wanted to participate as much as they could in the planning, design and construction of housing complexes and apartments, which led for the first time to participatory processes and collaborative methods. This participatory way of doing things ended the top-down way of building collective housing, which was the norm until then.

Many projects from these times set unrealistic goals that at the end had to be fixed when inhabitants moved in, also, they ended up with very homogenous groups living together, when their goal was to have more diversity. There was no real questioning of the nuclear family, but these examples impacted future collective housing in the opening up of the living spaces and the family to the community. Examples from this period include the

Danish, Swedish and Dutch Cohousing Settlements like the Overvecht-Noord Settlement in the city of Utrecht, Netherlands in 1971 by architect H.W.M. Janssen or the remodeling of a building in Gothenburg, Sweden, called Stacken Collective House, by Lars Agren, which is considered one of the first conversion projects of collective living. Originally a typical three to four-bedroom apartments, it was converted into 33 two- to four-room apartments housing almost 100 people. The new remodeled ground includes workshops, laboratories, a café, a sauna and a laundry room for the inhabitants. On the fifth floor there was a daycare center and other recreational spaces, and a tenant association took care of the administration of the complex. At the same time, writers like Bodil Grae with her 1967 article “Children Should Have One Hundred Parents”, inspired communities in these Nordic countries to seek alternative ways of living.

In Denmark, in 1971, Christania was founded, an anarchic enclave founded inside Copenhagen when a brigade of young squatters and artists took over an abandoned military base on the edge of town and proclaimed it a “free zone” beyond the reach of Danish law (Tom Freston, 2013). Communal movements have been a constant throughout history, but from 1965 until 1975 in some parts of Europe and in the United States their popularity was very high. As we have seen, the collective housing models are many times a critique to the conventional, so the reasons for this include the Vietnam war, the youth culture of the 1960s, and the new empowerment of women, resulting also in part thanks to the invention of the birth control pill (Tim Harford, BBC, 2017).



Staken collective house

Source: : Private apartment. © Am-andine Alessandra, The Collective Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser.

And although this counterculture movement in the United States didn't come to relevant architectural models, it is interesting to watch how there was a search of belonging to a group and points to key problems of modern life, namely how we can preserve a sense of community in a large, impersonal society. Many utopian communal experiments have failed, but nevertheless can help us understand which features repeat and which are crucial for success.

Social Motivations

The last part of the 20th century gave way to three models of shared living that had social intentions in the foreground. In the 1970s, the word “communication” started to get mentioned when planning collective housing, foreshadowing the strong desire for community in the latest examples. Housing and Culture Projects started to seek in the 1980s a desire to express social and flexible relationships. The other two models are Community Households and Cluster Apartments, which were conceived also in the 1980s, but it was not until the 2010s that they were established. At first, their goal was to be an alternative to the isolation of families, but now they correspond to the changing lifestyles and households and “considers itself to take a sufficiency approach towards managing living space” (Susanne Schmid, 2019). One of the latest models of collective housing is Co-living, which is aimed at young millennials and is also sometimes mentioned alongside the term Co-working, which demonstrates how the younger generations desire belonging, social exchange and new ways of working and living together. This reflects what the research and design lab SPACE10 describe in their IMAGINE publication from 2018: “Shared living isn't just a trendy throwback to a utopian idea from the past. In fact, it may well be the answer to some of our biggest contemporary challenges. Like the lack of affordable housing, loneliness, our ageing populations, and enabling a better and more sustainable way of life for the many people, as their needs, aspirations and lifestyles change” (SPACE 10, 2018).



Collective old oak 2

Source: SPACE 10. (2018). Imagine, Exploring the Brave New World of Shared Living. SPACE10 & Urgent. Agency publication.

In the 1980s, after the oil crisis and with the fall of the Berlin Wall, there was an atmosphere of optimism in Europe. As we had seen before, the one or two-person households started to increase, and so the requirements for space began growing. With a deregulation and privatization of the markets, there was less participation by the state in the housing market. Also, issues of ecology started to become more normal in public awareness. It is important to add to the social intentions the growing environmental and sustainability factors that began to be considered almost always by developers and residents in collective housing models in the last years. The goal was to reduce the per capita consumption of living space which should in theory decrease the prices. From this point on, with the embrace of sustainability by all collective models, the motivations for sharing included an ethical consideration.

Collective housing models are a mirror of the social, political and economic structural of their times, so when divorces started to increase, marriages to fall and males were no longer the sole breadwinners, alternative housing options started to give suitable solutions as part of their offers. As the traditional market was not, and still is not, offering options that responded to the changing society, collective housing started to close this gap. The collective ways of living seemed to be spreading continuously to different variations, mirroring the diversification and connectivity of the world. Thus, new collective housing models included new family and post-family configurations in their design for the disposition of the floorplans and the collective exterior areas. Many examples started to include an integration of work and family for both men and women to give suitable design options as part of their collective buildings. You can find traditional families, single parents, young students, older people or couples with or without children living in a collective manner together.



Collective spaces_
Imagine issue 2

Source: SPACE 10.
(2018). Imagine,
Exploring the
Brave New World
of Shared Living.
SPACE10 & Urgent.
Agency publica-
tion.

Almost all new Collective Housing models are designed in a participatory way of design. Normally during the conception of the project, with architects, municipalities and users getting together to discuss sizes of apartments and organization and function of communal areas. The common areas are used for recreational activities in many cases, but in the Cluster Apartments and Co-Living models these common areas are used for a collective kitchen, dining or a living room. We can find in addition to these, music rooms, cultural spaces and spaces for working, laboratories, bike repair shops, laundry areas and many other services as part of the complexes. Increasingly popular amongst the young people, we can also find outdoor cooking areas for barbecues, fitness areas and even swimming pools. Some characteristics of the Co-Living models from this century is that collective living spaces are continuously dispersing to other buildings from the complex, or even across the neighborhood or the entire city.

Although many of these examples started to appear in the 1980s, it was not until the 2010s when experts started to notice the trend. It is in the Community Households and Cluster Apartments that we can find once again apartments without usable private kitchens. Terms like living units, satellite apartments or clusters is used to expand the new housing models and uses. Activities such as cooking, dining, or relaxing are done in communal areas with different degrees of privacy. Clusters, for example, offer private housing units with bathrooms and small kitchens but also still are based on collective areas for all the residents. Many of the examples we will show in the next chapter are part of the Community households and Cluster Apartments models.

In many big European cities, the pressure for constant growth and development has caused low vacancy rates and high rental prices, which has also caused the growth of Community Households and Cluster Apartments. As lower-income population get pushed to the suburbs of the cities, “affordable housing and zoning policy are increasingly becoming social issues” (Susanne Schmid, 2019). There is a growing sharing economy which tells us that ownership values are changing, architect and author Matthias Holwich puts it this way: “I think for a very long time we have believed that ownership and privacy make us happy. But I think we are all being proven wrong. Actually, now we are waking up again. Living together, experiencing things together, sharing things with each other is really what creates memories and happiness. And that is what we are all trying to re-explore and re-invent.” (SPACE 10, 2018). In this sense, technology can help us enable shared living. Although big cities have many problems like the reduction of the average living space, endless waiting lists to public housing or gentrification, there are also solutions being produced. The German Baugruppen (building group), or the Finnish Ryhmärakentaminen are part of new trends where individuals self-organize to finance the construction of their buildings, focusing on the shared responsibility and the community inclusion. Also, there are new ways in which housing are being appropriated, with rent and ownership being combined, like in the new ownership models in

Denmark called Andel 2.0 by In-Between Economies in collaboration with DOMA and Eutropian. (SPACE 10, 2018)



SPACE 10, The Baugruppen model.

Source: SPACE 10. (2018). Imagine, Exploring the Brave New World of Shared Living. SPACE10 & Urgent. Agency publication.

As a countermovement of the banking crisis, expressions like the Occupy Movement started to become more popular, citing dissatisfaction and unfairness in the distribution of wealth. And although these protests are still being put into perspective (Penn Today, University of Pennsylvania, 2022), new generations, or digital natives, are pressuring the housing market.

New Co-Living models are more and more an option for young people to enter into housing independence, and not just from an economic point of view, but as we had seen before, there is a new desire for sharing. In many Co-Living sites, we can find things like the following: “Colive takes care of everything, allowing Colivers to focus on activities that make them feel good! Colive is also a way to promote sharing and community life while keeping its private space and privacy.” (COLIVE, 2022)

New Co-Living models are linked to the new ways of working, so the internet revolution is being developed in parallel as it facilitates the connection between living and working. These new ways of living are of interest to everyone, from private and institutional investors to start-ups. Often, especially in rich countries, the residents of Co-Living or Co-Working



Up: Co-living into an existing building.



Middle: Communal areas.



Bottom: Communal lounges on every floor.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser © Tech Farm

models are rich young entrepreneurs who are looking for similar people to invest with. It seems that these kinds of projects have similar interior design language, and, in comparison to previous ways of collective housing, the users stay the shortest with no participation whatsoever in the design phase. This reminds us to the Boarding House models of the 19th century, with the young and well-educated residents that demand a wide range of services. Examples like Tech Farm KG by Storesund Arkitekter in 2016 or The Collective Old Oak, also from that year, shows an emphasis on the operational structures with activities being organized and services being offered as part of the stay. We have to admit that the contemporary examples of Co-Living are in most cases limited to those with access to credit and capital with a lot of time in their hands and don't solve the origins of the crisis. These new initiatives are nevertheless valuable in that they try to bypass some of the housing market mechanisms; however, the problem of affordable housing is not tackled.

Left: Co-working spaces, public use. © Amandine Alessandra, The Collective Old Oak

Down: Lounge areas. © Amandine Alessandra, The Collective

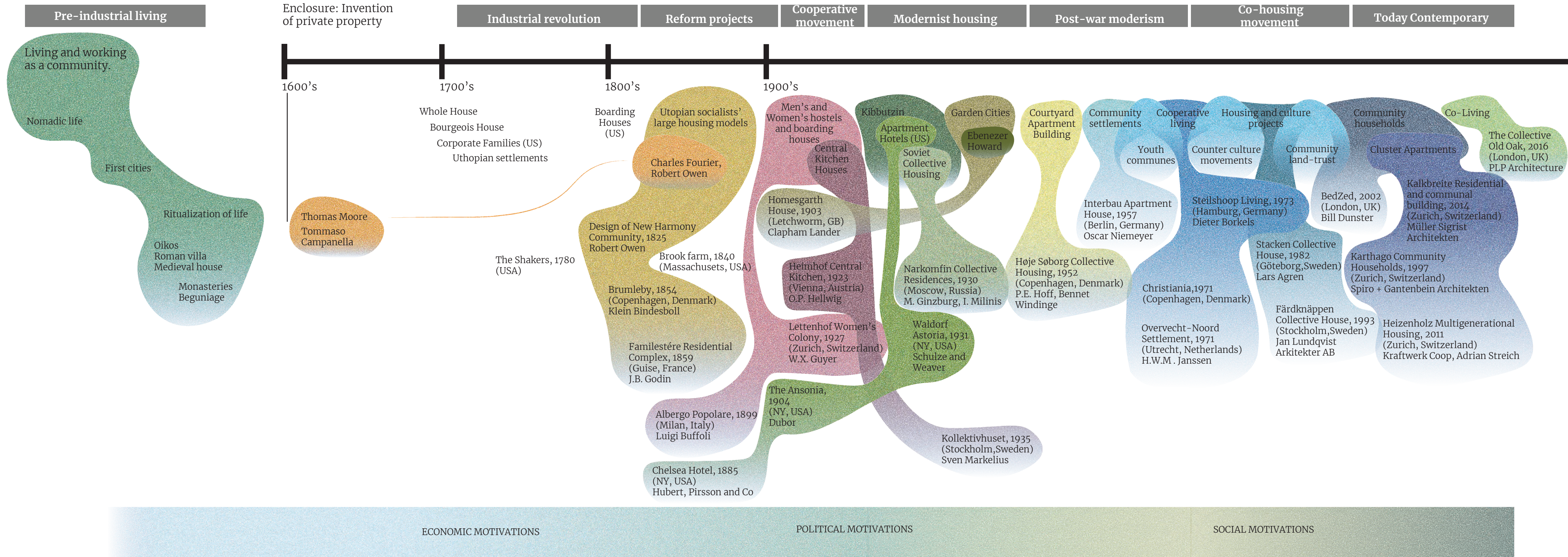
Left: Restaurant on the ground floor. © Amandine Alessandra, The Collective Old Oak.

Bottom: Private apartment. © Amandine Alessandra, The Collective
Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser.

Floor plans of the typologies of apartment in the building Old Oak.

Source: Susanne Schmid (Ed.). (2019). A History of Collective Living (Wohnen). Birkhauser © Tech Farm

It seems we are used to the traditional ways of living we have today. The rules of how to live appear to have already been pre-decided since before we were born and that it will always be like this, however this omits another important part of what makes us human, our capacity to imagine different worlds. Human beings have been much more creative than we have thought. Our remote forager ancestors were much bolder experimenters in terms of how we can organize our societies. As we have seen in this chapter, since the industrial revolution, there have also been some collective living options that have tried to change the rules, rewrite the script and reimagine their societies in different forms. In the next chapter we will spatially analyze examples of collective ways of living to deepen our understanding of these alternatives.



Case studies

Analysis of existing buildings

When approaching the design by research strategy it is important to consider the projects that have been designed in other countries with a variety of strategies that are similar to the co-housing dwellings. After this analysis in which we will study the quantitative and qualitative design factors, we will have tools to identify which ones could work better in this project considering how they have been developing and lived through a certain amount of time. There have been some architectural factors in which we are interested in and so, we have chosen these five case studies seeking guidance into the details of how they are operating. These are the following:

Modularity: is the design approach that subdivides a system into smaller parts called modules. When spatial forms are integrated in a standardized system, they become modules. In this context, it does not refer to individual elements such as single walls, doors, or windows, but rather self-enclosed dwelling spaces. In shared living, having modules allows the inhabitants to compose the spaces at will, eliminating hierarchy. A modular system can be used as desired, the program is not determined. Each apartment can be expanded or reduced adding or subtracting rooms.

Mixed uses (working/living): “For a period of about 100 years, the live-work model disappeared as urban planners addressed such issues as congestion, air pollution, and poor sanitary conditions brought upon different zones within a city by the Industrial Revolution. Working from home, or living at work, became in many cases illegal.” (Katz, Bochinska). Today, amid the COVID-19 pandemic, the way in which we occupy our spaces must be re-envisioned, as many find themselves working from home. What allows for mixed-use of living and working is most commonly a flexible structure that enables division of space on the vertical and horizontal axis and therefore has multiple uses within itself. In this way, spaces can expand and contract in order to house different functions. These spaces are divided by thresholds, or sometimes, the working space itself becomes a threshold (Domestic Work). These buffer zones allow for an easier cross from public/collective to private, with the ground floor having the highest percentage of public access.

Cluster cohousing: A cluster is a design strategy that allows private spaces inside a shared apartment. This degree of flexibility for the inhabitants between private and shared within an apartment is the main characteristic of this design proposition. An apartment can have several clusters inside of it and these can consist of a bedroom, bathroom, a small kitchen and even in some cases with a small living room. Outside of this private clusters there are shared spaces that are self-organized by the inhabitants, these are spacious areas that permit social interaction between the residents that strengthen the bonds in this small communities.

Collective outdoor spaces: Outdoor collective spaces usually include parks, gardens, plazas, collective outdoor parking spaces etc. They are usually unroofed and are only enclosed to ensure that the space is open to all residents, providing them with places to picnic, play, relax, park and even plant, which can be accessed either through the indoor collective space or shared space, or directly from their own private space.

The collective outdoor spaces could also be roof gardens, terraces, etc. The former is enclosed or managed by the property and thus off-limits to non-residents, while the latter one is considerably more “private”.

Multilevel apartments- 3 levels and up: Apartments of three floors and above can be considered as multi-level apartments. They are usually classified as affordable or ordinary apartments in terms of the size of the units. The units are often modular in form and provide only basic living functions. These multi-level shared apartments are often combined with public ground floor spaces, collective indoor spaces etc. to meet the other living needs of the residents. Due to the characteristics of multi-level apartments, transport spaces, especially vertical transport spaces, which means staircases and stairwells, become important collective spaces where residents can meet other residents on their way up and down the stairs, thus creating the possibility of communication

Collective indoor spaces: Collective indoor spaces are generally part of a residential model focused on the collective living lifestyle. They have changed their use and function throughout time, as needs and lifestyles are still evolving. Collective living spaces can provide a variety of functions depending on the needs and the habits of the community. They are mainly designed to host recreational activities or food preparation, such as the collective kitchen, the dining room, and the living room. Particularly concerning cluster apartments, or private living spaces equipped only with a bathroom and a small kitchen, the common living areas are necessary to function as a full living unit. Moreover, some buildings include rooms with no designed purpose that can be appropriated by individuals or groups of residents, temporary or for longer period. Common spaces allow opportunities that reflect social behaviors and ways of living, making affordable high-quality premises and reducing isolation. However, those are necessary but not a sufficient condition for communality; a variety of activities and an appropriate social organization are needed as well.

Location of case studies

Zürich	/ Geneve /	Barcelona
Kraftwerk 1	Le Pommiers Ecoquartier Junction	110 rooms La Borda



Project



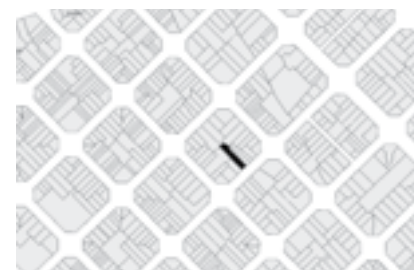
Kraftwerk 1



Le pommiers



Ecoquartier junction

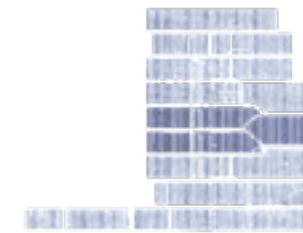


110 rooms



La borda

Area of interest



Multi-level apartments



Common central area



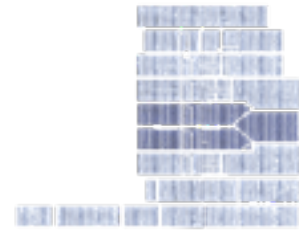
Clusters



Typological indifference



Interchangeable nucleous



Kraftwerk

Zurich / Stucheli Architekten + Courvoisier Architekten / 2001

Multilevel apartments / Diversification of apartments
ETH tag: Social intentions

Kraftwerk 1 was a young cooperative in the 1990s and when the real estate crisis hit Zurich, they decided to make an experiment. The idea was to design in a participative way a building with diverse apartment types and ecological construction. The precedent for this building was made with critical discussions about urban development. The result was a pioneering work focused on sustainability and integrative concepts that create high quality of life. Kraftwerk1 is a self-organized settlement. The inhabitants are involved in the organizations and help to shape it.



In this project the sustainability is important, and this is the main driver to have and share infrastructure like washing machines, common rooms according to their needs. The social inclusion and diversity are a main pillar; all the tenants pay a monthly contribution (depending on their economic status) that is used to reduce the rent for low-income residents and to make purchases for the overall settlement. Twenty of these apartments were taken by the Foundation for the Preservation of Inexpensive Residential and Commercial Space in Zurich.

The building has 81 apartments with a wide mix of typologies that can be linked to larger units, access halls as meeting points and a reduced number of parking spaces. The designers solved the problem of depth in a central building by making the stairwells, hallways, kitchens, and bathrooms in the central part so the majority of bedrooms and living rooms could be next to the facade.

On every third floor, these central corridors lead to apartments that are single-story small that extend one floor up or down. In one site of the house there are 3 oversized stories with living rooms connected via short internal stairs to four room floors one the other side of the house.



Up: Facade of the building.

Bottom: Common outdoor area.

Source: KRAFTWERK1 Bau- und Wohngesellschaft. (n.d.). [Kraftwerk page]. Retrieved March 18, 2022, from <https://www.kraftwerk1.ch/hardturm/siedlung.html>

Typologies

2.5 room apartment



Shared areas

Bathroom / living room-kitchen / Balcony

#residents

1-2
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			
total	47.3	100	47.3
● shared	33.5	70.8	-
● private	13.8	29.2	-

3 room apartment



Shared areas

Bathroom / living room-kitchen / Balcony

#residents

2
Single Family Household / Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	78.8	100	39.4
● shared	49	62.2	24.5
● private	29.8	37.8	14.9



4th floor



4th floor



4 room apartment

Shared areas

Bathroom / living room-kitchen / Balcony

#residents

3
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	96.9	100	32.3
● shared	49.8	51.4	17.3
● private	47.1	48.6	16.2



5.5 room apartment

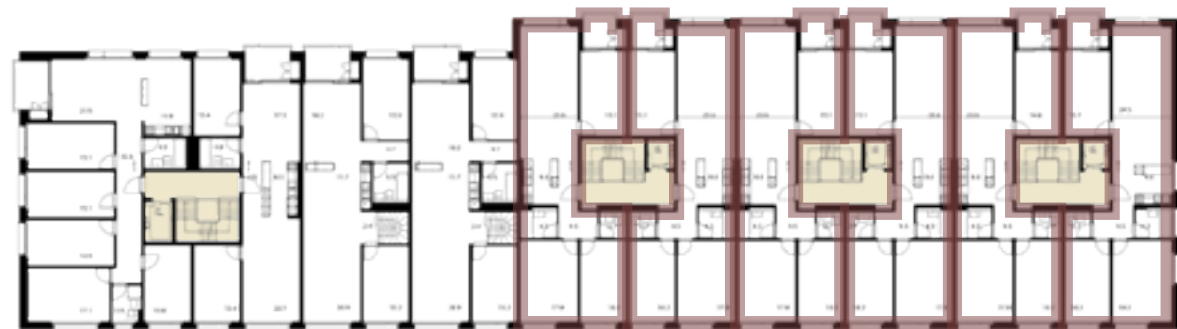
Shared areas

Bathrooms / living room-kitchen / Balcony / Stairs

#residents

4
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	137.7	100	34.4
● shared	80.7	58.6	20.2
● private	57	41.40	14.2



2nd floor



2nd floor





6.5 room apartment

Shared areas

Bathrooms / living room-kitchen / Balcony

#residents

5
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	136	100	27.2
● shared	60	44.1	12
● private	76	55.9	15.2

7.5 room apartment



Shared areas

Bathrooms / living rooms-kitchens / Balconies / Stairs

#residents

6
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	177.4	100	29.5
● shared	82.2	46.4	13.6
● private	95.2	53.6	15.9



4th floor



4th floor



8.5 room apartment

1:200

Shared areas

Bathrooms / living rooms-kitchen / Balconies / Stairs

#residents

7
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	232	100	33.1
● shared	91.7	39.5	13.1
● private	140.3	60.5	20

12 room apartment



1:200

Shared areas

Bathrooms / living rooms-kitchens / Balconies / Stairs

#residents

9
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	266.1	100	29.5
● shared	124.5	46.8	13.8
● private	141.6	53.2	15.7



3rd floor



3rd floor

13 room apartment



Shared areas

Bathrooms / living rooms-kitchens / Balconies / Stairs

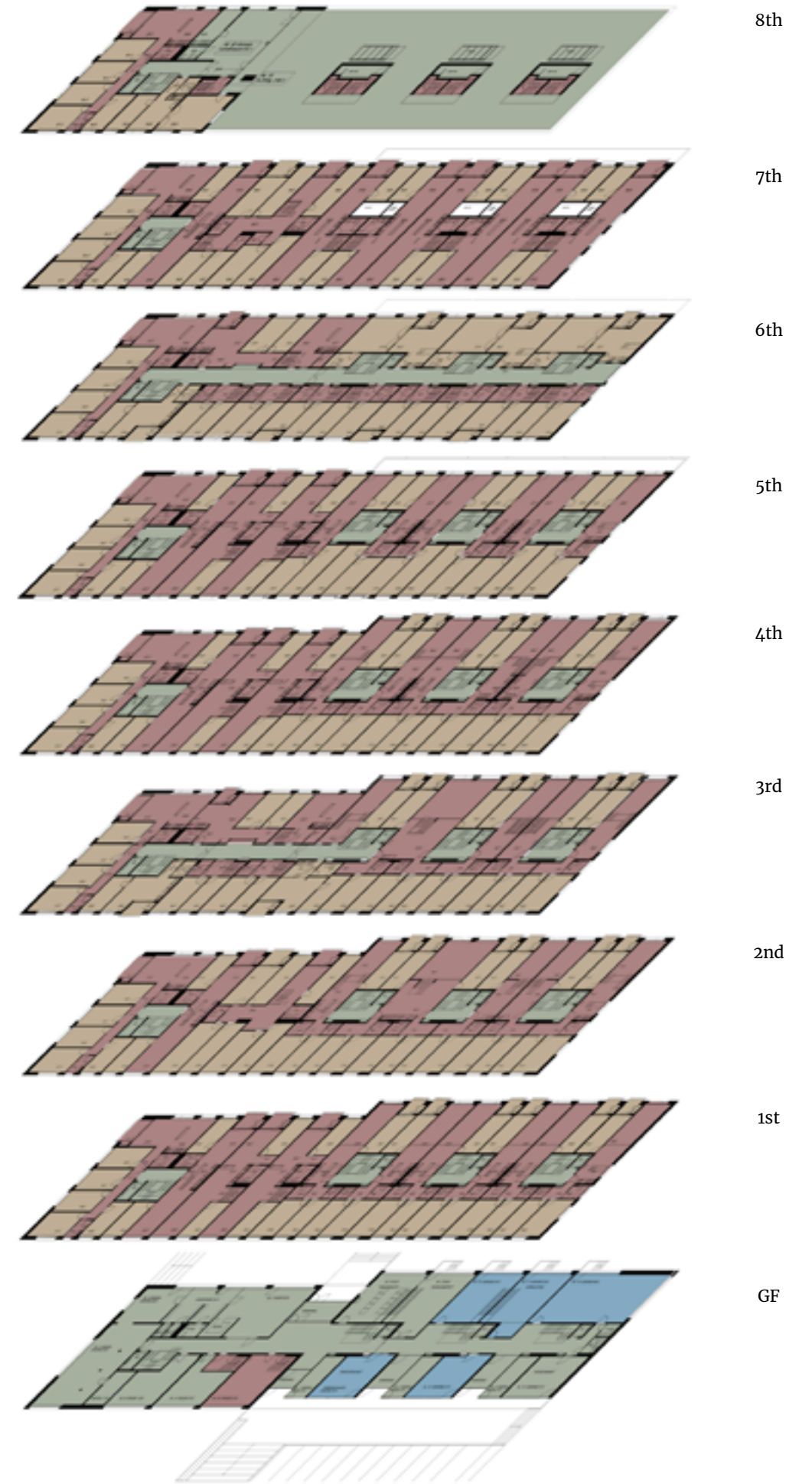
#residents

10
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	336.2	100	33.62
● shared	162	73.9	16.2
● private	174.2	26.1	17.4



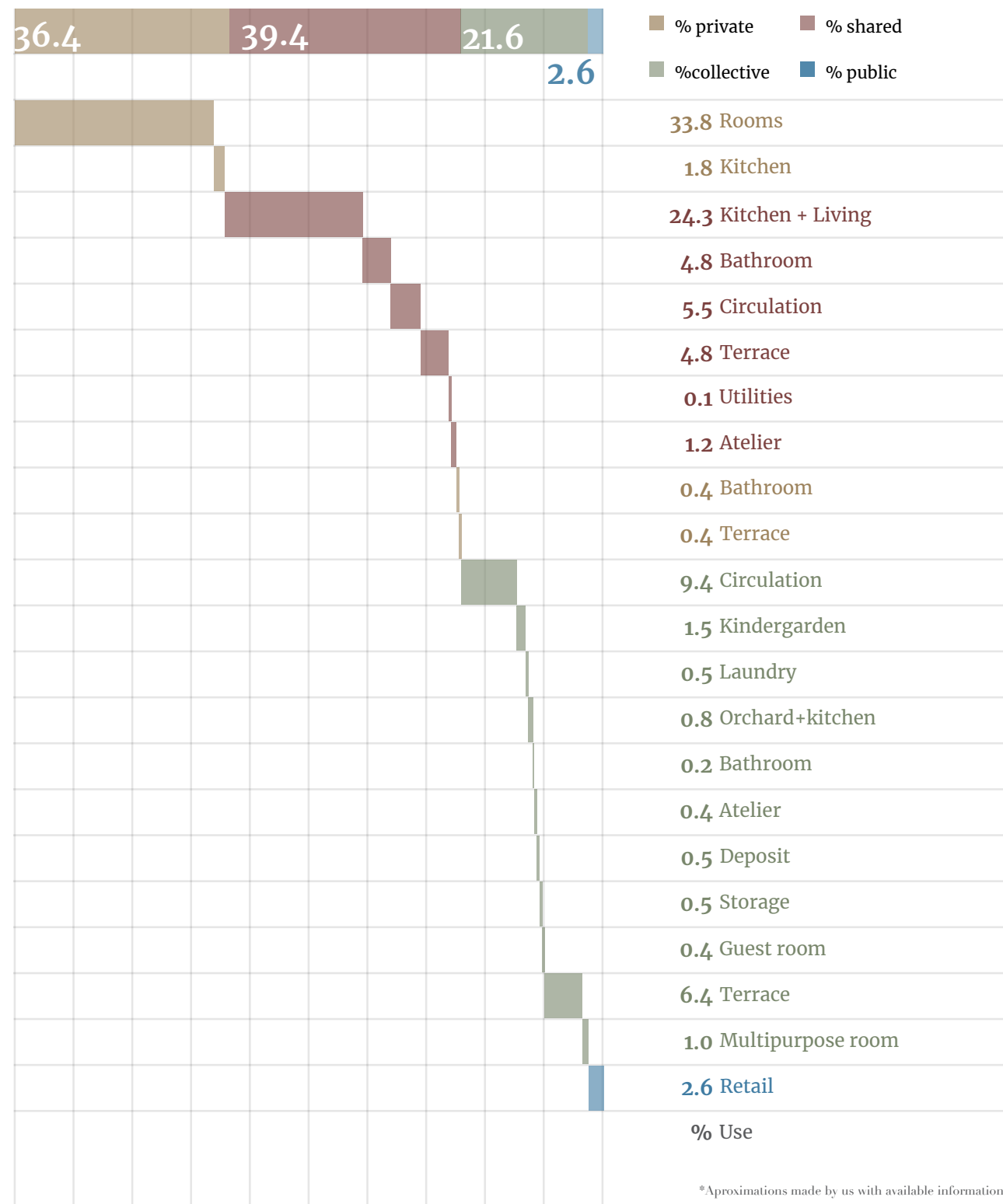
3rd floor



● public
● collective
● shared
● private

Summary of the building

%



Key points

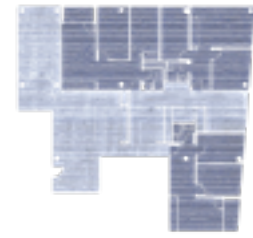
Kraftwerk is showing a way to design focused on the shared apartment and this does not mean that the apartments have the same configuration and size. What it is important to highlight is that they have multiple conformations that bring a nice balance to the building allowing different families or individuals to be part of it, from a single one to a really big family. We chose this one for this reason and more specifically for the apartments that are conformed in two or three levels. These ones have half levels that contain the shared spaces, and each floor has their own entrance for the main vertical circulations. This design strategy brings the possibility to have privacy but also to be part of a large apartment because each floor is connected but also is kind of independent.

The aim to do the vertical and horizontal circulations in the middle restrings a bit the communal spaces in the core of the building but they were aiming to have a more collective experience on the ground floor and the rooftop that are designed to be lived and shared with all the residents.



Diagram of the apartment in three floors.

Source: Diagram from https://www.stuecheli.ch/media/mi1bohij/sta_wohngenosenschaft_kraftwerki_de.pdf



Ecocuartier Jonction

Geneve / Dreier Frenzel Architecture + Communication / 2017

Clusters

ETH tag: Social intentions

It has over 333 residences, 35 arcades, a crèche, depots, and an underground parking park and is located in the center of Geneva, in a key urban area. The CODHA building, the district's centerpiece, embodies the social loft, a hybrid concept that combines two types of housing: social housing - with its domestic realities and economic requirements - and the imaginary loft - housing with generous and shared spatiality, born of the gentrification of industrial spaces.



The CODHA Building realizes this notion in the possibilities of flexible, large, communal, and unorthodox housing; it was developed with a participatory approach, it holds 113 residences with a range of sizes (2 to 25 rooms) to fulfill the demands of a diverse range of people.

It also has communal spaces on each story, recreational rooms on the ground floor, and deposits in the basement. Finally, the community is organized around four green roofs, each with its own set of activities. The ground floor is very important to connect the building with the city. Above these spaces there is a courtyard that is surrounded by some of the clusters and apartments that have 2 floors; after the building continues to add floor only on one side of the square forming a tower.

The tower has a collective hallway (open air) where the distribution happens. This gives a collective space where the inhabitants can domesticate and adapt it so, the function of connecting is also reinforced by social interactions.



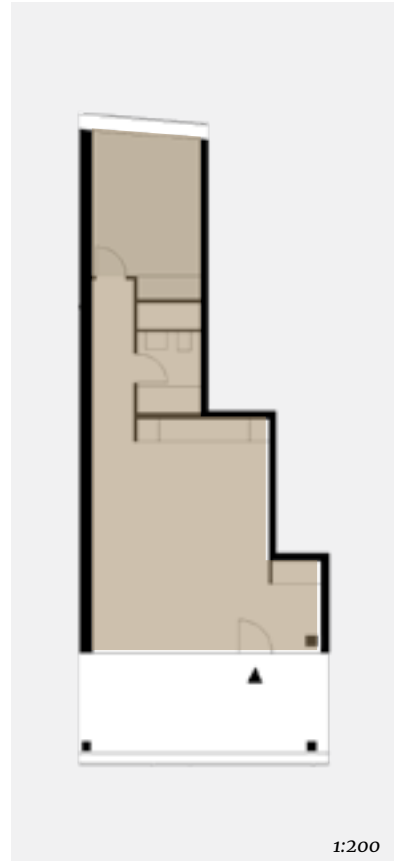
Up: Courtyard of the building.

Bottom: Common area inside an apartment.

Source: Dreier Frenzel Sàrl Architecture & communication. (2020, July 7). Écoquartier Jonction: CODHA [Architecture website]. DOCUMENTATION SUISSE DU BÂTIMENT. <https://www.batidoc.ch/projet/ecoquartier-jonction-codha/763644>

Typologies

2 room apartment



Shared areas

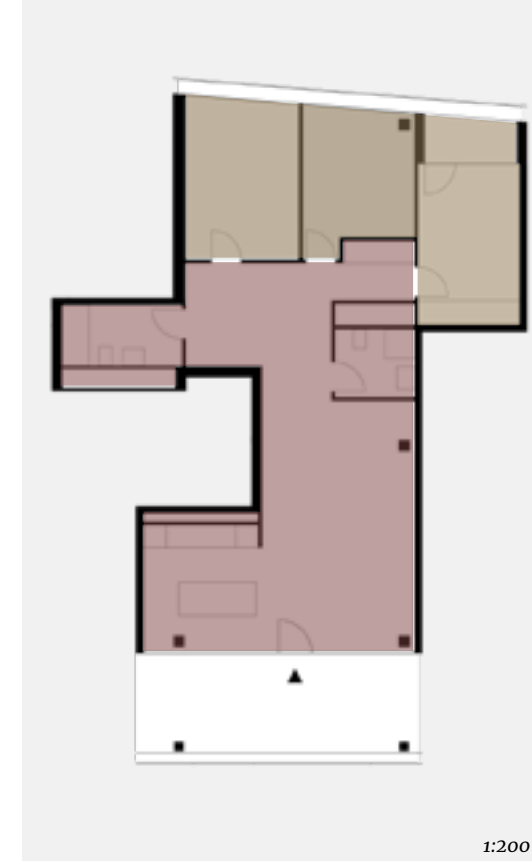
Bathroom / living room-kitchen / Balcony

#residents

1-2
Single Family household

	area m ²	in%	m ² /pers.
Usable floor space			
total	61.9		
● shared			-
● private	61.9	100	61.9/30.95

4 room apartment



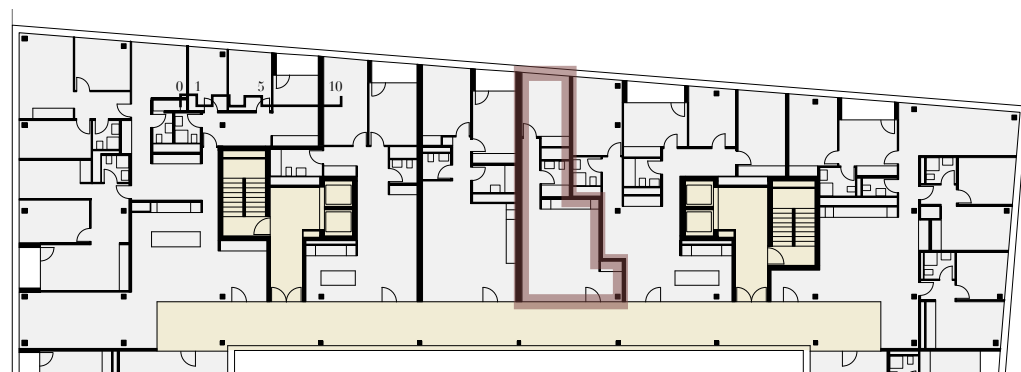
Shared areas

Bathroom / living room-kitchen

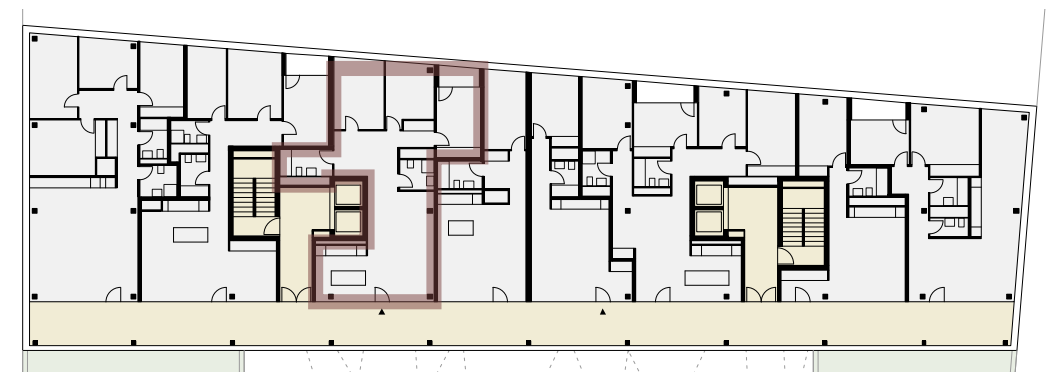
#residents

3
Multi-people household

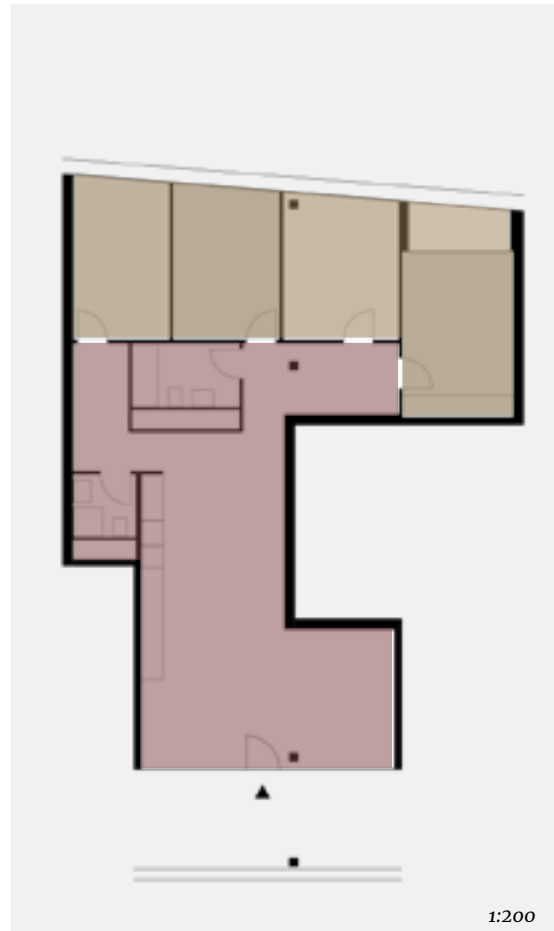
	area m ²	in%	m ² /pers.
Usable floor space			
total	116.38	100	38.79
● shared	72.34	62.15	24.11
● private	36.73	37.85	12.24



2nd floor



5th floor



5 room apartment

Shared areas

Bathroom / living room-kitchen

#residents

4
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	131.76	100	32.94
● shared	71.89	54.56	17.97
● private	49.14	45.44	12.28



2 clusters

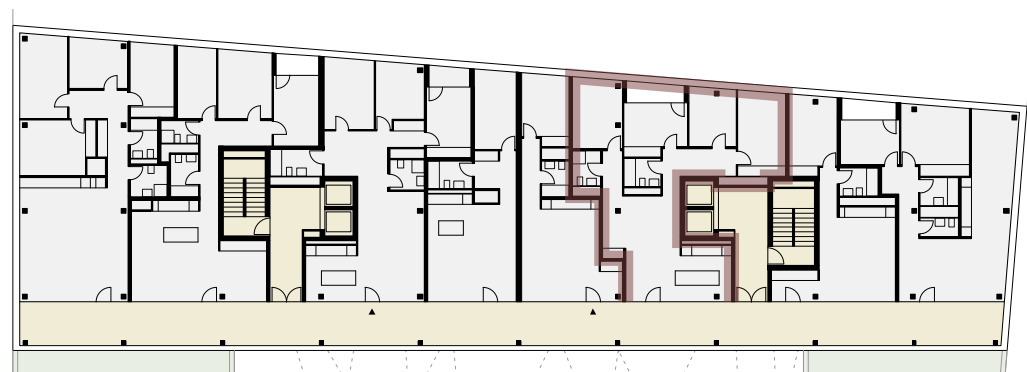
Shared areas
Private areas

Bathroom / living room-kitchen
Bathroom / living room-kitchen / Balcony

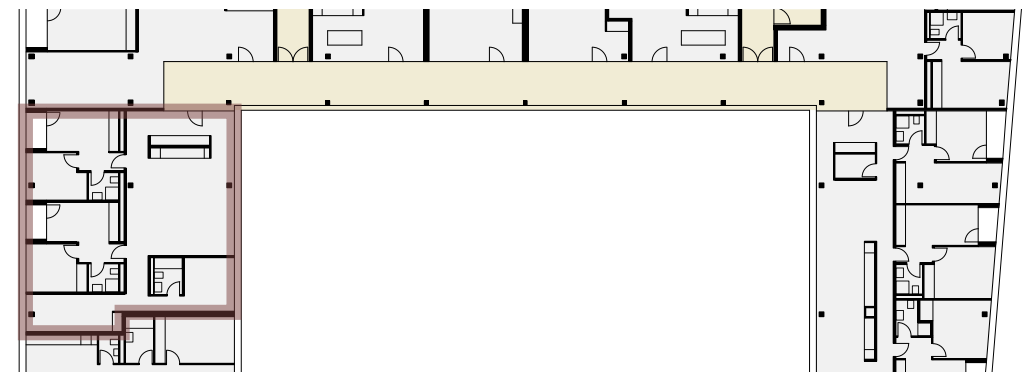
#residents

2-4
Multi-people household

	area m ²	in%	m ² /pers.	
Usable floor space				
total	164.29	100	82.14	41.07
● shared	97.88	59.57	48.94	24.47
● private	66.41	40.43	33.2	16.60



5th floor



4th floor



3 cluster

Shared areas
Private areas

Bathroom / living room-kitchen
Bathroom / living room-kitchen / Balcony

#residents

3-6
Multi-people household

	area m ²	in%	m ² /pers.	
			3p	6p
total	179.5	100	59.83	29.91
● shared	82.1	45.7	27.36	13.68
● private	97.4	54.3	32.46	16.23



3 clusters

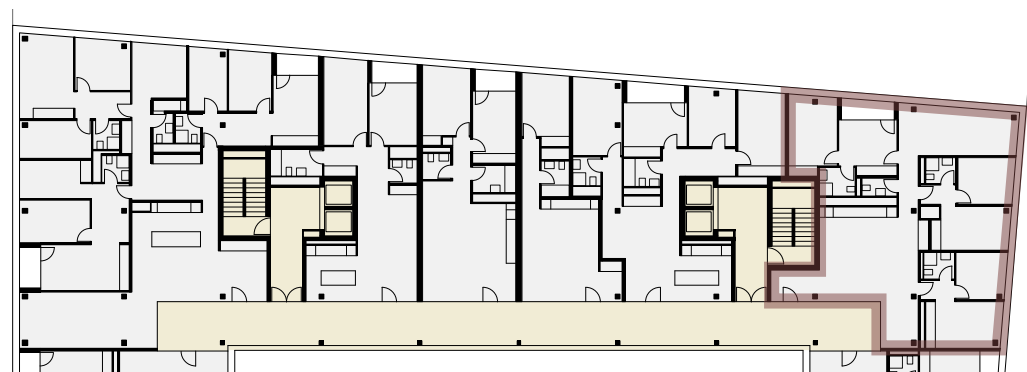
Shared areas
Private areas

Bathroom / living room-kitchen / Patio
Bathroom / living room-kitchen / Balcony

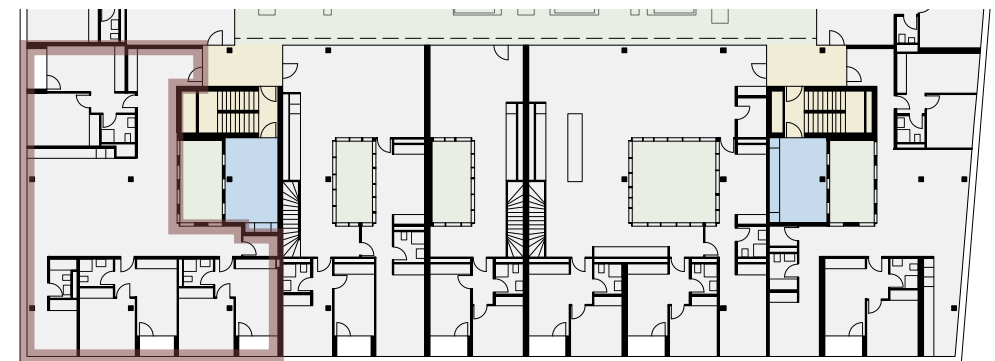
#residents

3-6
Multi-people household

	area m ²	in%	m ² /pers.	
			3p	6p
total	227.45	100	75.81	37.90
● shared	113.85	50.05	37.95	18.97
● private	113.60	49.95	37.86	18.93



4th floor



4th floor



3 clusters

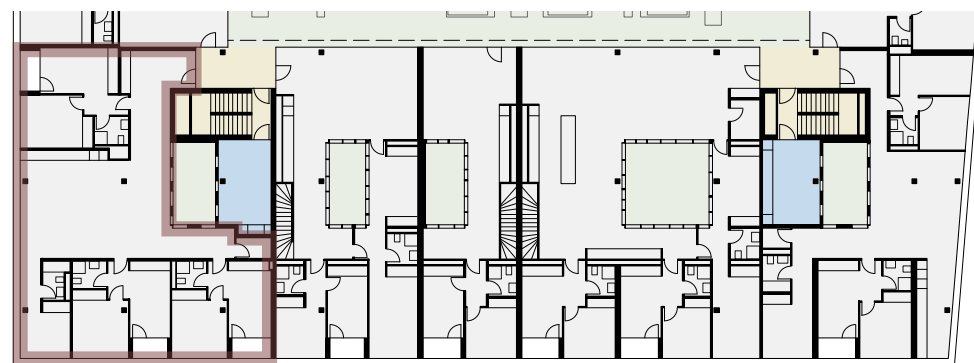
Shared areas
Private areas

Bathroom / living room-kitchen / Patio
Bathroom / living room-kitchen / Balcony

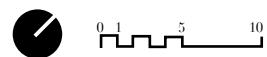
#residents

3-8
Multi-people household

	area m ²	in%	m ² /pers.	
			min	max
total	267.4	100	89.13	33.05
● shared	113.2	42.3	37.73	14.5
● private	154.2	57.7	51.4	19.27



4th floor



5 cluster



1:200

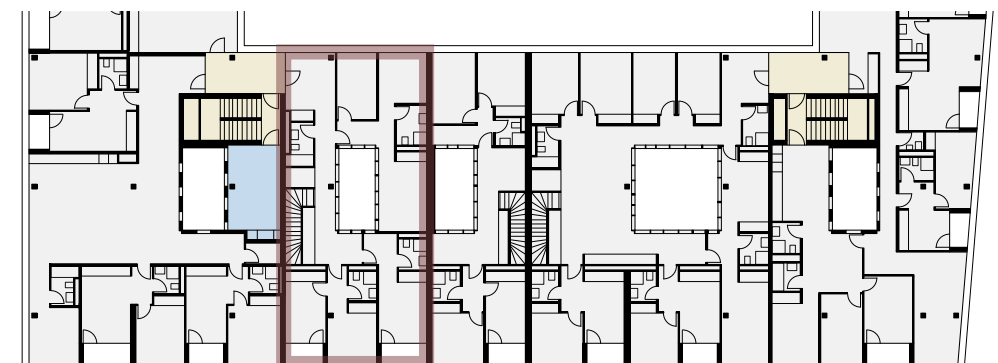
Shared areas
Private areas

Bathroom / living room-kitchen / Patio / Stairs
Bathroom / living room-kitchen / Balcony

#residents

5-10
Multi-people household

	area m ²	in%	m ² /pers.	
			max	min
total	305.7	100	61.14	30.57
● shared	120.5	39.4	24.21	12.05
● private	185.2	60.6	37.04	18.52



4th floor



6 cluster + 4 bedroom



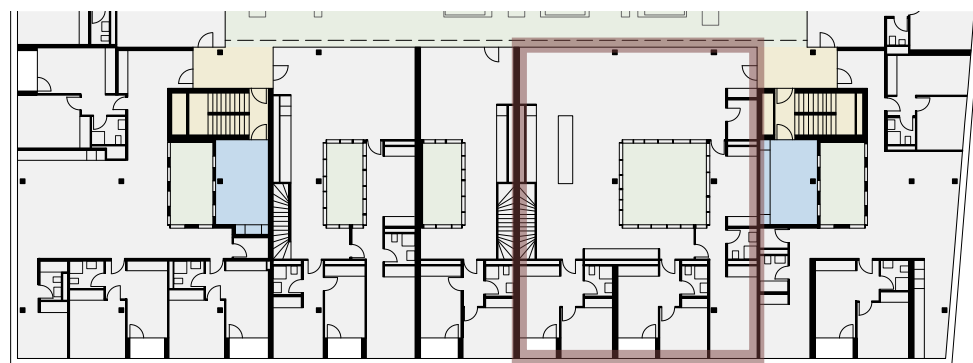
Shared areas
Private areas

Bathroom / living room-kitchen / Patio / Stairs
Bathroom / living room-kitchen / Balcony

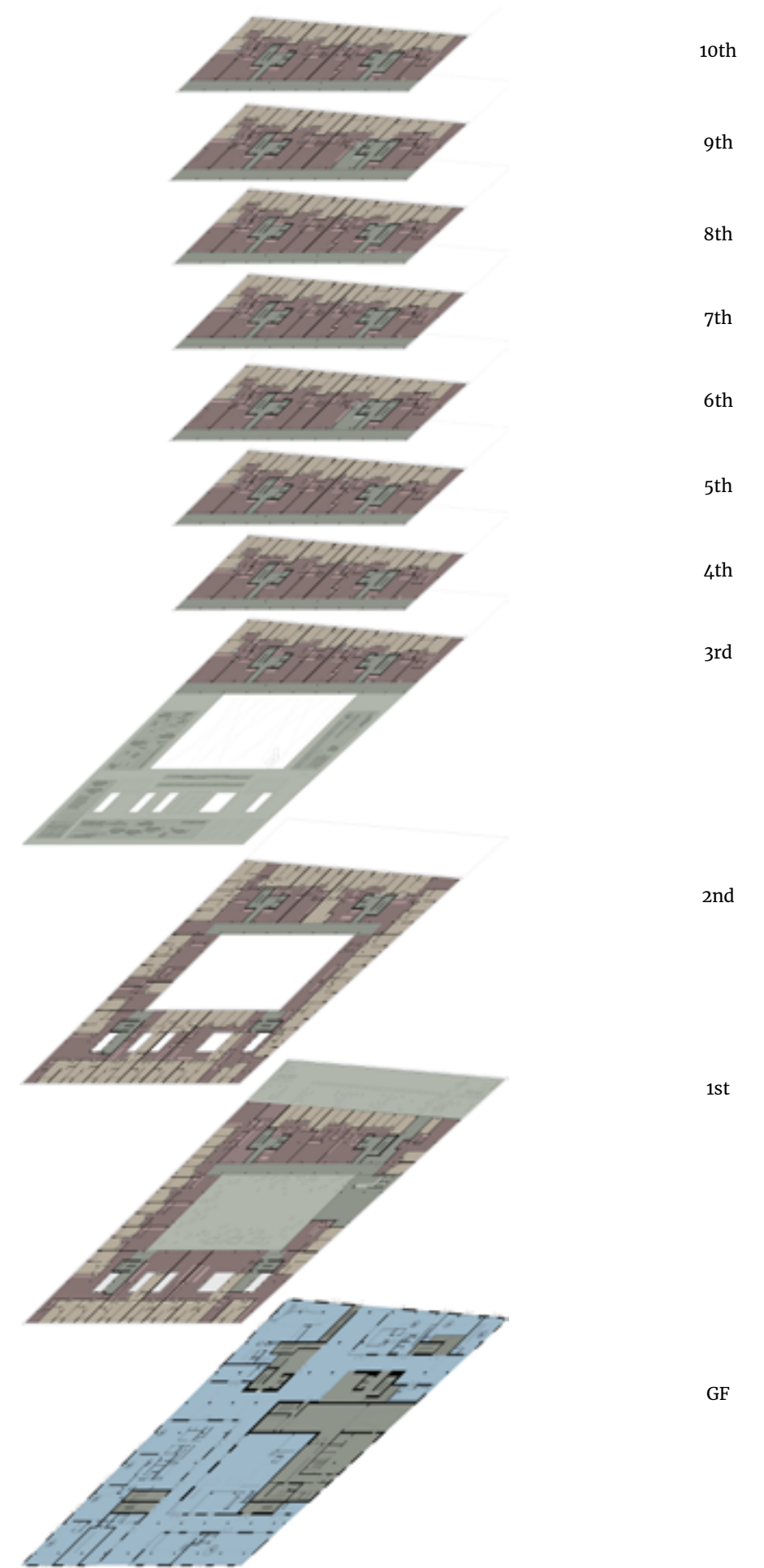
#residents

10-16
Multi-people household

	area m ²	in%	m ² /pers.	
			min	max
total	496.8	100	49.68	31
● shared	228.5	46	22.85	14.28
● private	268.3	54	26.83	16.76



4th floor

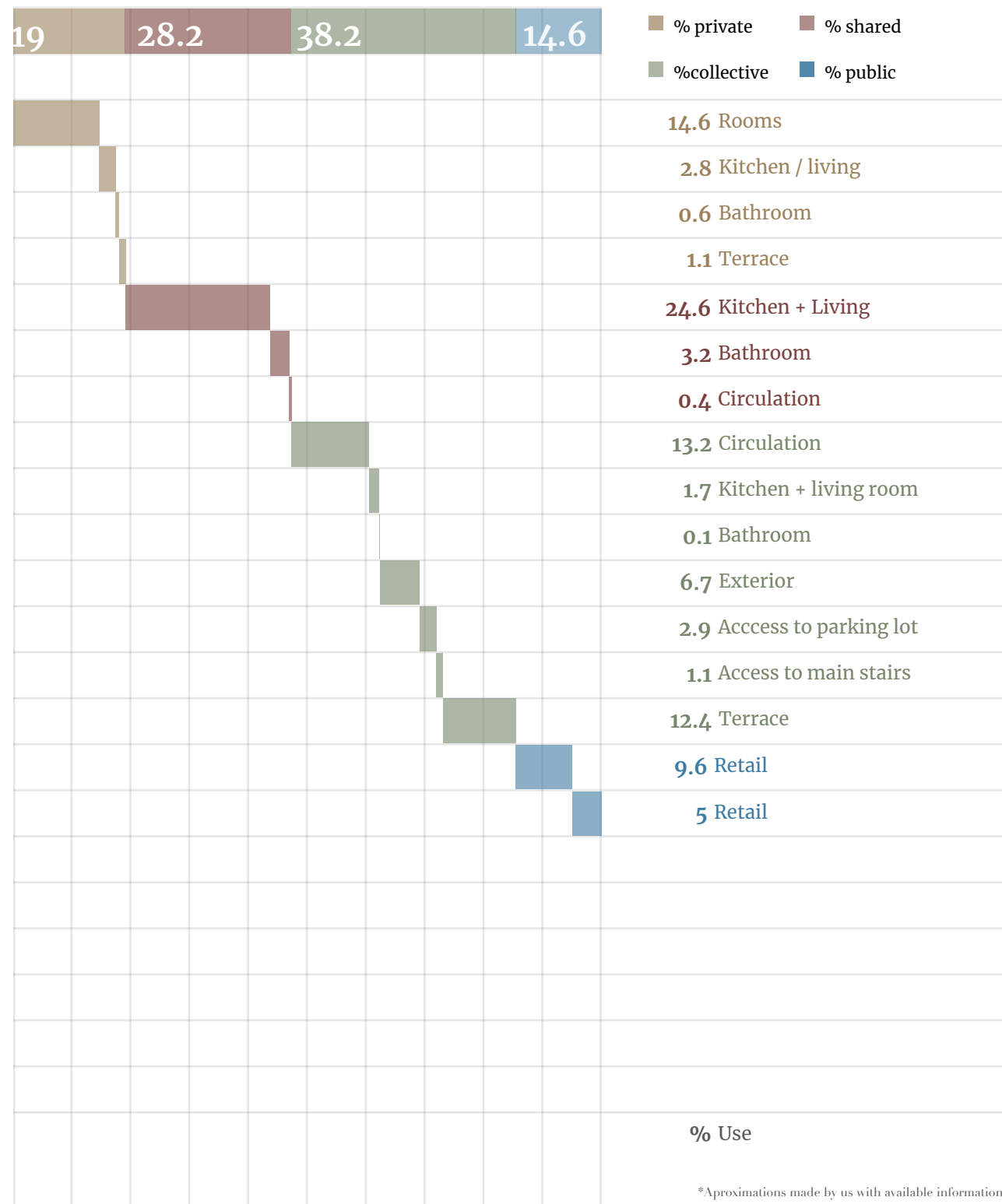


- public
- collective
- shared
- private

10th
9th
8th
7th
6th
5th
4th
3rd
2nd
1st
GF

Summary of the building

%



Key points

Ecoquartier Junction is an important case study, and we primarily chose it because of their cluster configurations but there is much more to it. The building combines several typological households that give flexibility to the users than can live there and also gives them a lot of collective spaces in and outdoors in each floor, these can be easily appropriated and shared. Also, this case study was the one with more public area and less private area (even though the clusters are spaces completely private inside a shared space). All the ground floor is part of the city, and anyone can go inside to cross or go to the stores which gives a large public space that then is used as the open courtyard on the first floor.

The clusters themselves are spaces that contain one or two bedrooms, bathroom, living room, terrace and a little kitchenet. As mentioned, before they are inside a shared apartment with other clusters or even with other private bedrooms. The interesting thing about them is that they give a lot of privacy that can balance the shared spaces; that gives a possibility to live in a co-living building without feeling overwhelmed by the feeling of lack in private space.



Common area inside an apartment.

Source: Dreier Frenzel Sàrl Architecture & communication. (2020, July 7). Écoquartier Junction: CODHA [Architecture website]. DOCUMENTATION SUISSE DU BÂTIMENT. <https://www.batidoc.ch/projet/ecoquartier-jonction-codha/763644>



Le Pommiers

Geneve / GMAA / 2011

Common central area
ETH tag: Social intentions

The cooperative Codha took advantage of the chance to construct its most energy-efficient structure. The “lucido” facades are created by timber planks and glass panels. They make use of solar energy to pre-heat the building through the greenhouse effect, decreasing its energy requirements. The 36-unit building has three multi-use workshop-guest rooms on the higher floors, three laundry facilities on the first floor, and a spacious common area of more than 80 sqm. The architects created a structure with internal passageways that converge on the main entrance.



The architects chose to take use of the land’s slope by creating a two-level, partially underground parking lot that connects the two volumes of housing. The two parking floors have side entrances, either direct or through a huge English courtyard, providing for enough daylight and natural ventilation.

The car park’s roof is structured as a communal esplanade, with multiple water elements, greenery, and wooden platforms, creating a peaceful atmosphere in harmony with the adjacent park. Footbridges connect to a clump tree, behind which a wooden platform serves as a transition between the esplanade and the public park. For the residents of the district, it all adds up to a true living space, a welcoming gathering spot, strolling, and games.

The immovable features inherited from the localized plane of district, such as building length and breadth, resulted in an organization with numerous cages of staircases, resulting in severe space loss and traditional dwelling typologies. As a result, the architects devised a typology based on indoor pathways that could be distinguished by building.



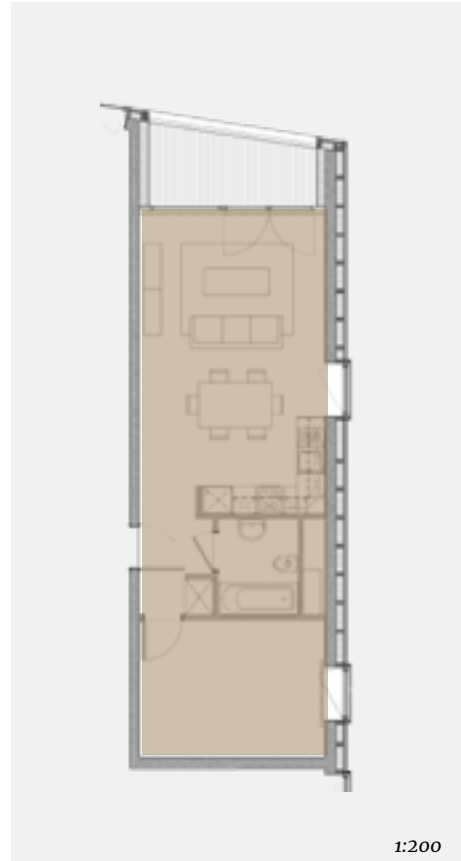
Up: Open area in-between the buildings.

Bottom: Area being used by the residents of the buildings.

Source: LE POMMIER (GE). (n.d.). [Collective website]. LA CODHA. Retrieved April 6, 2022, from <https://www.codha.ch/fr/les-immeubles-de-la-odha?id=2&display=plan>

Typologies

2 room apartment



1:200

Shared areas

Bathroom / living room-kitchen / Balcony / Bedroom

#residents

1-2
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			

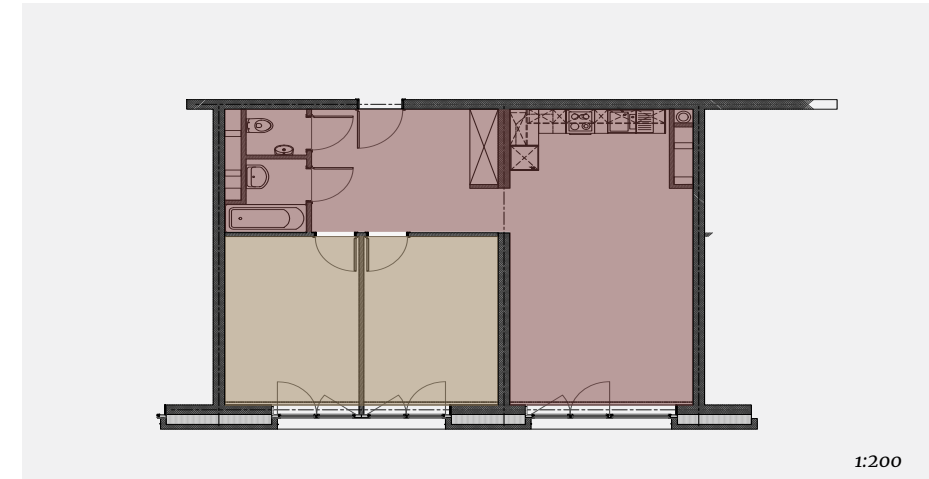
total	46.5	100	46.5
-------	------	-----	------

● shared

● private

private	46.5	100	-
---------	------	-----	---

3 room apartment



1:200

Shared areas

Bathroom / living room-kitchen

#residents

2
Single Family Household / Multi-people household

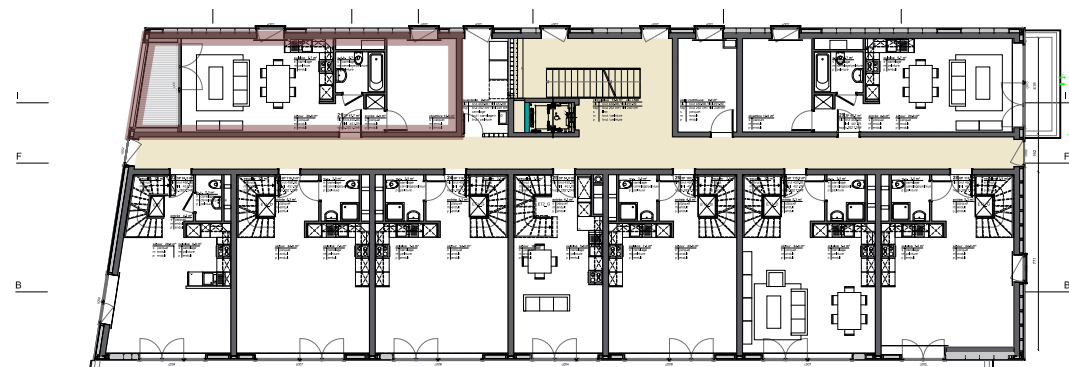
	area m ²	in%	m ² /pers.
Usable floor space			

total	77.8	100	38.9
-------	------	-----	------

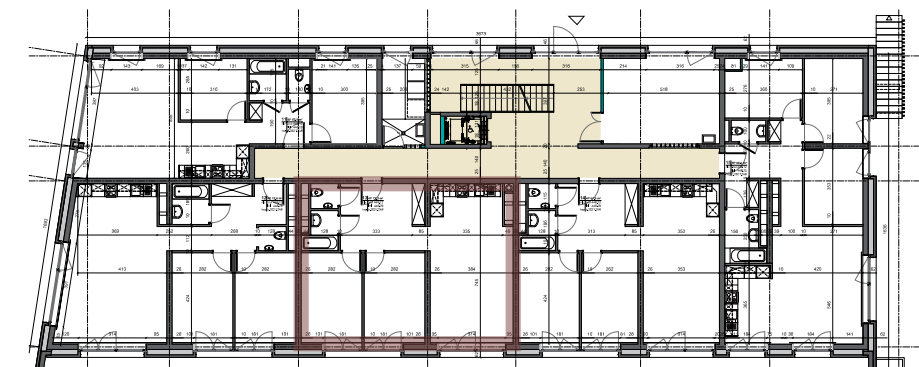
● shared

● private

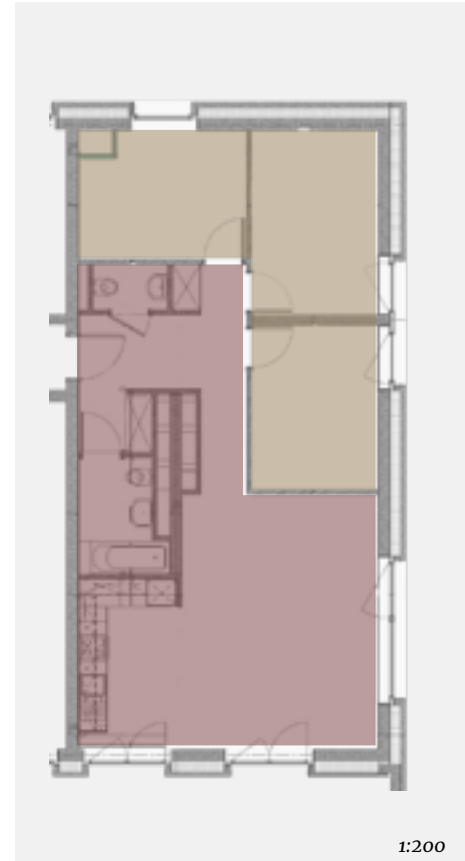
private	26.3	33.8	13.15
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2nd floor



1st floor



4 room apartment

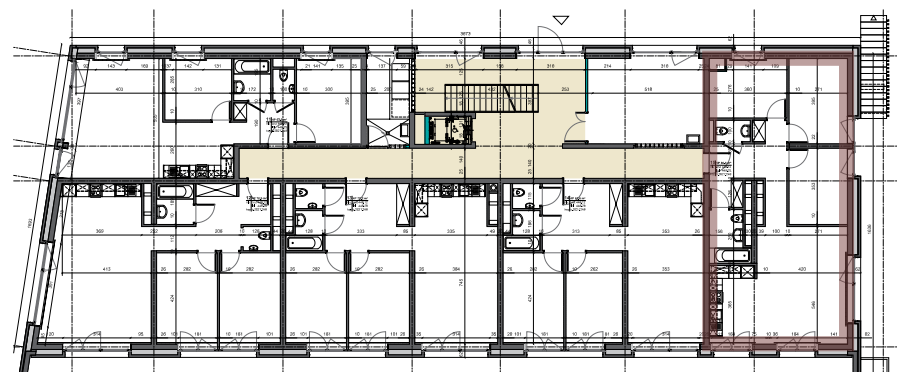
Shared areas

Bathroom / living room-kitchen

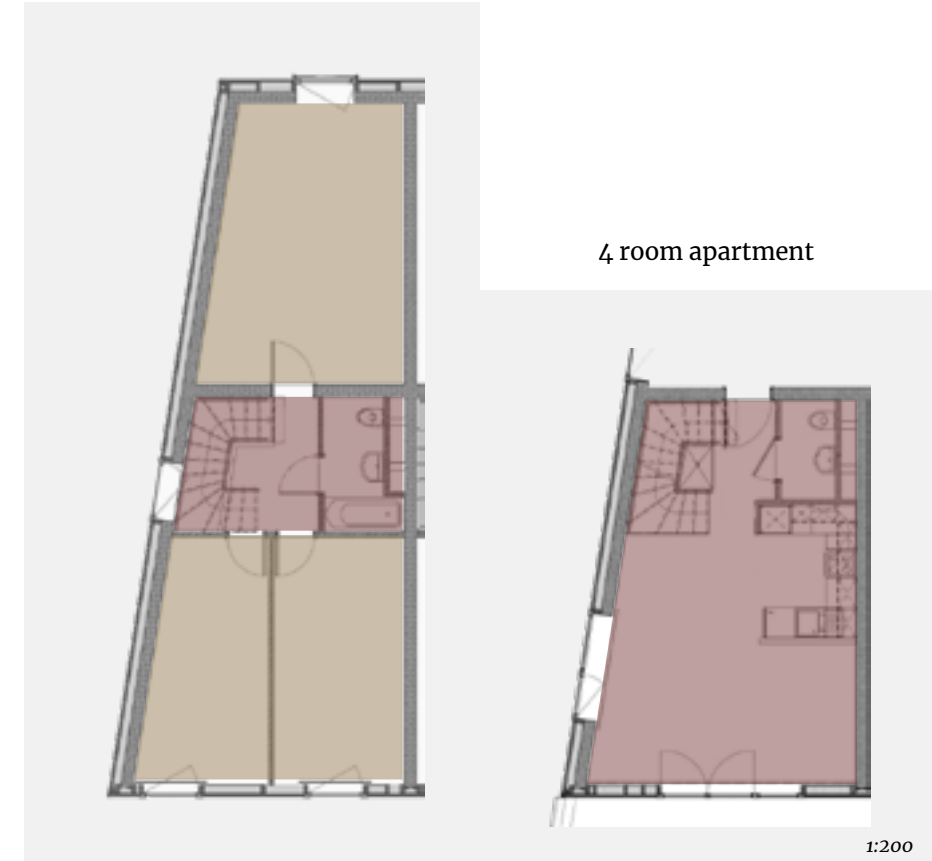
#residents

3
Single Family Household / Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	91.44	100	30.48
● shared	56.81	62.12	18.93
● private	34.63	37.88	11.54



1st floor



4 room apartment

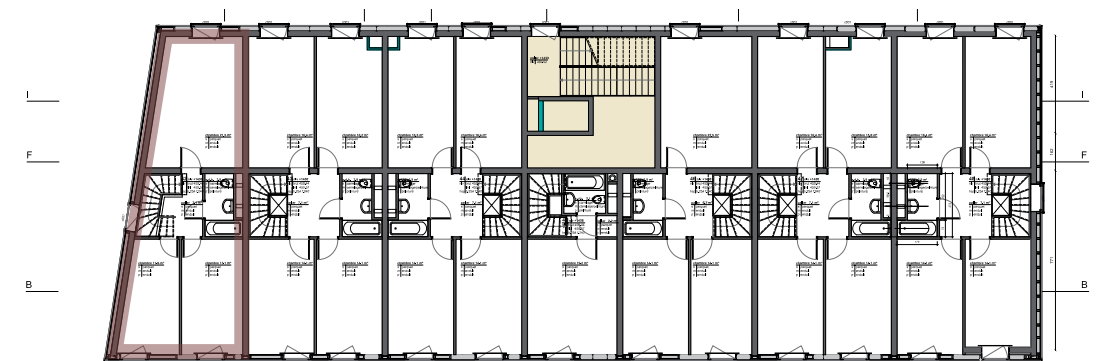
Shared areas

Bathroom / living room-kitchen / Stairs

#residents

3
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	93.95	100	31.31
● shared	46.7	49.70	15.56
● private	47.25	50.3	15.75



4th floor



5 room apartment

1:200

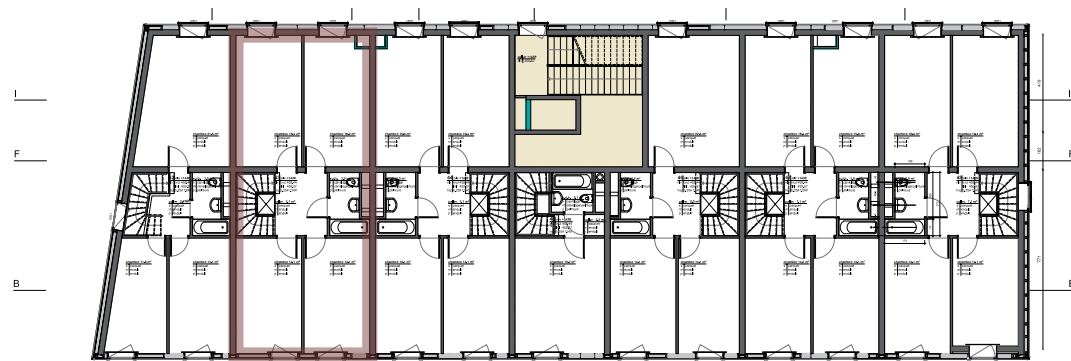
Shared areas

Bathroom / living room-kitchen / Balcony

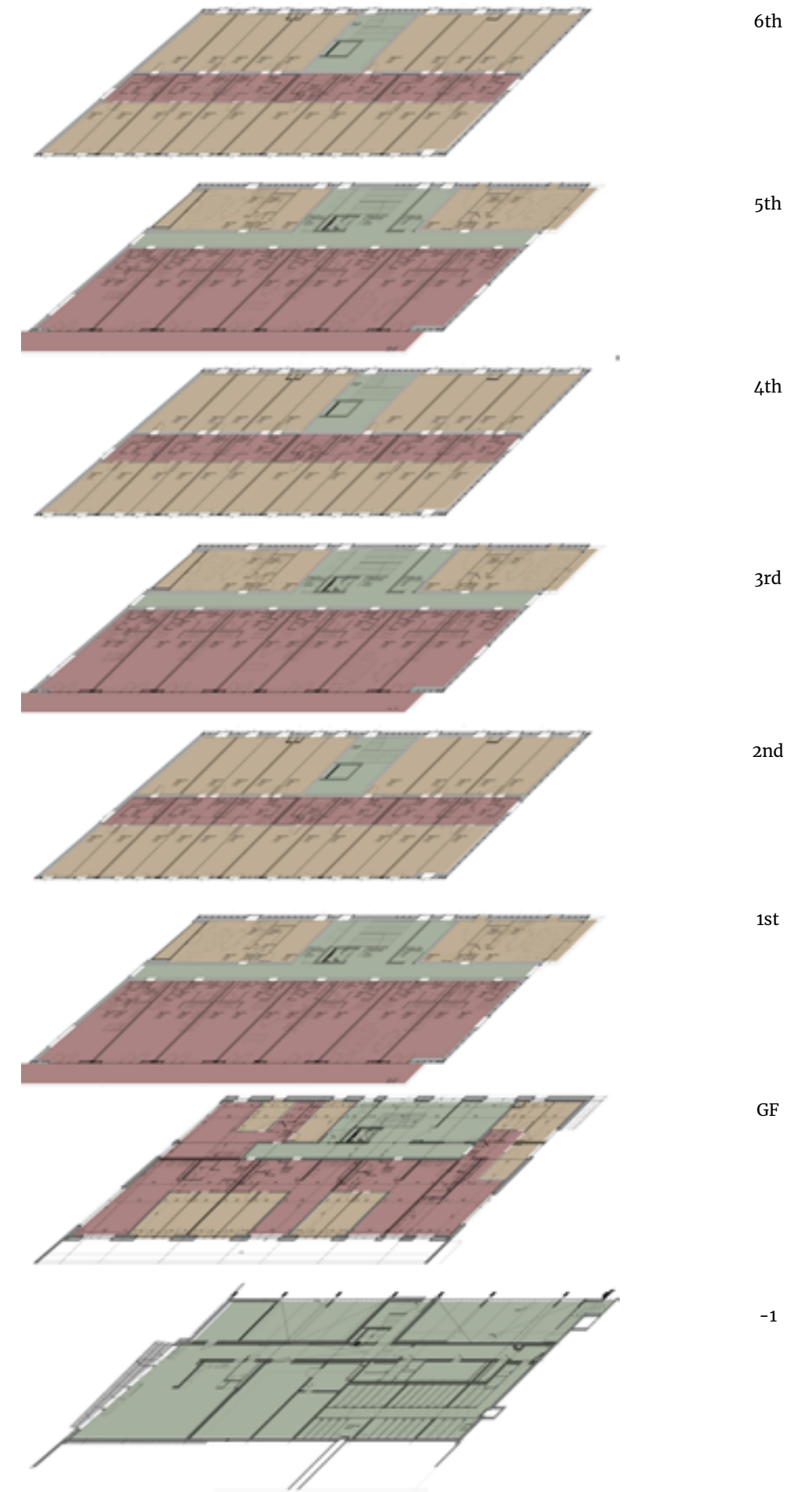
#residents

4
Multi-people household

	area m ²	in%	m ² /pers.
Usable floor space			
total	123.1	100	30.77
● shared	60.55	49.18	15.13
● private	62.55	50.82	15.63



4th floor



● public
● collective
● shared
● private

6th

5th

4th

3rd

2nd

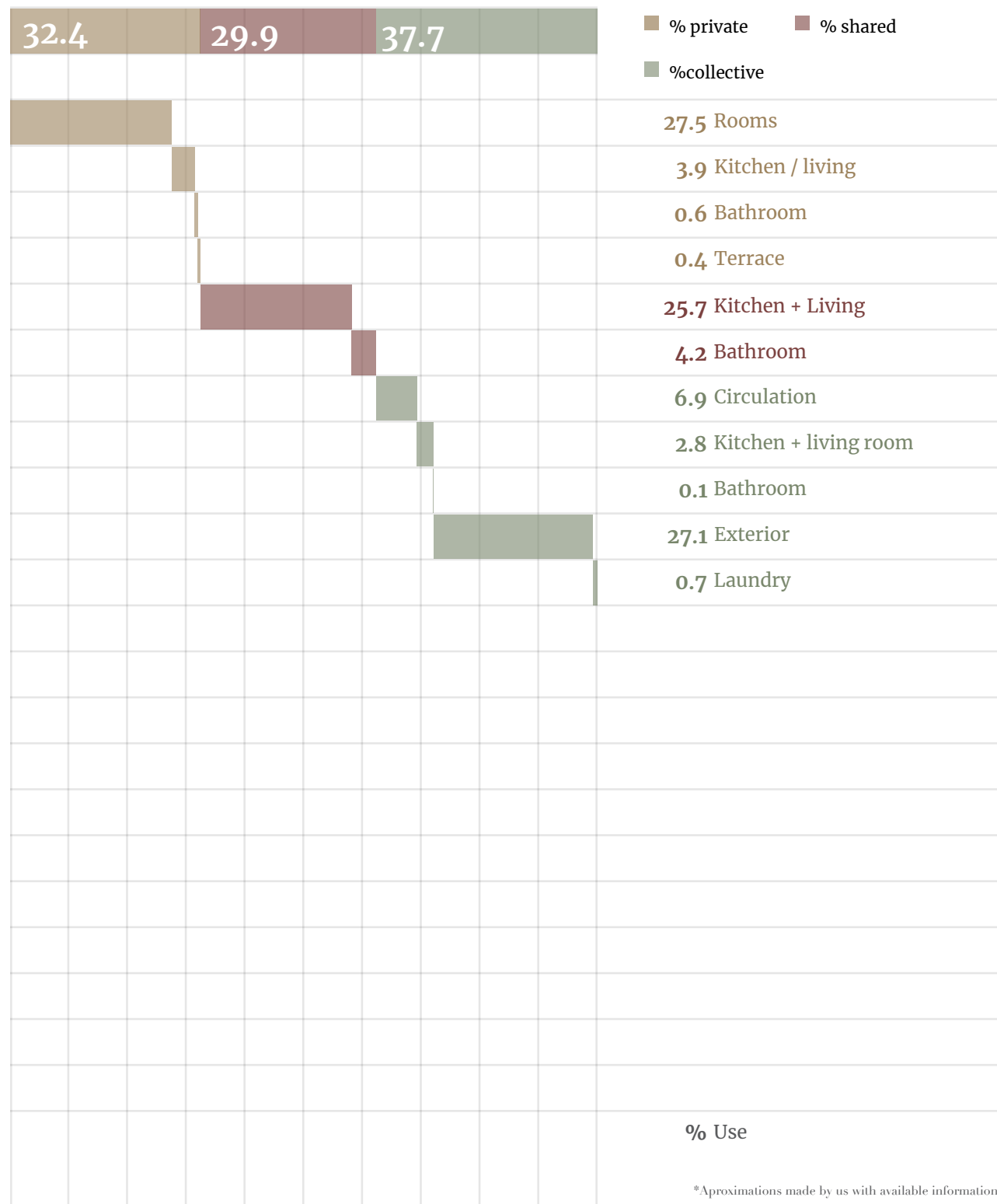
1st

GF

-1

Summary of the building

%

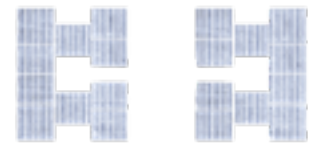


Key points

Le pommiers has two qualitative ideas that we would like to point out. The first one is that some of the apartments are given to senior citizens so they can live inside a supportive community and the second one is that they have a lot of communal spaces inside and outside the building. This gives the residents the chance to create links and organize events where everyone is included. The square in between the buildings is the Up part of the parking lot and it is a middle ground for both of the buildings and then there is a garden that has more greenery and another atmosphere to bring two different outdoor experiences and uses.

The typological design of the household is focused on a shared apartment, they are very similar to each other and in this case for us it looks more difficult to be flexible to receive a larger range of families. On the other hand, we really like the approach to sustainability that they developed in the building that brings an interesting point of view to take into account.





110 rooms

Barcelona / MAIO / 2016

Typological indifference
ETH tag: Economic intentions

This project design by MAIO brings out an important point in modularity and flexibility. The main goal was to develop an almost identical module that would be part of the apartment and by placing it 5 times we have a series of units that can be used as needed by the inhabitants. You can add or subtract them in order to modify the proportions of a room. This brings the possibility to have from 1 to 3 bedrooms and to place them in the way that works better for each individual. All the apartments are composed in the same way.



Each one has 5 modules and 4 apartments per floor; this gives us 20 rooms per floor. The rooms that need installations are located in the center to facilitate the supply. On the ground floor there are 3 access points. The first one is for the vehicles with a door pushed back into the building, then the access of a store that occupies the middle and lastly the pedestrian access which also leads to two separate apartments developed in two floors. The ground floor also has a collective garden full of vegetation and a swimming pool, all of this is reachable by a lateral access. The roof has photovoltaic cells to generate energy for the building, but the rest is not adapted to be used by the residents, it is a concrete flooring with some walls that make an echo to the ones on the ground floor.

The structure of the building is a mixed system that includes a metallic core for each volumetric space on the ground floor and first floor and then we have a repetition of slabs and pillars. This method is also practical due to the fact that the rooms can be changed with the opening or close of a division; this division walls are done with dry wall systems. The façade follows the design that has been present for years in the neighborhood with the large narrow windows and the balconies.



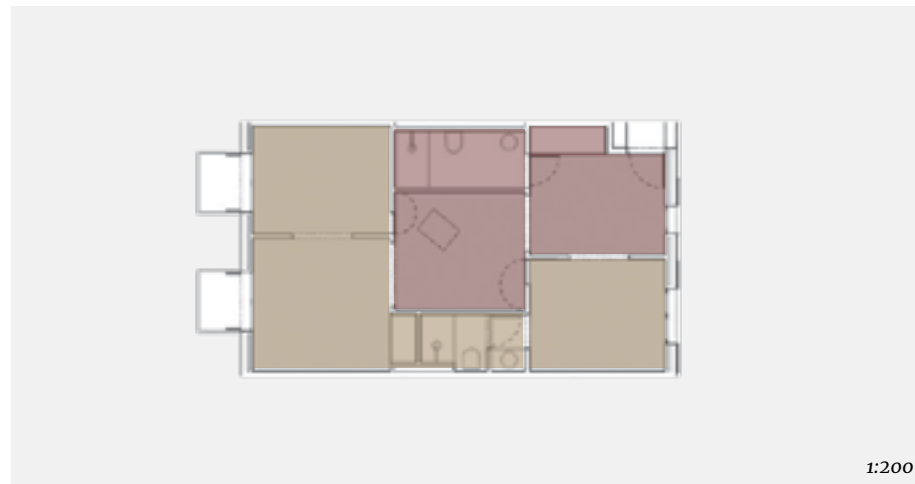
Up: Facade of the building.

Bottom: Interior spaces of one apartment.

Source: Coulleri, A. (n.d.). Edificio de viviendas 110 Habitaciones / MAIO [Architecture blog]. ArchDaily. Retrieved July 26, 2022, from <https://www.plataformaarquitectura.cl/cl/968026/edificio-de-viviendas-110-habitaciones-maio>

Typologies

5 room apartment



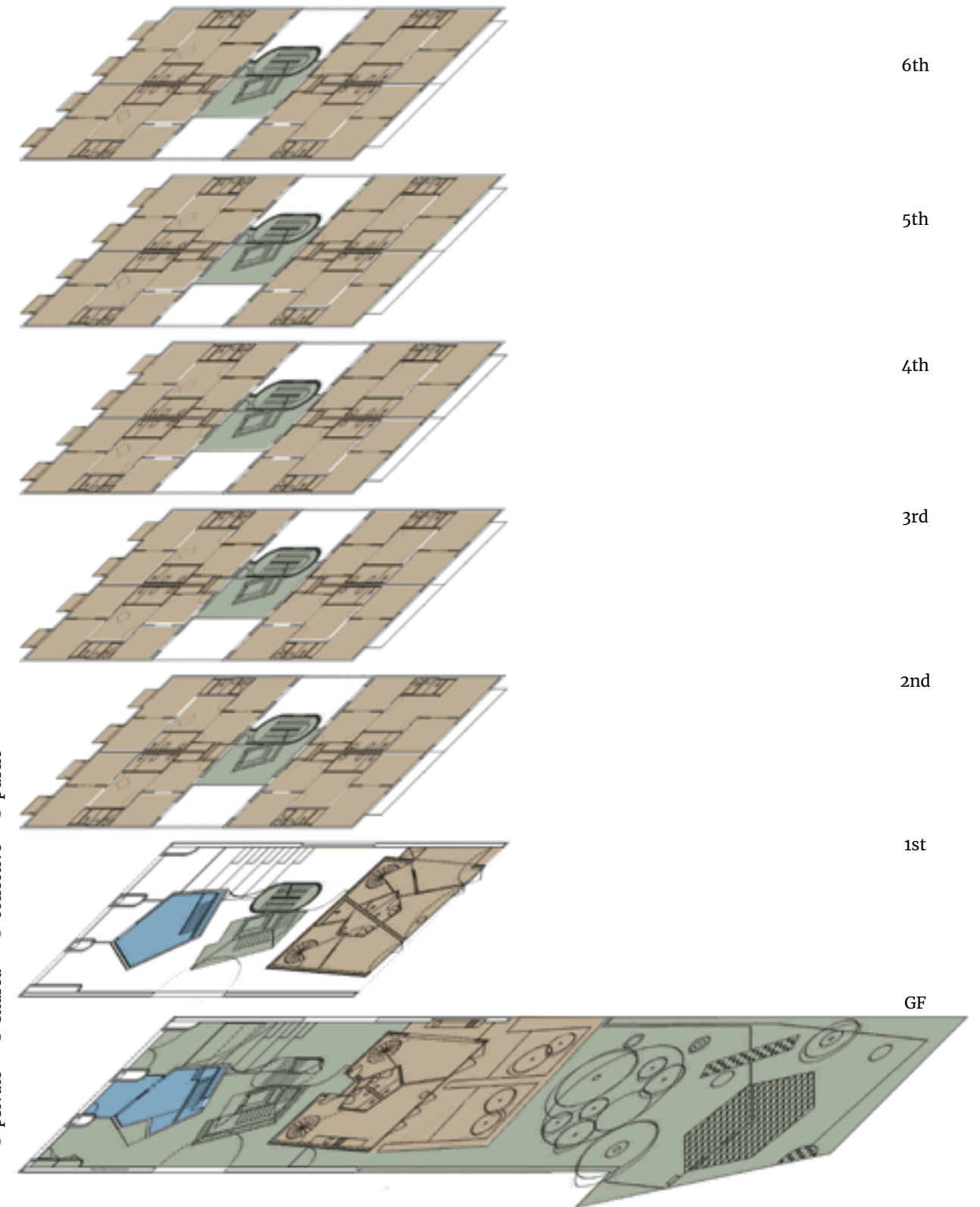
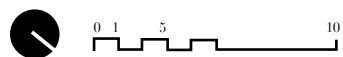
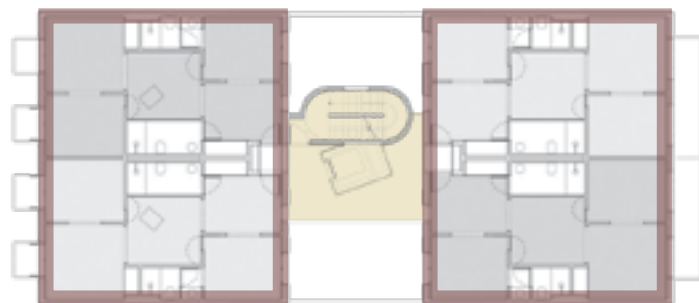
Shared areas

Bathroom / living room-kitchen / Balcony

#residents

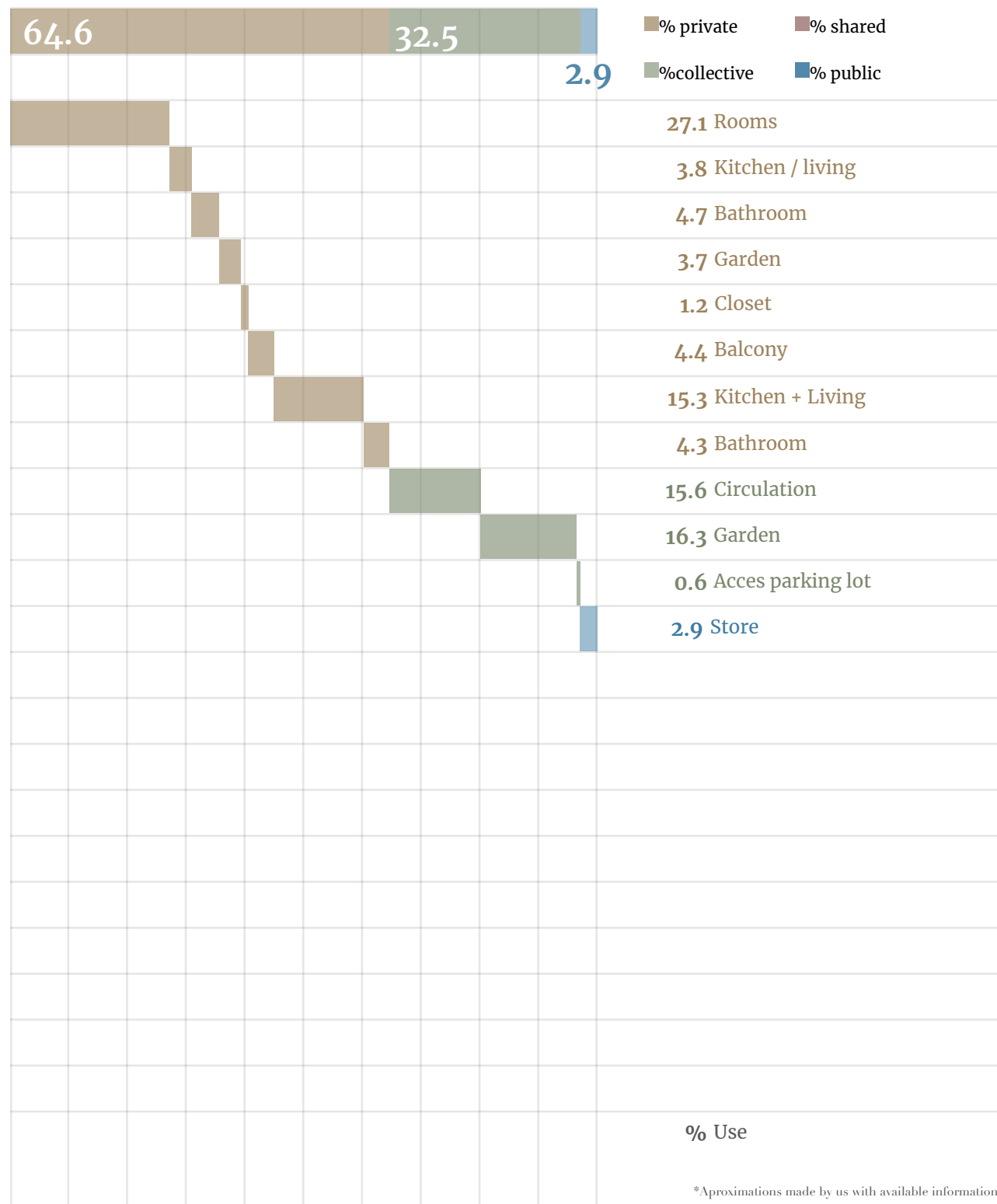
1-3
Single Family Household / Multi-people household

	area m ²	in%	m ² /pers.	
			max	min
total	56.34	100	56.34	18.78
● shared	22.04	39.12	22.04	7.34
● private	34.3	60.88	34.3	11.43



Summary of the building

%



Key points

For us this is an important example of how the typological indifference in the modularity makes the apartments flexible for their users by giving them the chance to adapt their houses into their needs. In this example it comes into a limit inside the apartments but what would happen if we can find a way to expand them? This is a point where there is no hierarchy between them, and in this “strict” modules there is still freedom within it.

Another point that brings interest when analyzing this building is the sqm per room, they go approximately from 8 to 10 sqm. If we go to the first case study Kraftwerk we can see that the bedrooms go approximately from 15 to 20 sqm which we can also consider in our project if we ask ourselves what is the most standardized size for a nonhierarchical room that can meet all the necessities without feeling over or under sized or even if the bedroom needs more space than the one that the bed occupies? This example is always a good opportunity to get more informed and curious about the current social housing and how is being able to be sustainable and flexible.



Schematic drawing of the modules inside the apartments.

Source: Coulleri, A. (n.d.). Edificio de viviendas 110 Habitaciones / MAIO [Architecture blog]. ArchDaily. Retrieved July 26, 2022, from <https://www.plataformaarquitectura.cl/cl/968026/edificio-de-viviendas-110-habitaciones-maio>



La borda

Barcelona / Lacol / 2018

Interchangeable nucleous
ETH tag: Political intentions

The building is part of a city improvement in the area of Can Batlló in Barcelona. A movement for alternative housing after a housing crisis was created and developed by a bottom-up design that could address the needs of the future residents. The cooperative and the design aim to have an interest for the community model that consists of a non-speculation of the market; to be able to do this the plot of land belongs to the government and the building to the cooperative.



The 28 houses are given to people with the opportunity to live there their whole life if they want to and, if they decide to move before it, the space is on the hands of the people living there (as they are partners of the building). The rents are low and the cooperative managed to reduce the initial prices by making a light structure and spaces that will be finished after by the community. The apartments have several common spaces that allow the communication between the residents and make a middle ground among the private and public spaces. This is accentuated by the central courtyard called “corralas” that is a remembrance of the typological architecture of social housing. The apartment units have a 50 sqm basic space that is livable by one or two individuals. This first module can be modified by adding one or two modules extra to make them bigger. Of course, depending on the needs of the residents the spaces can be modified over time.

One important measure was to have a collective space for activities that can be shared between the residents and can also help to generate a sustainable approach like the laundry room, the guest room, or the large kitchen. This, together with the corridors and patio generate a sense of appropriation and belonging to the building and this hopefully can translate into the community as a way to preserve it, take care of it and improve it.



Up: Central patio of the building.

Bottom: Circulation spaces appropriation.

Source: Lacol. (2018).
Cooperativa d'habitatge
La Borda. Lacol. <http://www.lacol.coop/pro-jectes/laborda/>

Typologies

3 room apartment



Shared areas

Bathroom / living room-kitchen / Balcony

#residents

1-2
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			
total	40	100	20
● shared	25	62.5	12.5
● private	15	37.5	7.5



1st floor

4 room apartment



Shared areas

Bathroom / living room-kitchen / Balcony

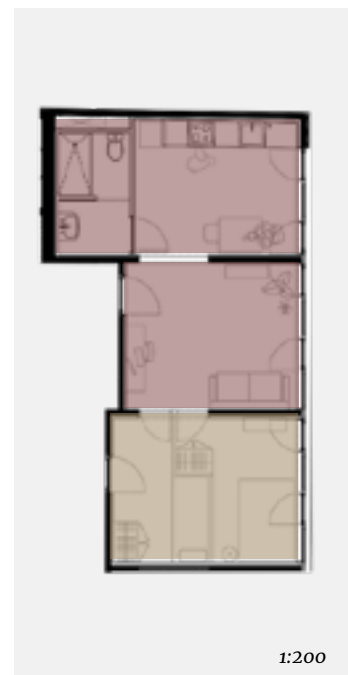
#residents

1-2
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			
total	58	100	29
● shared	43	74.13	21.5
● private	15	25.87	7.5



1st floor



4 room apartment

Shared areas

Bathroom / living room-kitchen

#residents

1-2
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			
total	51.65	100	25.82
● shared	29.02	56.18	14.51
● private	16.55	32.04	8.27



1st floor



5 room apartment

Shared areas

Bathroom / living room-kitchen / Balcony

#residents

1-4
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			
total	76	100	19
● shared	40.6	53.42	10.15
● private	35.4	46.58	8.85



1st floor





5 room apartment

Shared areas

Bathroom / living room-kitchen / Balcony

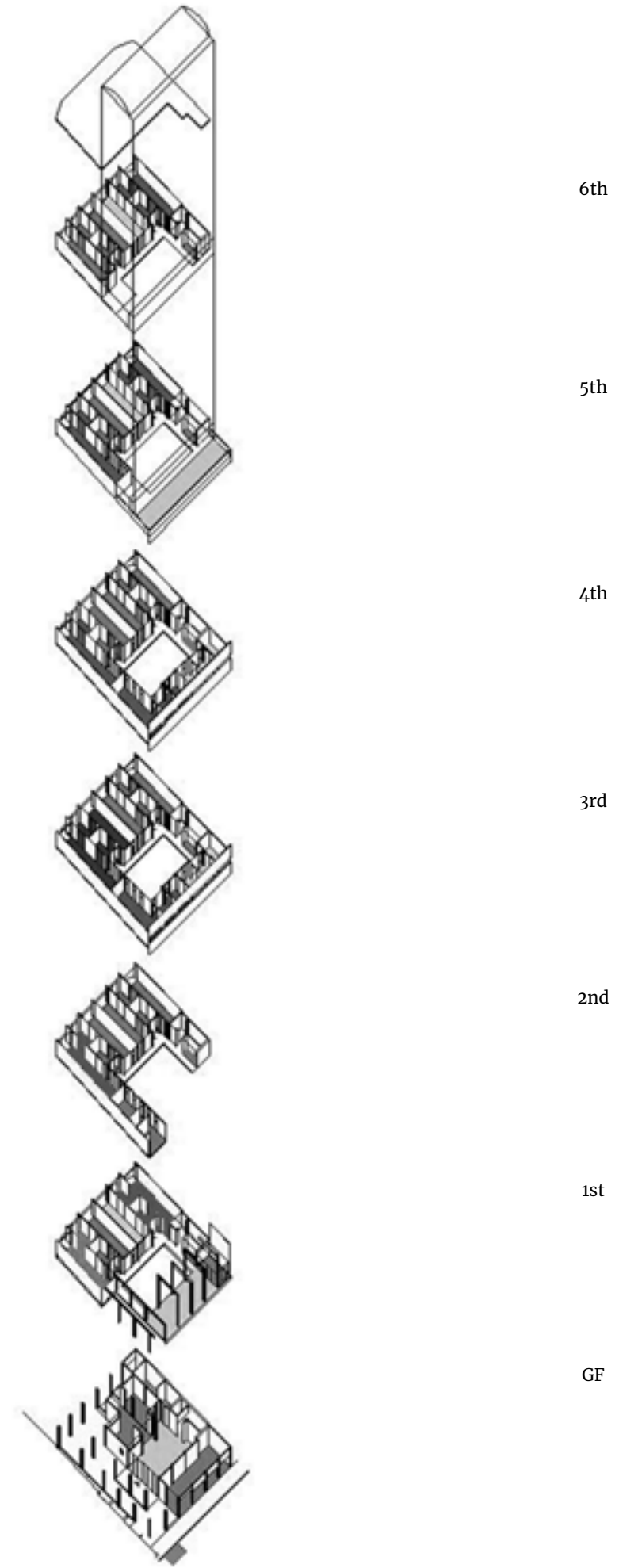
#residents

1-4
Single Family Household

	area m ²	in%	m ² /pers.
Usable floor space			
total	80.31	100	20
● shared	48.28	51.72	12.07
● private	38.78	46.58	9.70



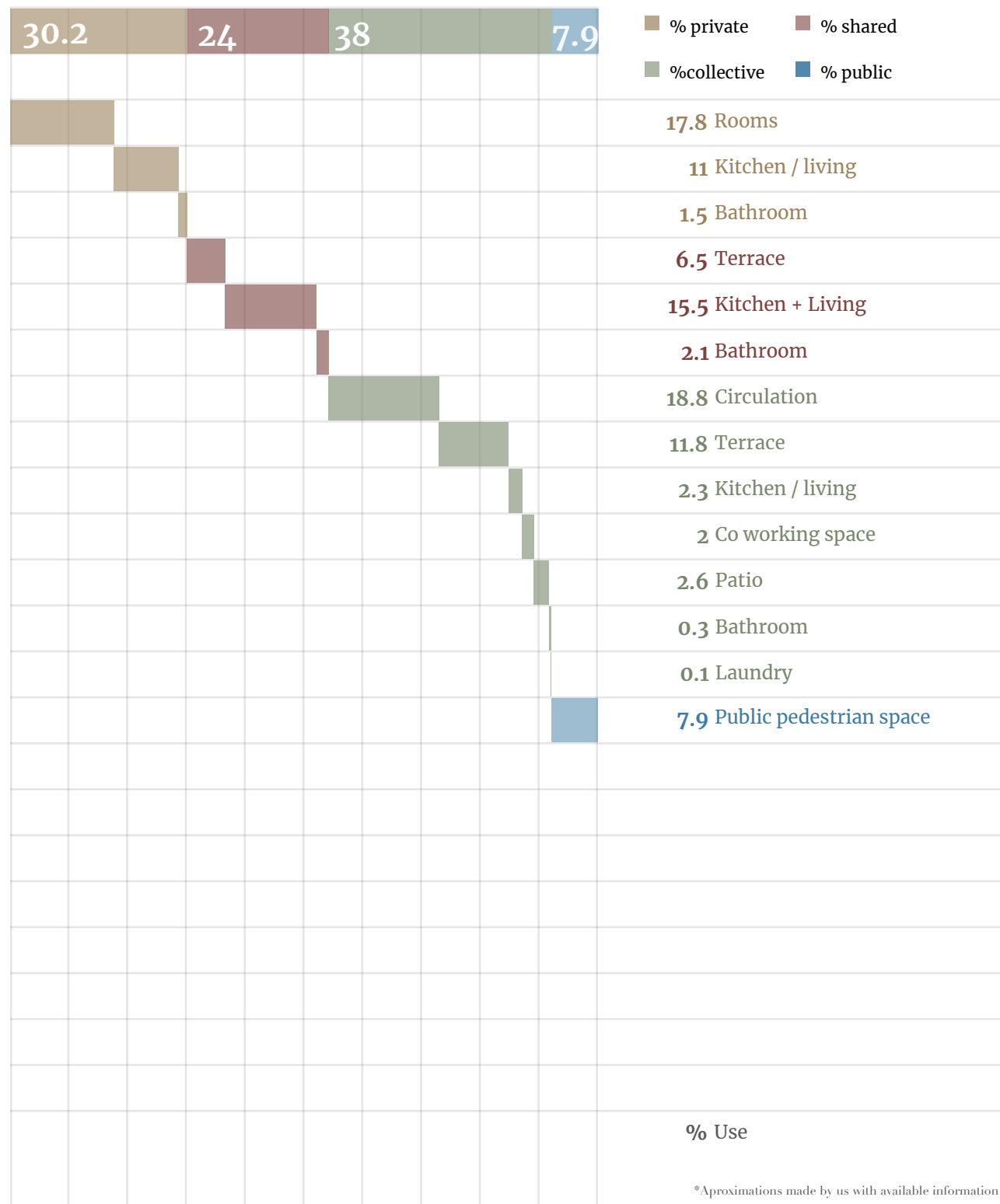
1st floor



● public
● collective
● shared
● private

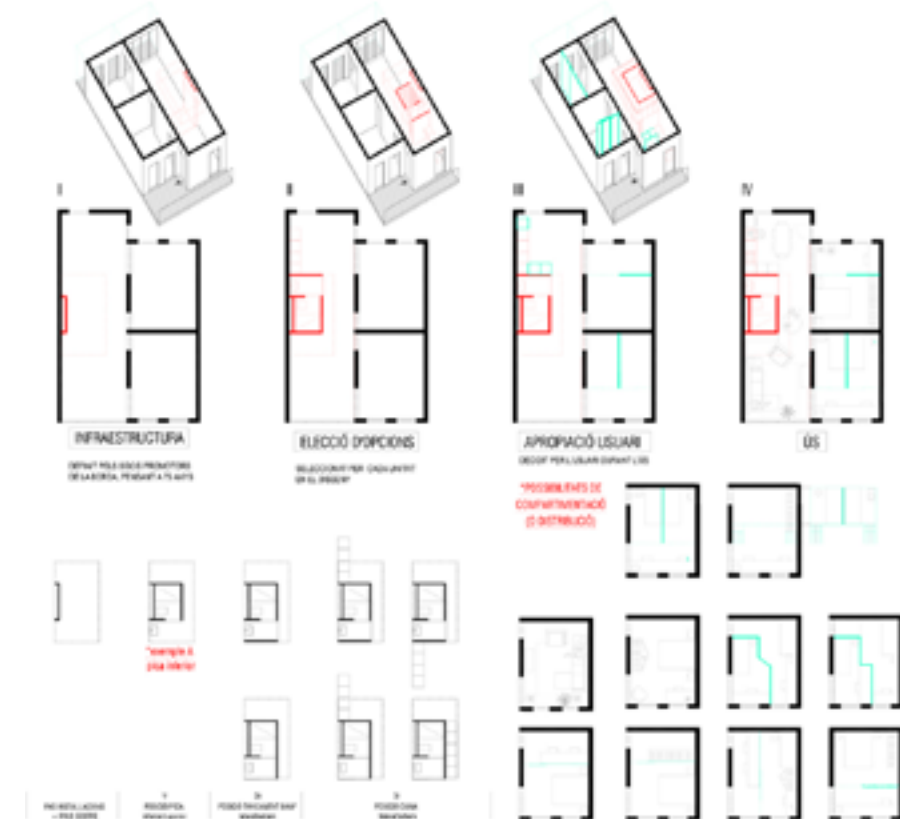
Summary of the building

%



Key points

This case study brings a several interesting ideas to consider when it comes to co-housing and social housing. First of all, if we look at the system that they have we can find that they allow families to live there their entire lives without the economic stress of a loan or a contract for a specific amount of time but yet, with the freedom to go anytime they want. This narrative of not owning anything makes it possible to not speculate over the property but permits a mobility for the residents. There is an increased amount of people that cannot own an apartment, but this releases the stress of it because it is reassuring having a roof on top of your head at a low price for the rest of your live. When we look into the architectonic aspect of it, it is visible how there is a dynamic situation taking place. The nuclear base is present in all the typologies, but you can make your own depending on your needs that can be having kids, working on your house, or living with extended family. When these situations change you can re arrange your place and maybe give that room for someone else who needs it. The partitions of the rooms are also another interesting point into the adaptability of the place and the fact that some of the common spaces are not finished gives the opportunity to express a common cultural social ground.



Modules and their adaptability to different needs.

Source: La borda: Cooperativa d'habitatge en cessió d'us. (n.d.). [Cooperative website]. Retrieved July 27, 2022, from <http://www.laborda.coop/es/proyecto/cesion-de-uso/>

Interpretation of the results

These case studies were chosen because each one of them has a qualitative particularity that interested us but, we also considered the quantitative aspect of them and each one has been analyzed by measuring the general and particular areas. These two factors gave us data to be analyzed and interpreted.

What we can see is that they behave quite similarly. The one that goes a bit different on the charts is Kraftwerk because the collective space is quite below the others, and the shared space is above, but we must also consider that this one was made in 2001, so it is the oldest one in the group and maybe that has something to do with it. Alongside with the fact that this building is more focused on the shared apartment so the shared spaces inside of them become generous; also they decided to reduce the hallways in the center of the building that only gives the possibility to have collective spaces on the ground floor or in the rooftop. But nevertheless, the building has been working very good until these days.

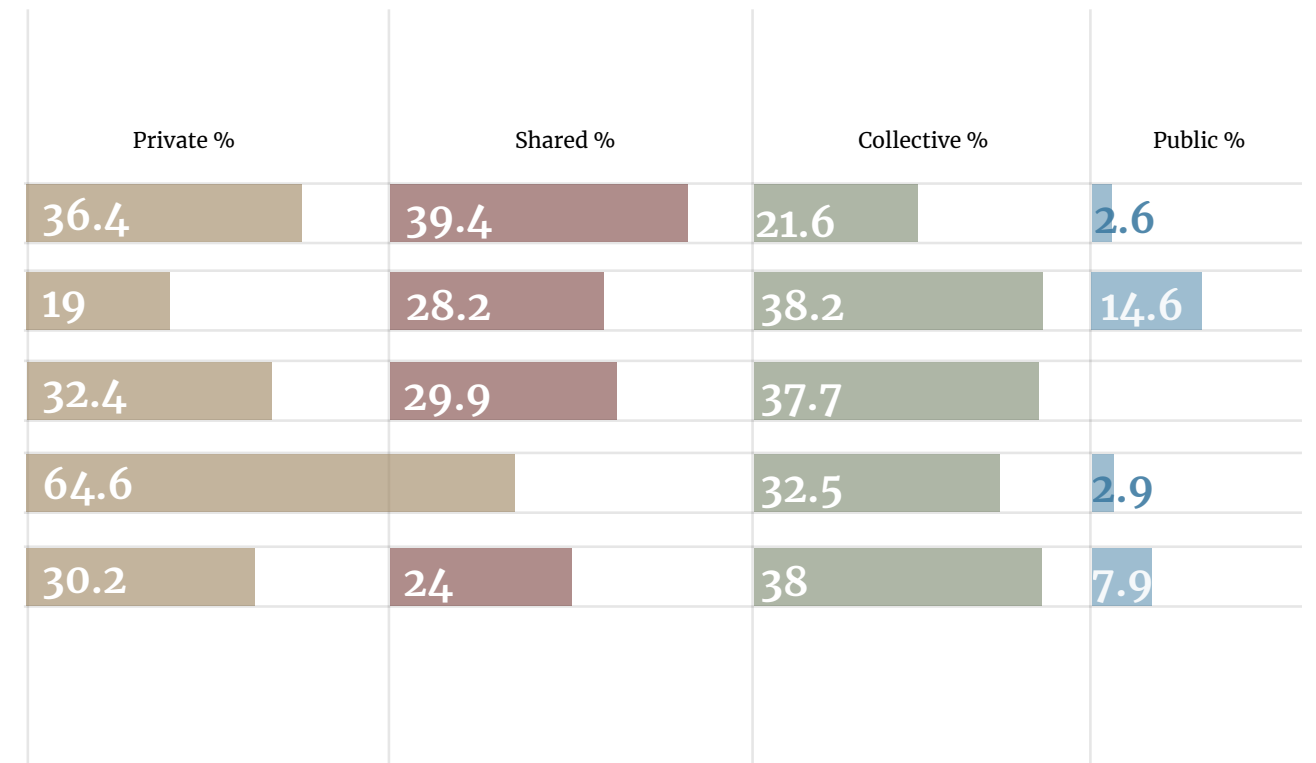
Something very surprising was the fact that Le pommiers and Ecoquartier Jonction have very close percentages on collective and shared. This is a great point because despite the fact that they have been built 5 years apart and they have a huge difference in the number of households (36 to 115) they have this relationship to the percentages of the building. It is also important to notice that they do have a different household approach; Le pommiers only has shared apartments and Ecoquartier has clusters, shared

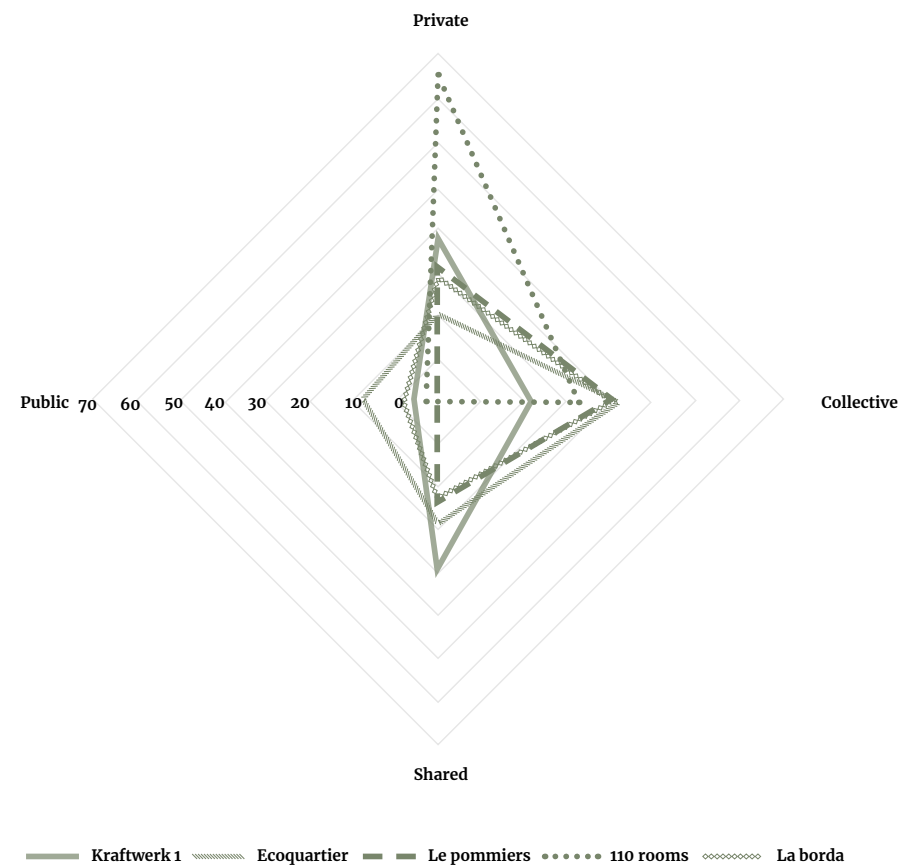
Project	Year	Floors	No. Households	Area sqm
Kraftwerk 1	2001	9	81	6700
Ecoquartier	2017	12	115	4149
Le pommiers	2011	8	36	2740
110 rooms	2016	6	22	2795
La borda	2018	7	28	3000

apartments, and clusters with private rooms so, this tells us that even with different household composition the result can be similar.

By analyzing the two buildings that have a modular method we can see how the private area is reduced in La Borda because as showed on the plans and description for them, the collective spaces are more important for the community links that can be formed in these spaces. Meanwhile in 110 rooms the collective areas take place only on the ground floor. What we can get from this is that the approach to the building and the intentions that are important for the residents or/and architects are reflected on the quantitative part. But one of the main differences is that even though both of them work with modules they do it with a diverse approach. The first one is based on three typologies of module, each one with its own sqm and one of them- the largest- that contains the areas that require installations. The second one is more about the idea of having practically identical modules in sqm and proportions and place them in a way where the central one is the one with the installations and the other three are open to interpretation depending on each user.

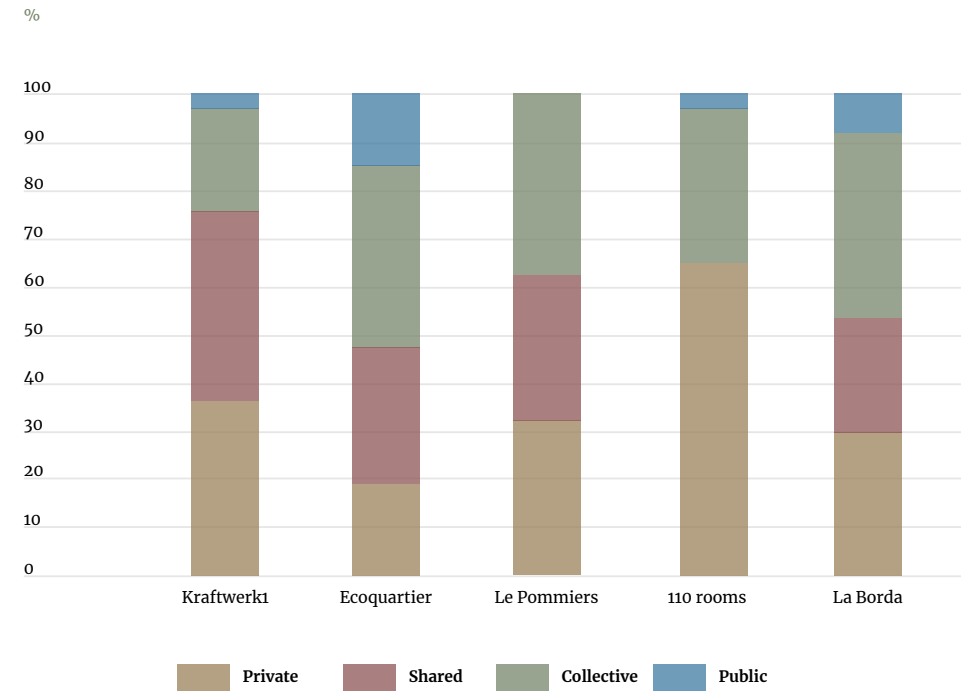
Overall, this analysis is helpful to see a general view of how these buildings where designed, how the areas work for the general building and how they behave in the household units regarding the sqm per person that are given in private and shared areas. This is showing us a spectrum of how the co-housing has been working over the years and what “rules” are appearing in all of them that make them successful. And how the design approach is molding the decision scheme that gives or takes more sqm to some areas or functions depending on the goal they have.



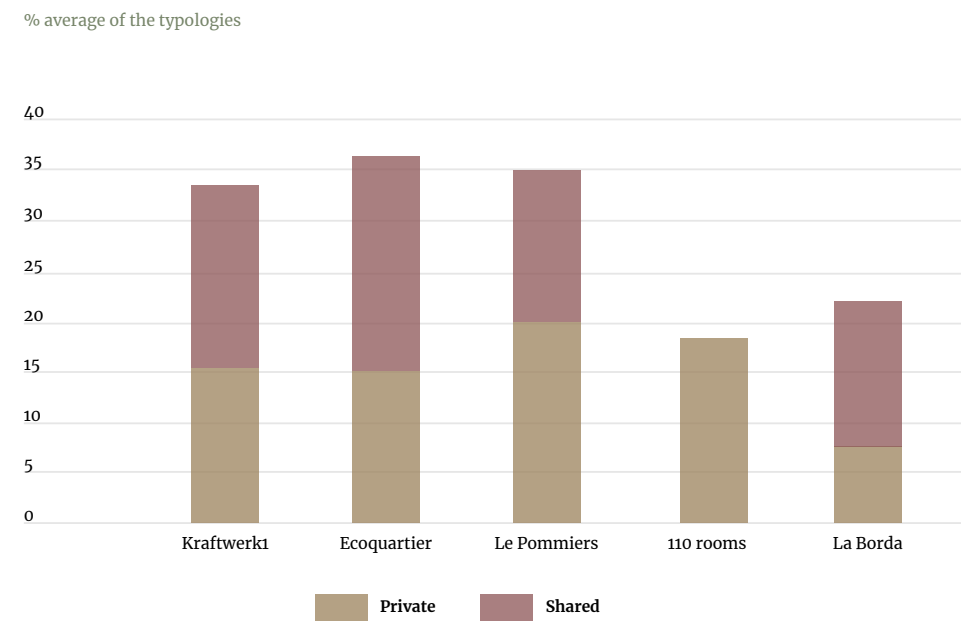


With the graphics we can understand how the buildings behave in relation to the four categories that we are analyzing. Later on, this will guide us through our design to see where we are standing between them. And for now, it is giving us a general understanding of how we can approach the changes in the existing building we will inverting.

Private, collective, shared and public spaces in the buildings



Private and shared spaces in the apartment units



Source: Graphic designed by the authors

PART II

Abitare a Milano

Policies and way of living in Milan

Housing policies from 1900 until now

In order to get more acquainted to the history of the social housing in Italy we are going to deepen into the subject primarily based on the second chapter of Policies and practices in Italian welfare housing by Caruso called Housing policies in Italy: *From social housing to Neo-Liberalism*. Caruso starts mentioning that the idea of social housing was a product after WWII where the housing and economic crisis needed to be addressed. But it was until 2008 when the national state gave a more certain definition

“mainly dwellings rented on a permanent basis; also to be considered as social housing are dwellings built or rehabilitated through public and private contribution or with the use of public funding, rented for at least eight years and also sold at affordable price, with the goal of achieving a social mix”(N. Caruso, 2017).

The different social housing supported are clearer in the following table:

	Definition	Financial mechanisms	Provider
Subsidised housing (Edilizia sovvenzionata)	Rental housing owned by the public sector. It is addressed to those with lower income.	Subsidies cover between 60 and 100 % of the cost, and the rent is proportional to the income of the tenant. Rents in the public sector are very low, corresponding on average to 1/4 of market rents.	Municipalities and public housing agencies.

Assisted housing (Edilizia agevolata)	Housing provided both for rent and for sale and aimed at households on low to middle income.	Subsidies for rental-assisted housing are between 20 and 60 % of the cost, and the rent is limited to the minimum price of the market or to 4.5 % of the construction cost. Assisted housing for sale is entitled to between 10 and 30 % subsidies, and the price of the dwelling may not be higher than that of subsidised housing.	Mainly cooperatives
Agreed housing (Edilizia convenzionata)	Private housing provided for rent or for the sale, whose transfer costs or rents are regulated by a specific agreement between the Municipality and the housing provider.	Providers benefit by a discount on local tax for building authorisation, and by a lease on the land for 99 years.	Private and public providers; the most active ones are building firms and cooperatives.

Source: Table taken by the author p.25 (that he modified from the primary source Pittini and Laino, 2011,p.58)

In 1903 the IACP was formed (Istituto Autonomo Case Popolari) and in 1908 it was established in all the country; it was in charge of the divisions in the territory to manage the public social housing sector. This was around the same time when the quartiere in Viale Lombardia was designed and built and, as we will see later, it was managed by a cooperative institution called Umanitaria. The cooperatives, intermediate entities, and financial companies were a product of the Luzzati law that aimed to construct these social houses to be rented or sold to the population in distress but, nevertheless, this law was supported by an economic compensation in the form of good rates in mortgage (N. Caruso, 2017).

After World War II, there was a need for affordable housing. The economic crisis and migration into the cities, added to high number of family members, was causing overcrowding problem inside the homes. With the cities being damaged by the war there was also a need for reconstruction and expansion of the infrastructure of the city; this is where the real state begins to have an acting role in the behavior of the housing. With the help of Istituto Nazionale delle Assicurazioni (INA) “the crowding index changed, dropping to 1.27 inhabitants per room in 1951, and to 1.08 in 1961. The size of the dwellings also increased from 3.1 to 3.34 rooms. Even INA-Casa dwellings has 4 rooms, improving the Italian average of 3.5”(N. Caruso, 2017) This is very important to notice because it is part of the problem we are facing today with apartments that are underused in the city and points out the “nuclear family” design that had an impact in the way the social houses were built. But this increase in social housing was a step forward into keeping the private housing sector at a low price because of the “competition” that represents in the total % of the city’s market.

During the fourteen-year period that INA-Casa managed to build 355,000 dwellings and after it, the government created two laws. The first one is the 167/1962 that aimed for the urban scale of the social housing that involved public authorities, private sectors, and cooperatives. The second one is the 60/1963 that replaced INA-Casa with GESTione Casa Lavoratori that was overlooking the workers housing and the construction of infrastructure and services. Because of the intervention of the private sector that was building social housing dwellings mainly on the outskirts of the city and the changing in administration in the government, the housing problem continued to be unsolved, and the poor quality of the households was showing also in the absence of public quality services. This led to a series of manifestation in the 1967-978 period where people were advocating to improve their quality of living. This period would be the one that brought out the opportunity to have self-organized groups that fought for this problems by providing solutions like the “occupation of free areas, spaces and rooms, auto-reductions of rents, promotion of cultural events and public debates”(N. Caruso, 2017). Another important factor in this period was the declining of the birth rates. In the 70’s the concept of nuclear family started to change because of new laws regarding divorce and the diminished population growth. This as we have seen started to create a new necessity of dwellings that were not represented by the existing ones.

The Neo-Liberal phase, that takes place between 1978-1990, was characterized by the change regarding the regulation of the housing market that was taking place in the 70’s. In this period the new laws were supporting the ownership of houses trough financial loans and resources that led to a reduction of the rental distribution over the cities. This affects middle- and low-income classes because as the rental spaces became lesser the prices went up and it was harder to pay them so, this families had to move to the



La casa di ringhiera

Source: Photography by Paolo Monti - Serie fotografica (Milano, 1970)

outskirts where the social exclusion was evident in many ways as these places beginning to have a connotation of dangerous areas of the city that only reinforced the marginalization of the families living there.

From the year 1990-2000 we can see the consequences of all the modification of the laws and approaches from the government into this sector linked to the cultural aspects of the new family. The owned dwellings continued to grow, provoking economic difficulties to the population that needed affordable and quality rental options. They have the Up hand regarding the prices of the dwelling in the city and as consequence, the rising of housing prices was 51%, property sales by 65% and rent prices by 85% (N. Caruso, 2017). As mentioned before this has an impact on the social housing development as the author mentions by pointing out that “almost 34,000 new dwellings of subsidized housing were built in Italy in 1984, while in 2004 they were only 1,900.”(N. Caruso, 2017) The issue with this laws and the private sector involvement is that each region has its own rules regarding the housing policies and the update of the regulations that makes it difficult for the social housing initiatives.

Nowadays the problem is also linked to the fact that a lot of the salaries of the population or pensions are not enough to pay the expensive rents controlled by the real estate speculation. This is aggravated by the fact that as families continue to change, the complexity to find an affordable dwelling suitable for each one of them becomes harder and also to the lack of a national policy that has as its main goal the protection of social housing and its funding without the involvement of the private sector. And something that just resonated with today's problematic was that

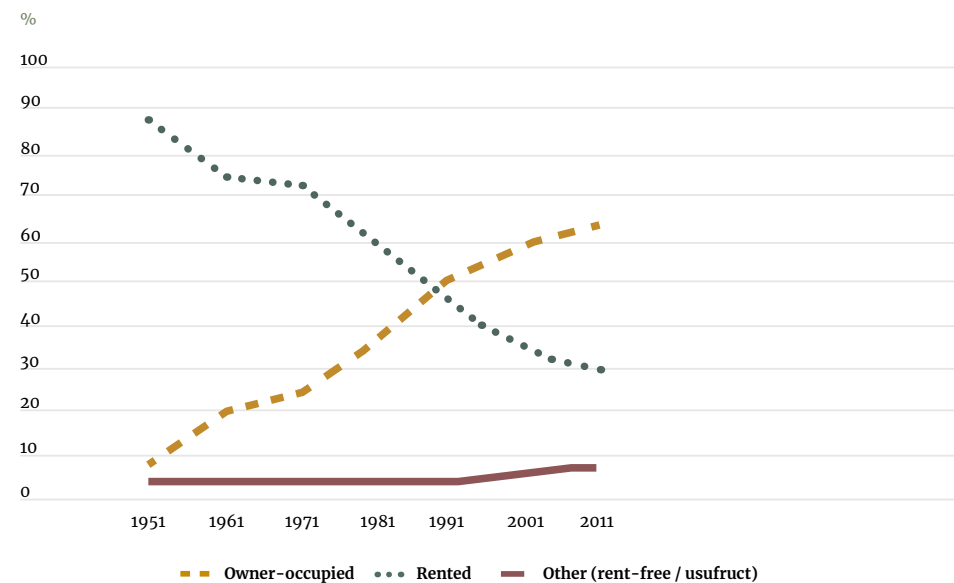
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*“the population affected by this issue is considered a gray area of the housing need. They are able to pay an economic rent but cannot afford to secure their housing condition. This category includes precarious workers, single parents, young couples, and elderly people”*(N. Caruso, 2017)  
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because a lot of this gray area of the population is a big percentage of people living and working in the cities that cannot leave their parents house and become independent (as shown before in Italy the percentage of people still living in their parents’ house is about 66% of the population and goes until 34 years old). It is becoming harder and harder for them to transition to independence or form a family, because, as Caruso writes, 2.3 million families pay more than 30% of the total family income for rent. All of this factors are piling up and it is noticeable that the importance of having a quality dwelling is a human right and no one should have to be in distress because of it. So far Italy has not been able to solve this complicated issue that affects a lot of families, but maybe the time for a new public national office in charge of the social housing is getting closer.

Milanese families: towards ownership and independence

As we go deeper into understanding housing in Italy it is almost necessary to talk about a phenomenon that has been studied and takes place in the city we will work on, Milan. In the previous part we talked about the general policy making that has been taking place over the last century but now, we will discuss how house ownership is related to the family practices and current issues in the city. This relates to the previous section in the extents of the policies that at the time led some generations to pursue homeownership causing the decrease of rental opportunities which we can see translated in the raise from 7.9% in 1951 to 64% in 2011 (KC Manzo et al., 2019) as shown in the following graphic:

Distribution of household by tenure in the city of Milan, 1951–2011



Source: KC Manzo, L., Druta, O., & Ronald. (2019). Supported Home Ownership and Adult Independence in Milan: The Gilded Cage of Family Housing Gifts and Transfers, authors' elaboration on Housing Census (ISTAT, 2011).

The study realized by the University of Amsterdam points out that in Milan there has been occurring a phenomenon where a lot of this owned households have been passing from generation to generation and its has been seen as a family solidarity, as the authors call it. This sound like a great opportunity because it means that the person receiving this will not have issues of paying an expensive rent, a mortgage rate that consumes the income of the family or the difficulty of leaving ones parents home seeking for independence; but what the study has found is that usually this comes at a price that it is not monetary but with family obligations such as future care responsibilities, self-sacrifice for the family or control upon family decisions even in the new gifted house (KC Manzo et al., 2019). That leads us

to what some of the interviewed people call a lost of freedom or a problem for them in their identity formation where the parents helping out want to have close proximity to the house of the young adult to be able to control, help and be helped by their family which is also seen in the table below:

	Homeownership (aged 18-34) %	Parental co-residence (aged 18-34) %	Average home-leaving age	Mortgage debt/GDP %	Proximity (km) to parental home
Italy	18.9	67.3	30.1	22.1	27.4
Spain	26	58	29.4	52.1	39.6
Greece	16.3	65.9	29.1	38.4	46
Germany	14.4	43.1	23.7	42.3	73.5
France	2.9	34.5	23.8	43.6	65.3
UK	23.2	34.3	24.3	67.6	-

Source: Table taken by the author p.523 (that he made by EU-SILC (2012) (homeownership); EUROSTAT 2016 (co-residence, home-leaving); European Mortgage Federation (2016), Hypostat (mortgage rate to GDP); Leopold (2012) (proximity to parental home among home leavers).)

There is, of course, a spectrum of different situations that can occur in the city. The first one could be the one we just mentioned, being helped by the blood family with an inherit or a new dwelling as a gift; then, we can have Milanese young adults that seek independent living by sharing a flat with friends; people who are not from Milan but from other regions or abroad and share the apartment with strangers to afford the rents and others that have to commute every day from a not-very-distant place.

This leads us to another current situation that has an impact in the city and that is related with this young sector of the population. Due to the main economic sectors and world-wide recognized educational programs Milano has a large floating population over the year and -like any big city in the world- this has an effect on the rental prices, which are becoming the main expense when living in the city, and as mentioned even more to young adults with low or no income. As we have seen, people are finding it more and more difficult to find affordable, flexible, and adequate places to live.

The press release of Housing Anywhere about the International rent index in 2022 shows that prices for all property types are surpassing the pre-pandemic period by an average of 14.5% (12% for private rooms, 16.2% for studios, and 15.2% for apartments)(“HousingAnywhere International Rent Index by City Q1 2022,” n.d.). The rental demand is also increasing because of the finalization of the travel restrictions and the influx of Ukrainian refugees. The current situation of housing crisis is a global topic that has been approached in different ways, for example in Berlin and Barcelona, where the rental prices have restrictions to maintain lower prices. As we have seen this method is not 100% bulletproof because it cannot work on its own, it should be a part of a larger program where not only the economical aspect is a priority but, one in which the necessities of the citizens are

considered. The real estate speculation has become a thermometer of the city's wealth and inequalities at the same time.

This makes us wonder how and if it is possible to change the market. La Borda was a very good example of this non-speculation principle where the market is not involved in the rental of social housing and because of it the costs can remain low, and the residents can be certain that they have a place to live and do not have to worry about it. This is also an important point for us, the tranquility of having a home, the psychological part that housing has over the population, sometimes we can pass by it, but we think it is a great factor about how the citizens live their day to day lives and the degree of satisfaction.

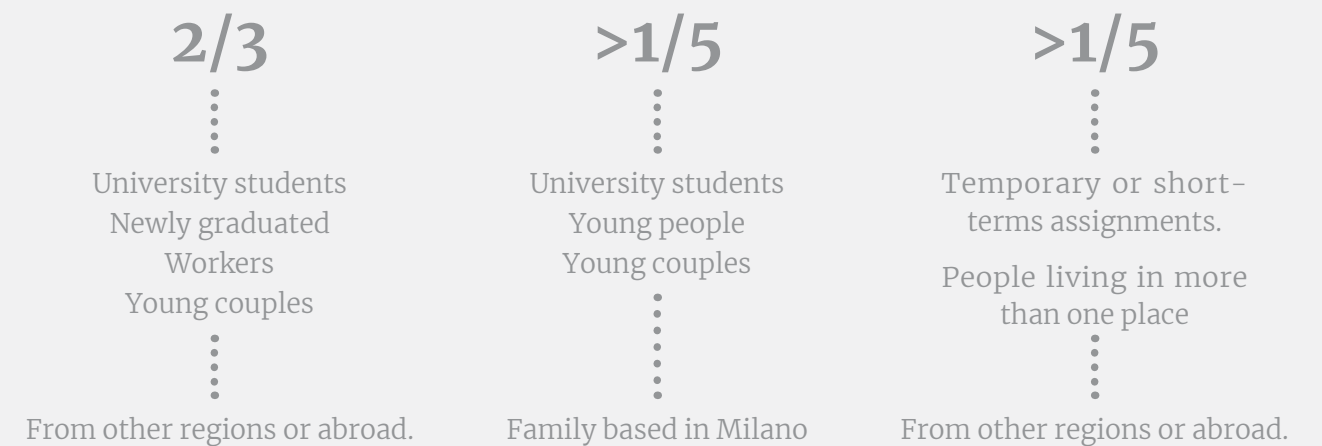
City	Apartment (€/m²)*	Private room (€/m²)*	Studio (€/m²)*
Milano	30.3	45.8	36.3
Rome	25.7	35.4	30.1
Madrid	21.3	52.4	24.7
Barcelona	23.1	53.1	32.2
Berlin	28.8	53.0	38.0
Frankfurt	27.1	41.7	40.2
Lisbon	24.8	33.1	29.4
Paris	47.5	64.0	52.3
Amsterdam	31.8	66.8	48.2
Vienna	23.3	34.5	28.4
London	52.8	60	60.7

Source: "HousingAnywhere International Rent Index by City Q1 2022," n.d.

This is also mentioned in the study of *House sharing amongst young adults in the context of Mediterranean welfare: the case of Milan*. The authors explain how it's becoming more common to search for a shared space, even if it means having to share with the homeowner of an apartment who is also in need. In their study it is noted how for them exist two types of sharing, cold and warm, the first one refers to a household where people that do not know each other share an apartment and the dynamic of living in it is different because the common areas are not often used, and people prefer to be in their "private" area. In the latter, there is a familiarity between cohabitants, therefore the common areas are shared in a regular basis. This has a lot to do with the well-being of the inhabitants because the links with others are important to have a more pleasant experience of cohabitation.

In comparison with other 16 cities in Europe, Milano has the 4th place for the cost for apartments and the 8th in studios and private rooms. The reality is that the percentage of people earning enough to cover this rent prices is not so high. This is mentioned in the researched by Sabatinelli and Bricocoli; the economic constrains are very important in the young population because even if they are employed they can barely make the

People who share an apartment in Milano



Types sharing

Warm

Positive share living experience.

The users have previous familiarity with each other.

Have the possibility to live with their families until finding some place good to share

Family based in Milano

Cold

Landlord chooses who lives in the flat.

Difficult to have a social bond.

This would not be their choice to live.

Family based in other regions or abroad

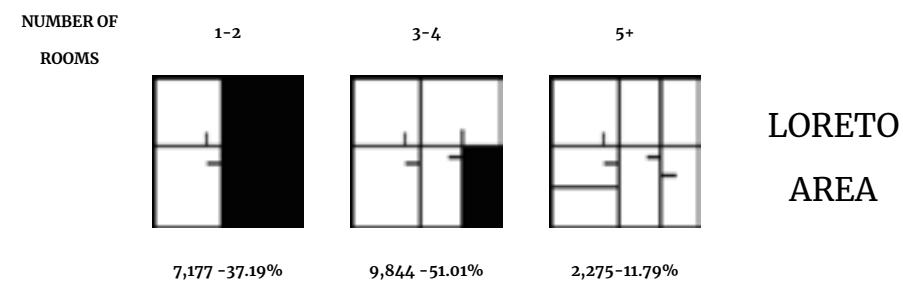
(Sabatinelli & Bricocoli, 2016)

ends meet, because what they earn it is not enough to manage a dignified independence. They write:

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*“It must be noted that job insecurity is not compensated for by salary level: in Italy a temporary worker earned on average 1070 euros per month in 2012, one fourth less than a permanent worker... the prices of properties and rents are still artificially high, and the costs of living in the city are disproportionate to the overall economic conditions of the individuals and families”.*(Sabatinelli & Bricocoli, 2016)  
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According to the data on Immobiliare.it in March 2022 the average cost per square meter for dwellings on sell is 4,997 €/m² and 19.44 €/m² for rental, a price that has spike since 2016 when the prices were close to 3,569 €/m² and 15.30 €/m² respectively. But this numbers also depend on which part of the city where we are looking for. As we can see in the following map, Milano is a central city where it is very clear that the real estate speculation is higher than the rest, and it diminishes as it gets closer to the periphery. The project site we will study in the coming chapters in is in the 17.60 €/m² range, very close to the border with 18.60 and 20.60 €/m².

The main problem with a city that is centralized is that it is hard to decentralize it and even if there is an intention to do it. So, the political and economic drivers would not be on board to realize it. This dictates the relationship between prices of the dwelling and the proximity to the city center. There is not much room for new construction and if that is the case, it will probably be for a private party. So, what happens with these inhabitants that need a place to live and deal with the actual prices that are just getting higher and higher?



Household	1	2	3	4	5+	One family	Cohanitant family	Unoccupied
#	9,502	4,922	2,572	1,729	573	18,830	4,67	18,821

Average rent cost €/m² in Milano - March 2022



Average rent cost €/m² in Milano - March 2022



Housing and rental prices in Milano

To add another layer of complexity to this problematic we should also see the topic of policy making in Milan and how it is contributing to this. In Italy there is a lack of both universal unemployment benefit and of a national minimum income scheme. The social housing programs cannot have enough for the demand of the population because they are limited at 1,200 per year (in Milan) that usually go to the families going through eviction or that are in disadvantage (Sabatinelli & Bricocoli, 2016). So, this leaves us with the question of how the young adults are being considered into the framework of social housing policies? Well, in the International Journal of Housing policy we can find this as the main response “Housing interventions for the young in Italy have mainly been targeted at three subgroups: young (married) couples; non-resident university students; young people who benefit from housing solutions in exchange for their community work. A first main front of policy has been supporting access to mortgages for newly married, low-middle income couples” (Sabatinelli & Bricocoli, 2016).

This policy making is dated, we have seen on the charts how marriage is decreasing and how if it happens, people are doing it at older ages so, for who are these policies? What is their aiming? It seems that the little help that a young adult can access to is under certain circumstances. There is a gap in the system that has not been covered, social housing programs for young adults that are not in the narrow description of Italian policies that help them to become independent over time and/or give them the possibility to not have to go through 4+4 contracts that are very rigid and difficult to get if you cannot have the amount of money that they consider as acceptable and support them in the transition to a stable job or to have (if they want to) a family stability.

These leads us to talk about the existing social housing programs in Milan and as we have seen in the case studies mentioned in part III of this book, the importance for the shared living housing buildings to develop have cooperatives and the government involved. Dar=Casa is a non-profit cooperative founded in 1991 that cares about affordable housing for low- and moderate-income citizens in Milan and its periphery (Dar=Casa, n.d.).

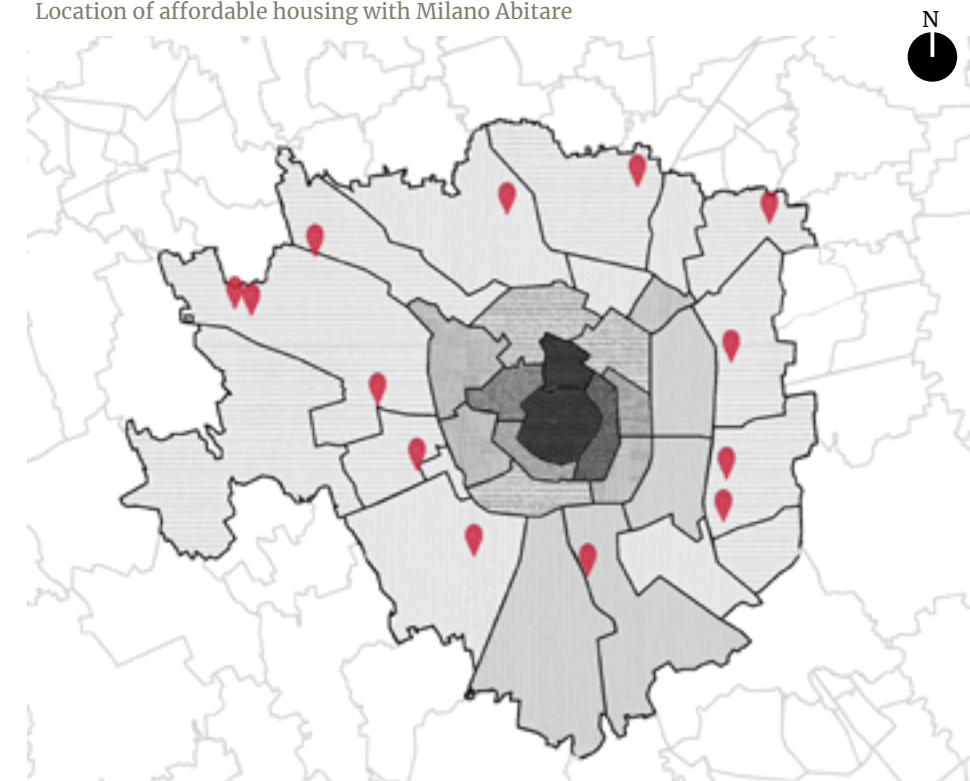
~~~~~  
“In order to achieve these goals, we obtain and then renovate vacant or dismissed apartments. Usually, we rent property owned by the City of Milan or other public institutions, but for whose restoration or management the local government cannot provide the necessary funding. We repair the buildings and renovate apartments, and then rent them out to the members of our cooperative at a fixed, fair, and affordable price.”  
~~~~~

They advocate for the right of housing, for them it is a matter of accessibility and breaking the barriers of prejudice against vulnerable social groups. Their approach is more social because the resolution of conflicts without violence, the strengthening of bonds between a community and the integration of people from other countries are a crucial way to understand how the cities, the country and the world are changing and instead of looking for a way to fight it, they aid in the adaptation of the housing as a mean to improve in a long-term the living situation for everyone.

Then we have a government agency called Milano Abitare that has the premise of having affordable rent prices compared to what it is offered by the real estate market. They want to give an alternative solution to people that cannot find their needs fulfilled in the current market and they provide affordable housing that can be located in new constructions or renovations with a cost that is sustainable for everyone; the biggest difference with the first one is that the construction for this is made by a private company regulated by the agreement with the government administration. Within this there is also a housing initiative focused on social housing and cooperative living (Comune di Milano, n.d.) financed with public and non-repayable contributions; these one is aimed to allocate vulnerable population based on a criterion previously established.

For us this is helping the general problem but it is not giving a lot of space for the young adults and also as we can see in the map below the location of these buildings is still in the periphery of Milan and it contributes to the exclusion of the families living in it.

Location of affordable housing with Milano Abitare



Secondo Quartiere Popolare di Milano

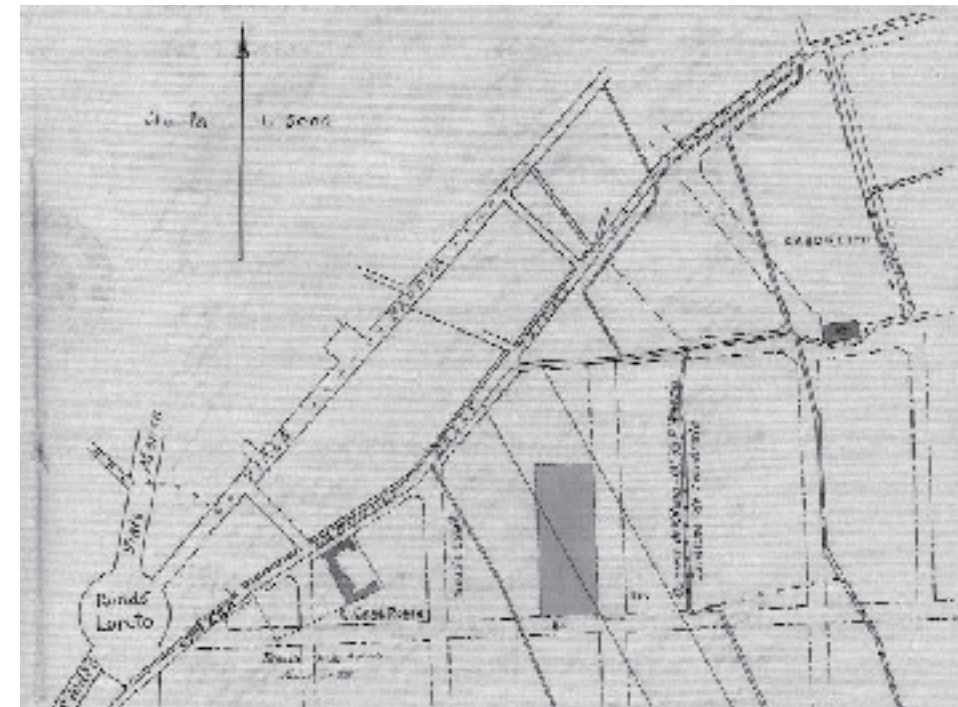
History of the building

The Società Umanitaria cooperative has a story that begins in the 1900's when the socio-economic context of Milan turned towards a demographic growth because of the industrial development in the outskirts of the city. This migration to the city was causing an increase in the people living in poor conditions, a great part of them were workers of low income that had no education and moving from the countryside to the city was the best option to have a better life. Due to this the social well-being was a privilege that just a few could afford.

It is in this atmosphere when a businessman called Prospero Moisé Loria, an Israeli entrepreneur from Mantova that was relocated in Milano decided to create The Società Umanitaria. The aim of it was to give the same opportunities to all kind of people in need regarding education, jobs, housing, and entertainment. On June 29th of 1893 it becomes official, but it is only twelve years later - due to legal problems after his death, and when he left all his fortune to Umanitaria- that in 1902 begins to actually intervene in the city and to do so, they started to create a support network of contacts that included public entities, industries, mutual help societies and cooperatives in Milano (Colombo, n.d.). They were the ones that started giving free education in different schools and also had a Teatro Popolare where people could access to concerts or artistic shows that had the best quality at a very accessible cost.

The history of Umanitaria is also relevant for a concept that Colombo calls *la parola casa* as a shelter, protection, identity, educational space, and an inspiration for good habits. With that in mind, Umanitaria used two million lire to build 249 dwellings in Via Solari and 214 in Viale Lombardia targeting the workers of the city and providing them a beautiful, accessible, and comfortable house (Colombo, n.d.).

According to Piero Amos, this building is an important piece of the history of Milano and even social housing in Italy (Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio, 2009). L'Umanitaria building located in viale Lombardia 65 in Milano city was designed by Giovanni



Up: Complex location.

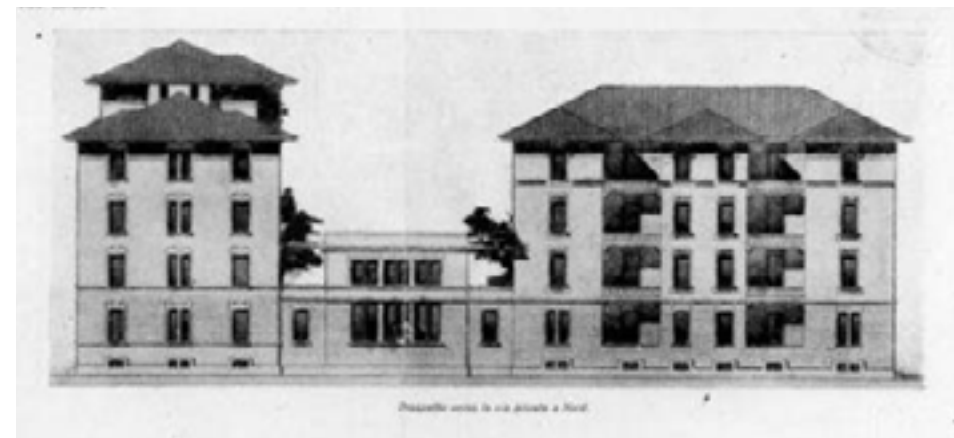
Bottom: Facade of the Secondo Quartiere Popolare di Milano, 1910.

Source: Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio. (2009). RACCOLTO EDIZIONI.

Broglia in 1908 with the aim of covering an increasing housing demand in Milano after the industrial and commercial development in the city that started in the second half of the 18th century. On Broglia's eyes, having a house is a right that the city should provide to all its inhabitants (Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio, 2009), therefore it was very important to have a mindset targeting low-cost housing; this also represented a new way of doing architecture regarding typologies, materials, and investment models.

The opportunity that Broglia saw was accordance to his beliefs, designing a new neighborhood for working-class should not be a privilege of a few, it should be an educative instrument of self-government that also functioned as a source of income through rents and fare locations in the city, without real estate speculation (Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio, 2009).

The complex was built in a 10,000-square-meter plot next to Viale Lombardia and via Porpora. It is a rectangular shaped area with a courtyard of 154x59 meters with an enclosed series of buildings around it. This building is composed by twelve units that are united by a continuous base that contains the entrance, services, and shops. This was the first time that a curtain building volume from the 19th century was changed and opened; between the twelve units there is a gap that gives a rhythm to the facades and allows the contact with fresh air and natural light. The entrance is on the center of the façade in the middle of two building lines. This leads to the main courtyard that has a diverse form with different atmospheres that



Up: North and south facade.

Bottom: Facade Viale Lombardia.

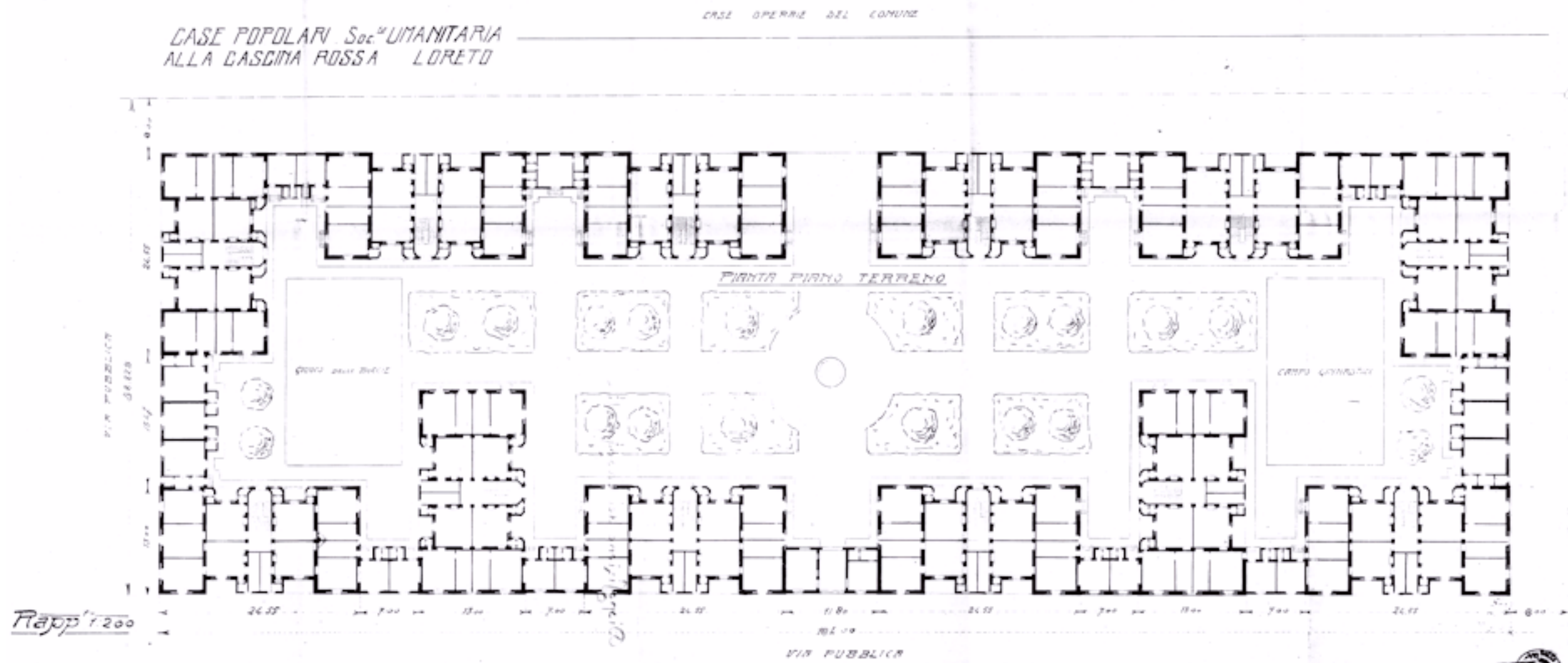
Source: Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio. (2009). RACCOLTO EDIZIONI.

act as a regulator for the transition from the city. An in-between space that can be adaptable for the residents, for Broglio this offered a new way of looking at the city (Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio, 2009).

“The complex was designed with a large variety of apartment typologies. There were 214 apartments with the following combinations: 16 of one room, 19 of one room and a service, 8 of a room and a half, 10 of two-room, 45 of two-room and a service, 4 of two and a half room, 74 of two and a half room with service and 38 of three room and a service. “That is, an attempt to satisfy the widest possible range of needs in accordance with the purpose of rationalizing the living space and facilitating its use according to the domestic needs” (Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio, 2009); This also considered

the measurement of 2.10 x 4.75, a room that permitted the placement of two beds along the 4.75 wall meanwhile, the service room was integrated with a sink and a space to prepare food. The prices at that time were very accessible the rent for a room per year was between 110-120 lire, 40 lire for the service room and 60 lire for the half a local: now 400-440-euro, 150 euro and 220 euro respectively.”

The data of 1911 shows us the household profiles of the families and individuals living in the complex. This is very interesting because it tells us how the working-class was seen in that time and who was part of it. It consisted of 43 metal and electrical workers, 36 lithographers and typographers; 32 employees, shop assistants, delivery man and postman; 17 carpenters, tailors, and shoemakers; 18 workers in general; 17 drivers, porters, and street sweepers; 12 teachers, washing workers and others (Aria di Umanitaria alle Rottole: 1909. Nasce il secondo Quartiere Operaio, 2009).



Floor plan of the building.

Source: L'Umanitaria archive.

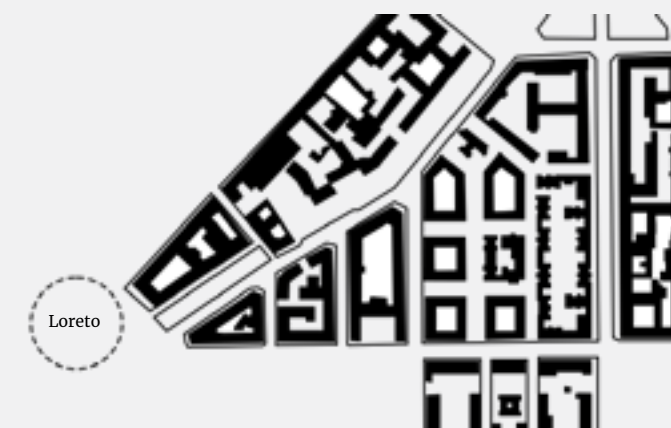
Location and urban morphology

The Beruto plan of 1884 is the first in Milan explicitly drafted with the goal of rationally designing the city and its street network. The master plan was based on a decentralized urban growth model, which had started in the 1870s with the placement of factories outside the city core in an area called Corpi Santi, connected to the city by a network of wide avenues. (Morandi, 1992).

Piazzale Loreto's area has been changing since Broglio's complex construction. In 1910 it was considered as an outskirts of Milan. With the Beruto master plan the square took the shape of an irregular star that it still maintains today, becoming one of the major transit points for commuting to the factories of Brianza and vice versa, with a daily transit of several tens of thousands of workers. (Giovanni Scirocco, n.d.)



Milano, 2020



N
1910

N
1956

N
2006





Urban context







The block where the building is located have contact with two main roads Via Porpora and Via Andrea Costa. The Secondo quartiere popolare only is in contact with the first one. There is also another street that does not have a way out (it is only for local transit) in the middle of the block with access in Via Porpora that creates a separation between the buildings and leads to an underground parking lot. In the north part there is the IIS Caterina da Siena, an institute that is specialized in communication design and fashion technology and fashion design that has a side adjacent to the building. In this part of the research, we will analyze the context with the NIL information and with onsite notes.

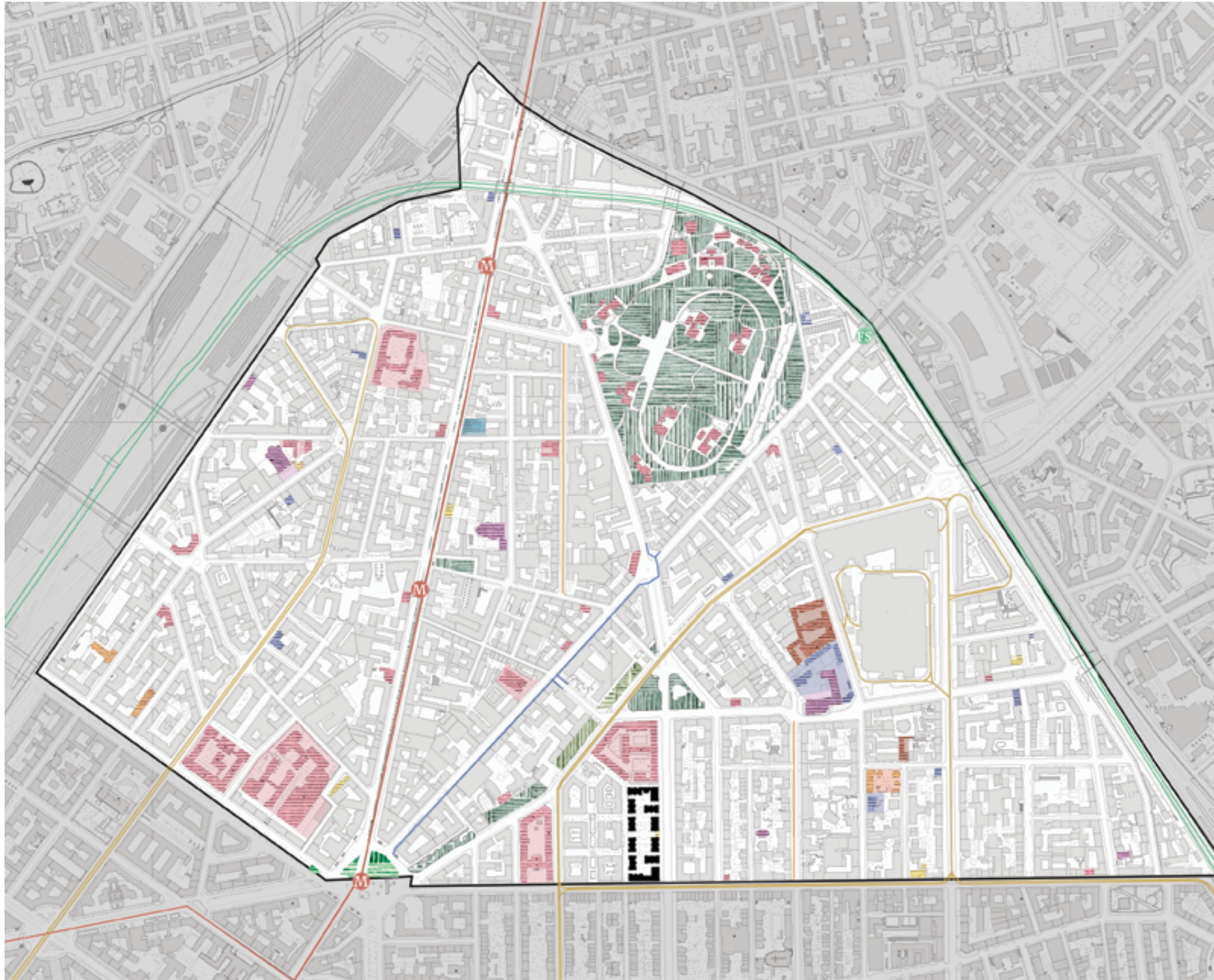


Urban site analysis









Green areas and public transport

- Green areas**
-  Existing urban greenery
-  Ornamental greenery
-  New greenery
-  Monumental tree

- Public transport**
-  Metro line
-  Metro station
-  Tram line
-  Train line
-  Train Station
-  Bicycle path



Services

- Services in the area**
-  Schools
-  Health facilities
-  Religious buildings
-  Cultural buildings
-  Universities / Research
-  Commerce service
-  Social services
-  Street markets





Regeneration and transformation

Green areas



External historical nucleus



Spaces with pedestrian vocation



1:7500

Photographic survey of the area



Viale Lombardia





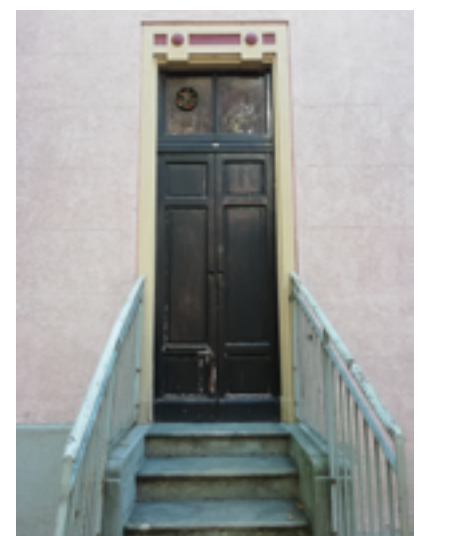
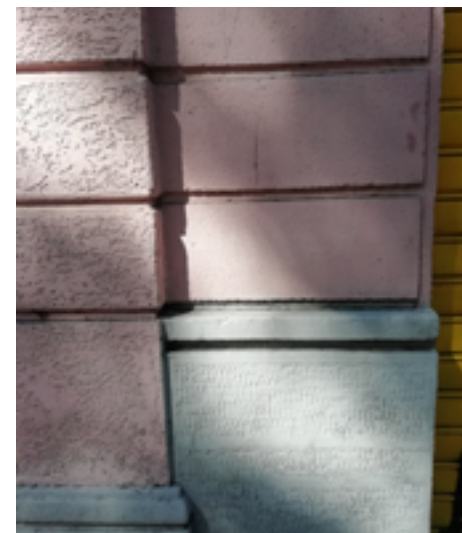
Via Nicola Antonio Porpora



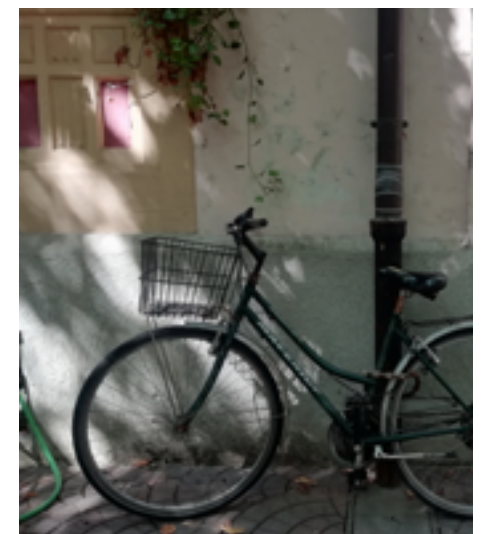
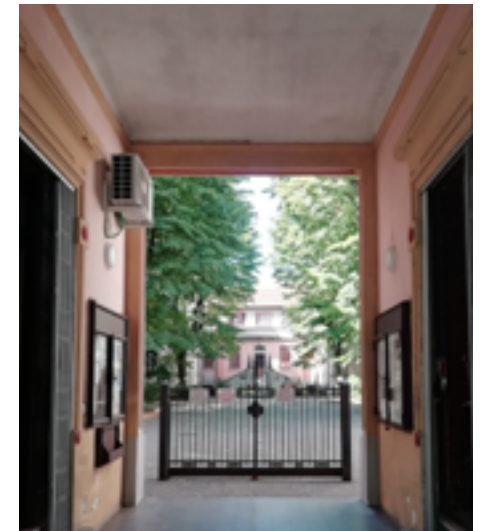
Via Luigi Boccherini



Fragment survey of the building

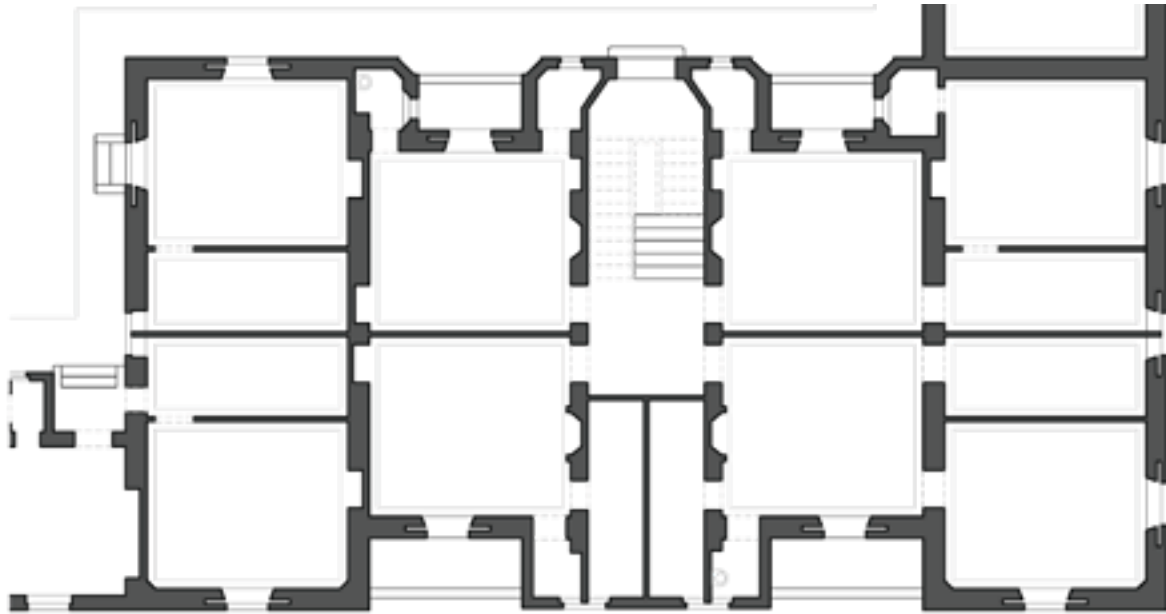


Courtyard

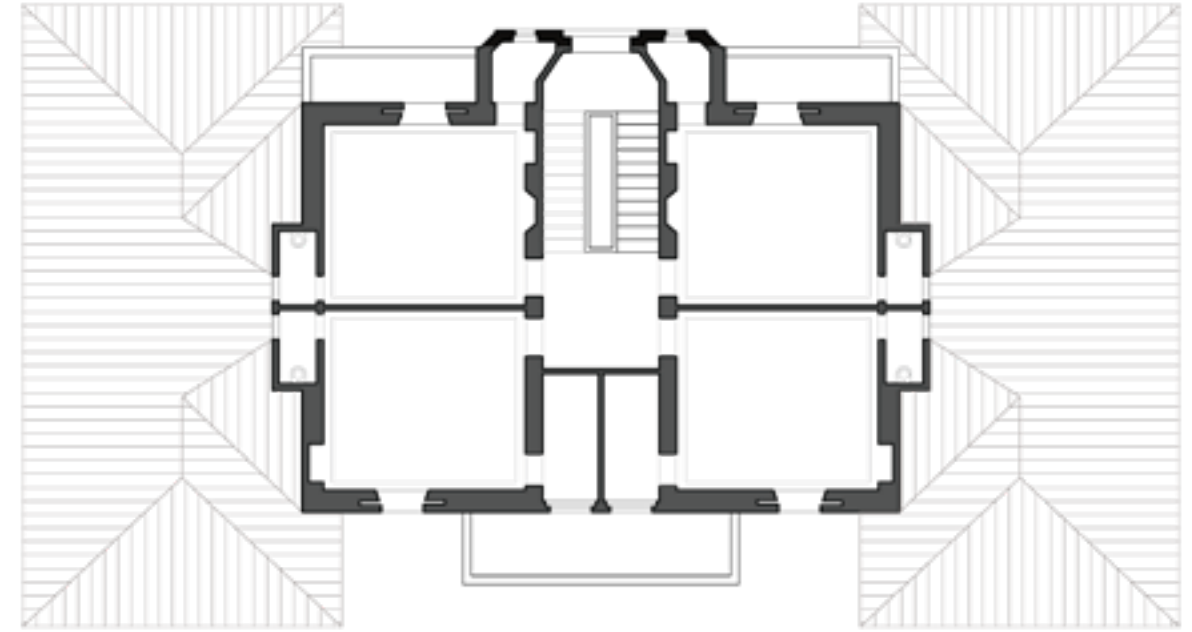


Original floor plans

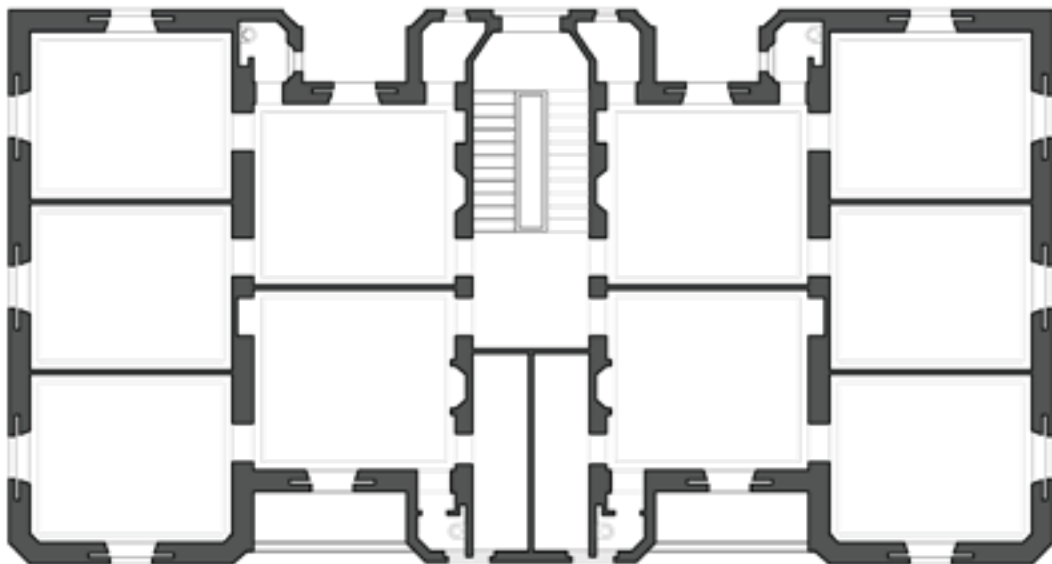
Ground floor



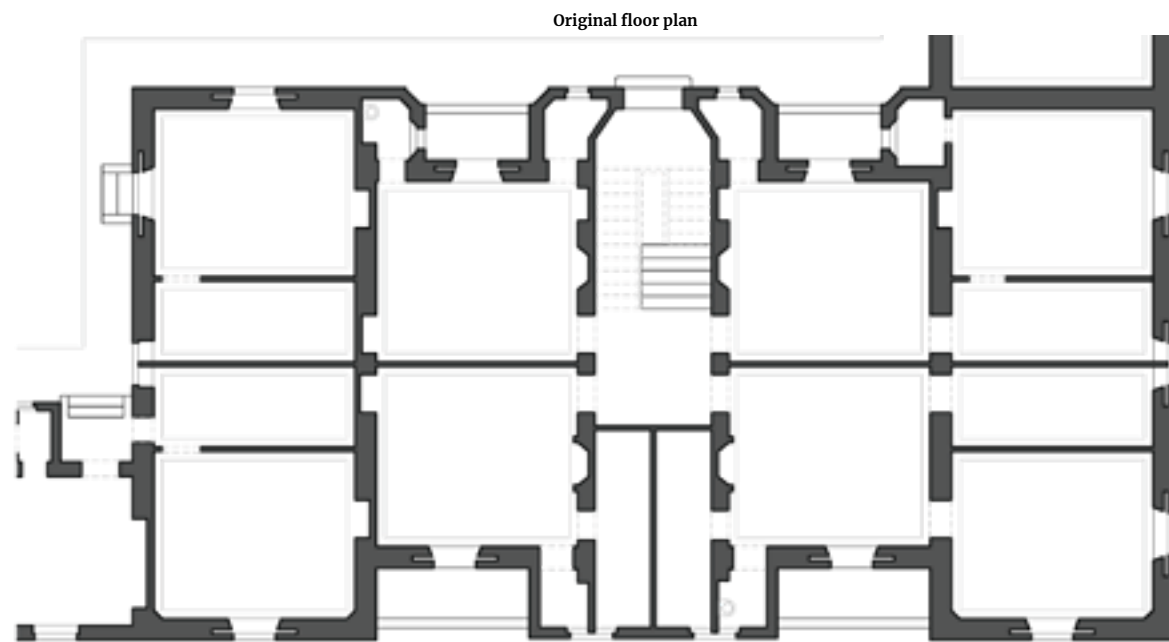
5th floor



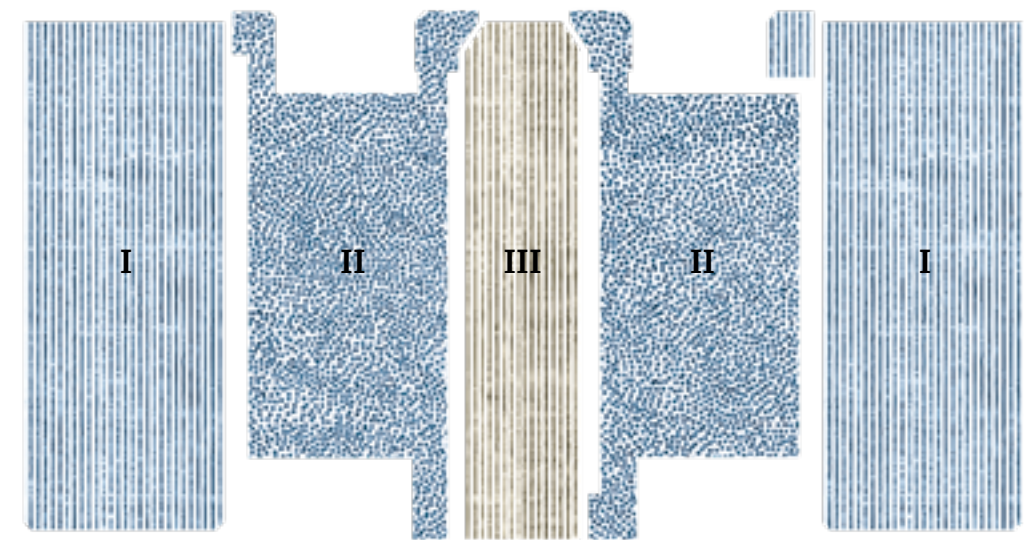
2nd -3rd -4th floor



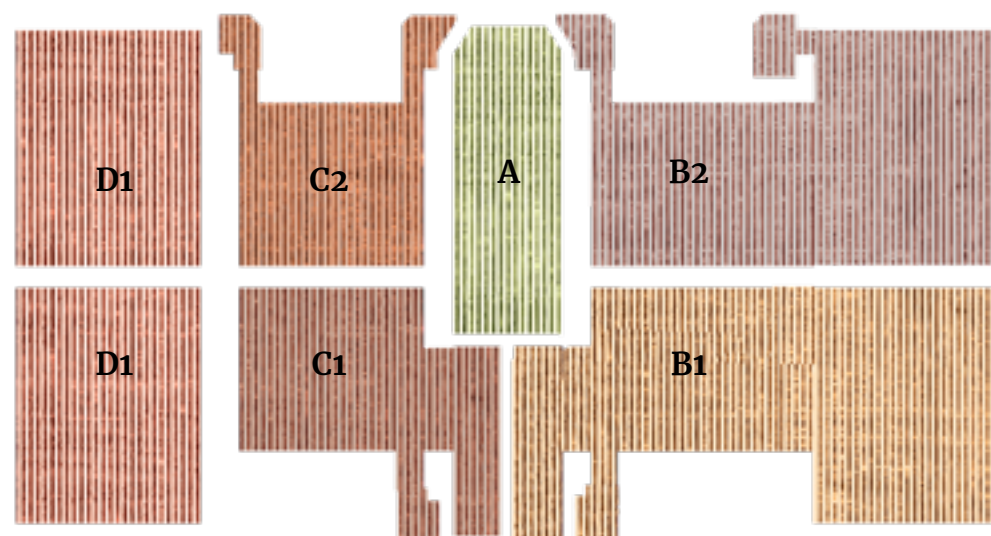
*Analysis of the composition of the modules
Ground floor*



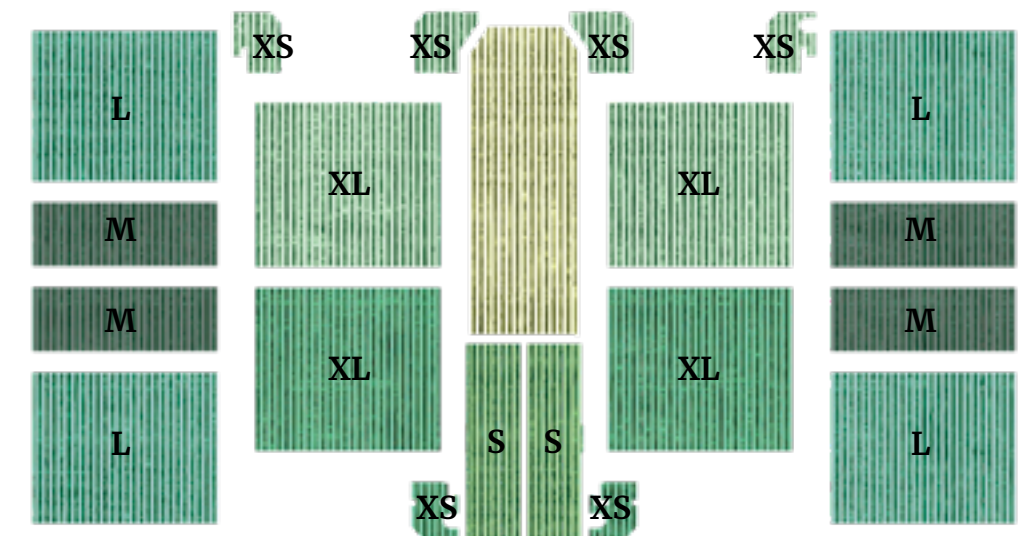
By structural design



By apartment

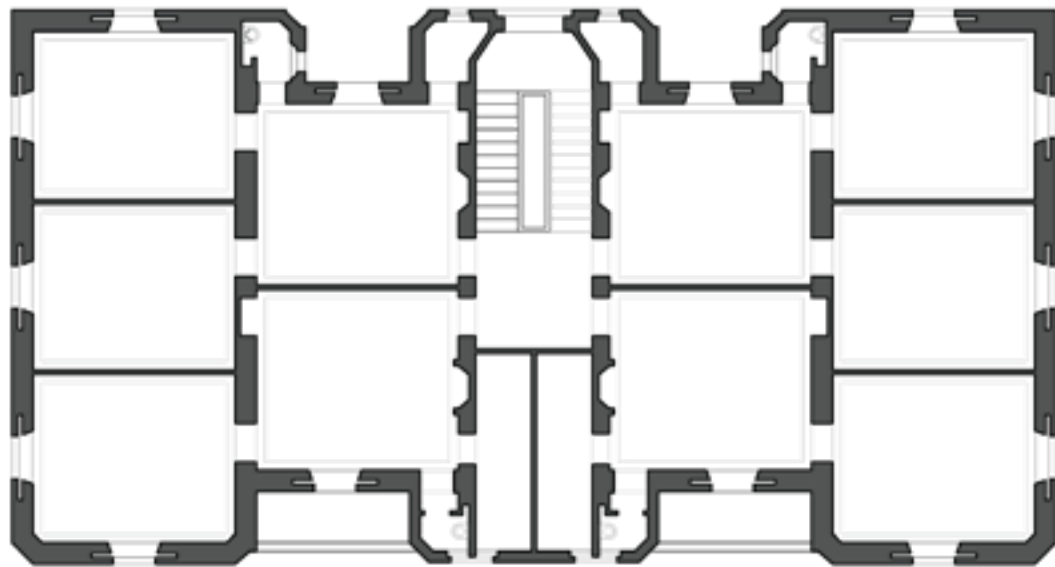


By module size

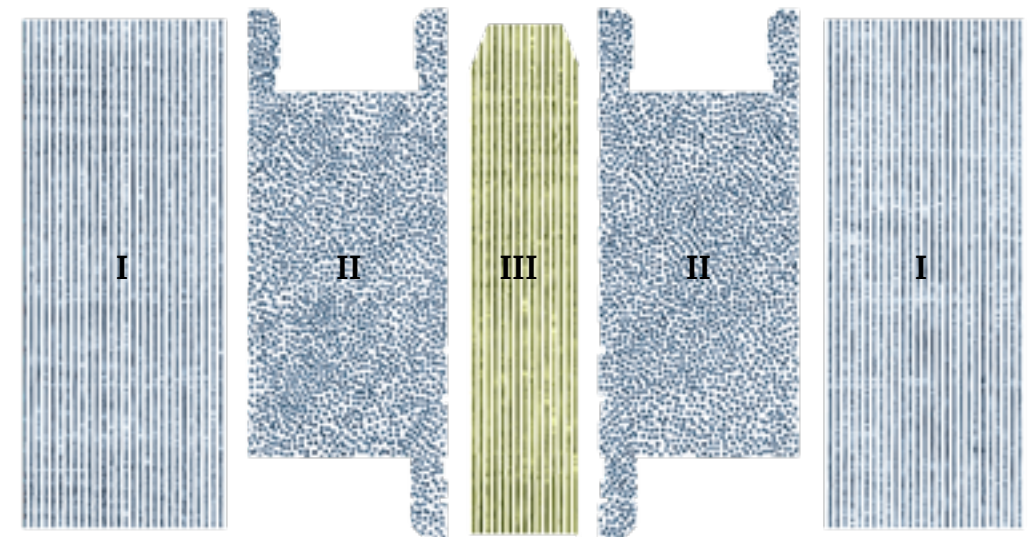


*Analysis of the composition of the module
2nd-3rd-4th floor*

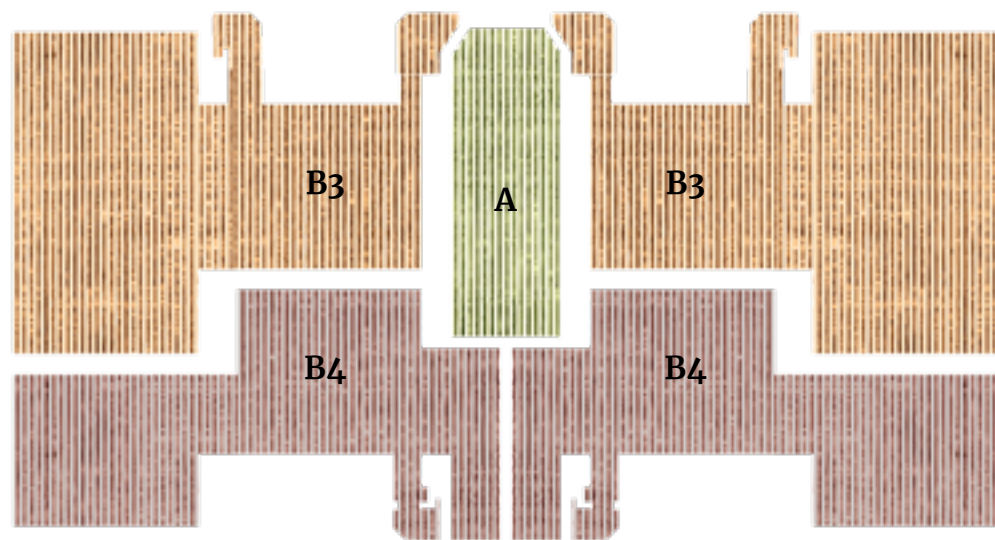
Original floor plan



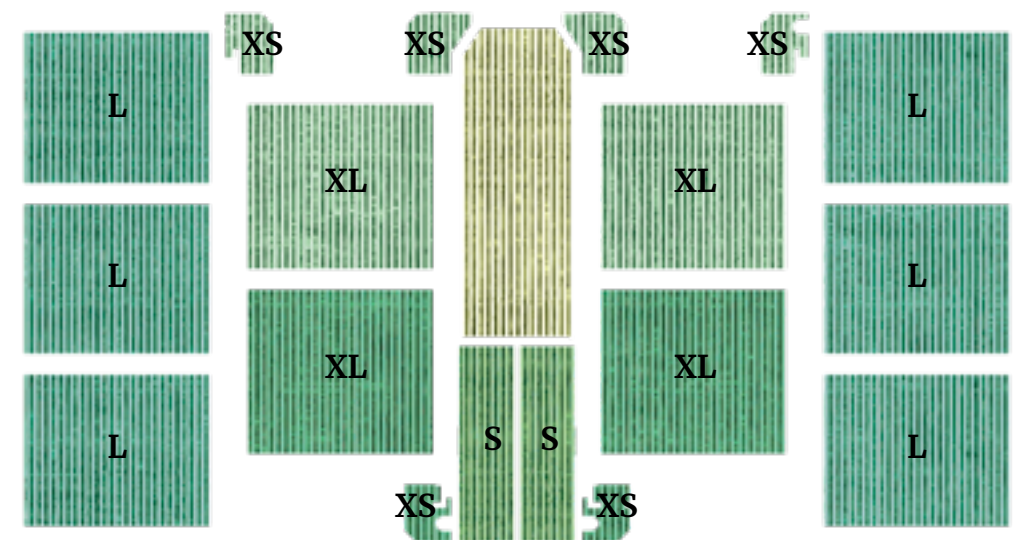
By structural design



By apartment

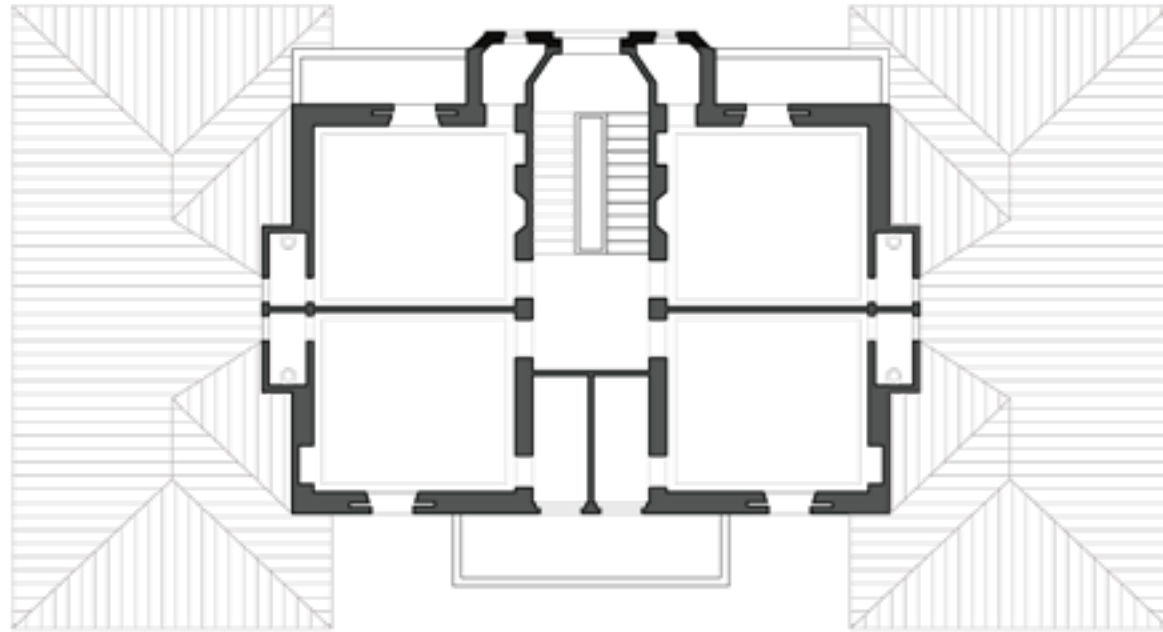


By module size

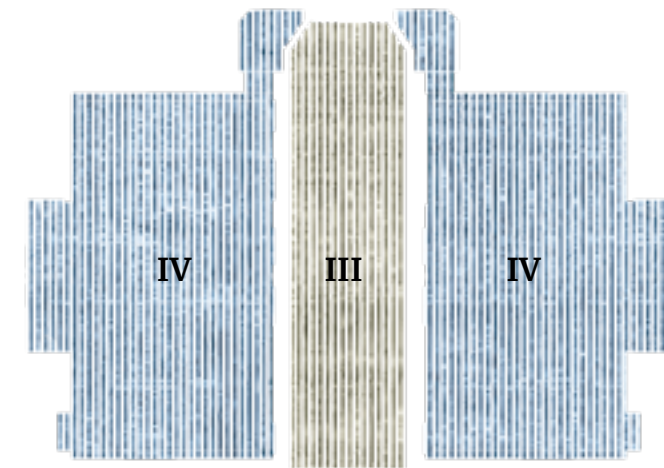


*Analysis of the composition of the module
5th floor*

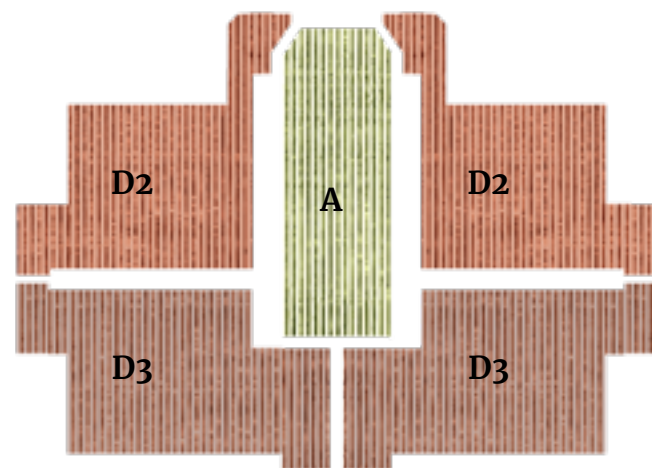
Original floor plan



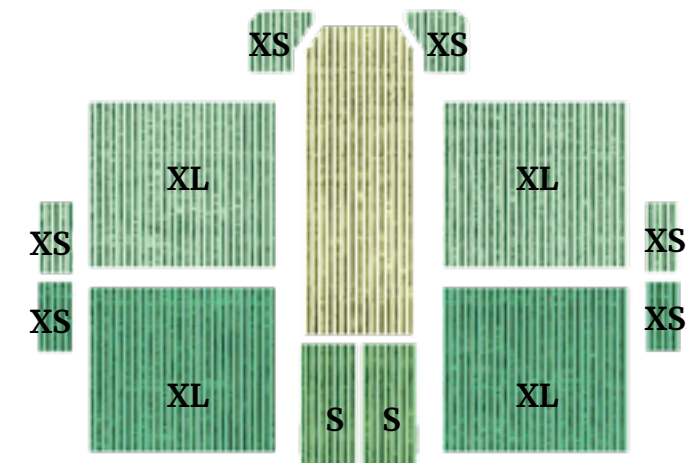
By structural design



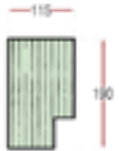
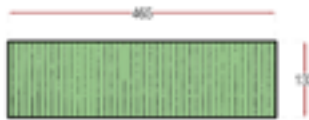
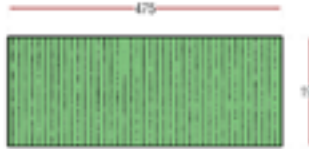
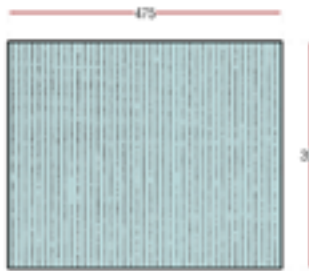
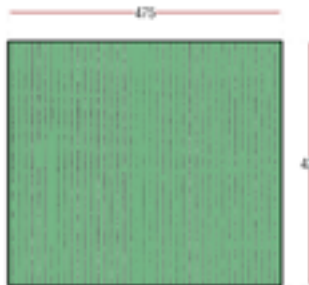
By apartment






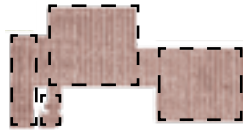


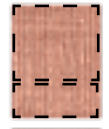
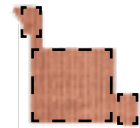
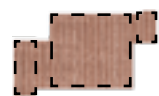
By module size



The existing modules

XS		<p>The XS module has approximately 2.18 sqm. It is located on the facades in next to the central connection space.</p>
S		<p>The S module has 6.18 sqm. It is located in the central connection space.</p>
M		<p>The M module has 9.05 sqm. It is half an L module and it is located between two L modules.</p>
L		<p>The L module has 18.76 sqm. Its location is the farthest of the central area.</p>
XL		<p>The XL module has 20.18 sqm. Its located next to the central area, there are 4 modules per floor.</p>

The existing apartments

	B1	$XS + S + M + L + XL$
	B2	$2XS + M + L + XL$
	B3	$2XS + 2L + XL$
	B4	$XS + S + L + XL$
	C1	$XS + S + XL$
	C2	$2XS + XL$
	D1	$M + L$
	D2	$2XS + XL$
	D3	$XS + S + XL$

B1

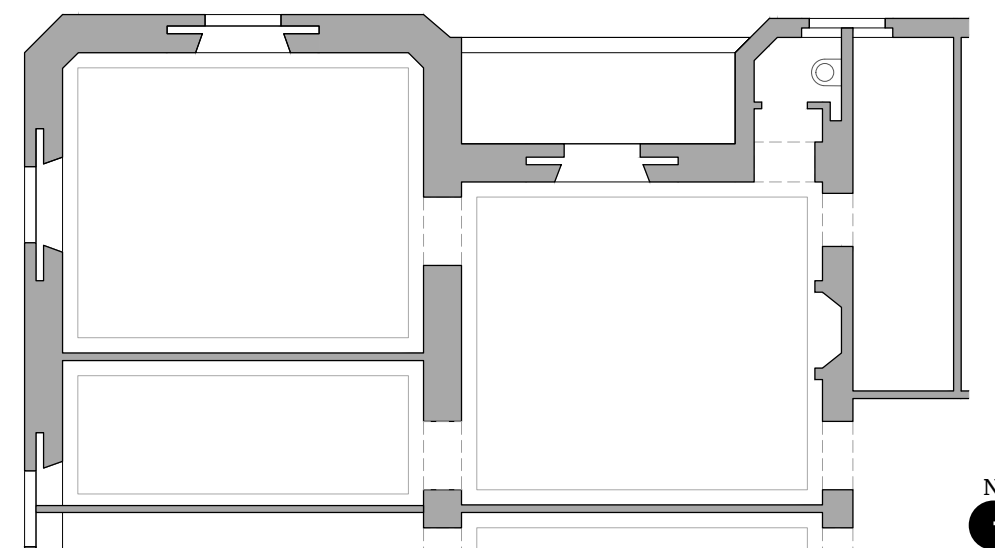
A current situation in the apartment

During the research we were able to access one of the apartments where the tenant told us about his experience in this complex. Antonio X, a 76-year-old man, told us that he arrived in 1997, almost 25 years ago, with his wife and son. He recalls that the area felt insecure but that it has improved over time. There was a Nido school on the ground floor that extended throughout the buildings and had a private garden for the kids inside the courtyard. Unfortunately, they closed it due to poor maintenance and it has not been used since then. They started to have problems with people who climbed through the balconies to sleep on the abandoned installations and for that reason we have some windows covered with metal sheets that make the street feel abandoned and insecure. Meanwhile the administration of the housing was given from the commune di Milano to the Istituto Autonomo Case Popolari IACP, and after some years they have given to Casa MM who runs it until these days.

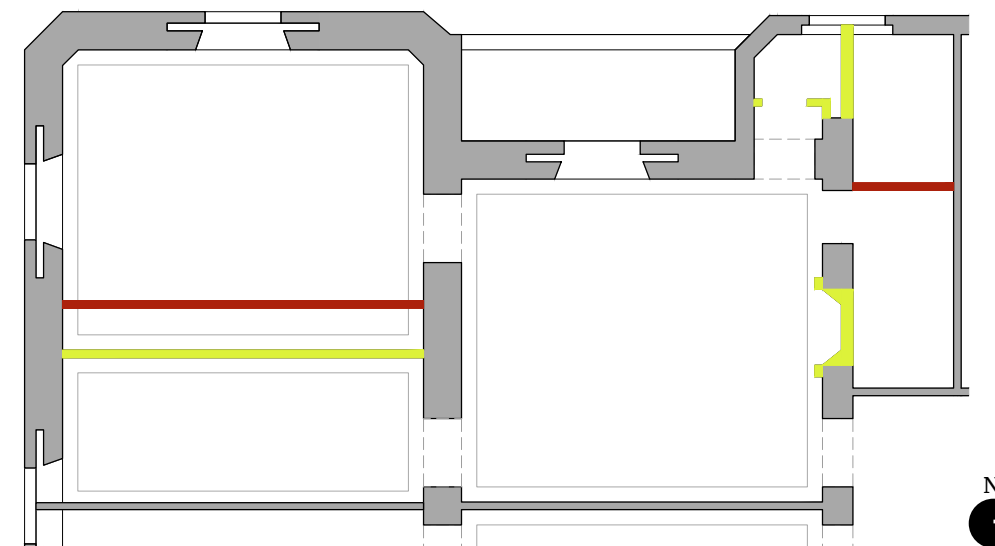
The apartment consists of the modules XL + L + M + S + XS — as shown below — and he shared with us some of the modifications he made to the apartment so, it could work better for them. The first consisted of the ampliation of the bathroom by making the kitchen smaller and closing the window in the XS module.

The second one was in the division wall between the two bedrooms where they relocated the wall 65 cm into the biggest room.

Original state

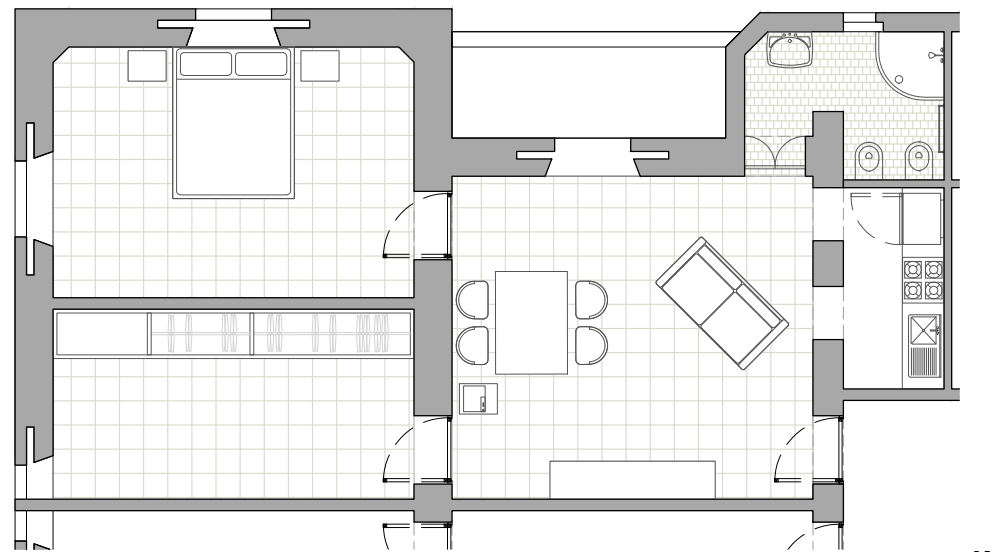


Modifications to the apartment



Demolition Construction

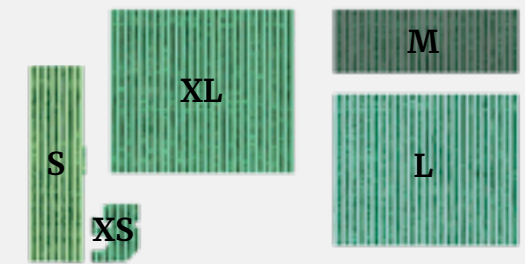
Current state



Type of apartment



Modules



Antonio
73 years old
Living alone

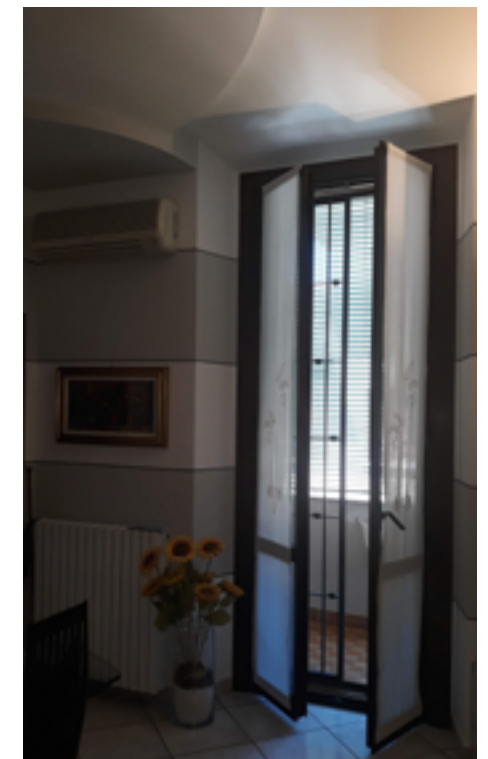
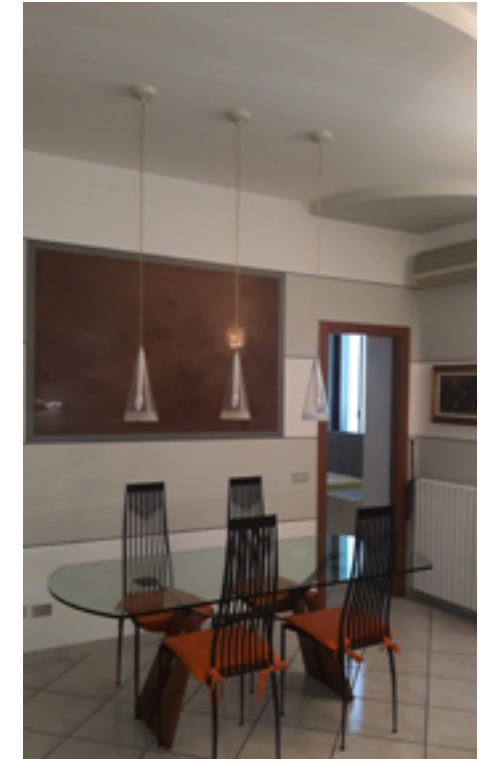
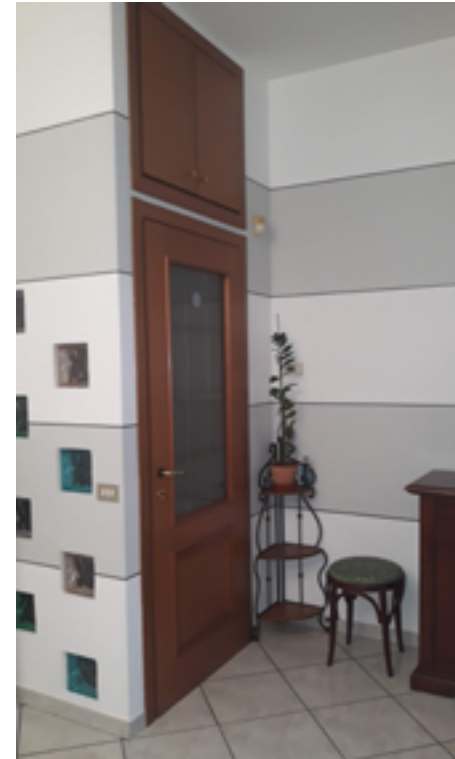
The B1 apartment spaces

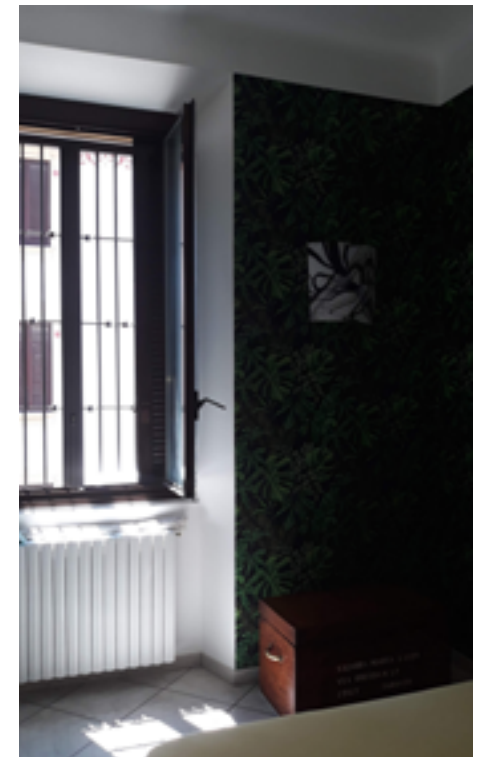
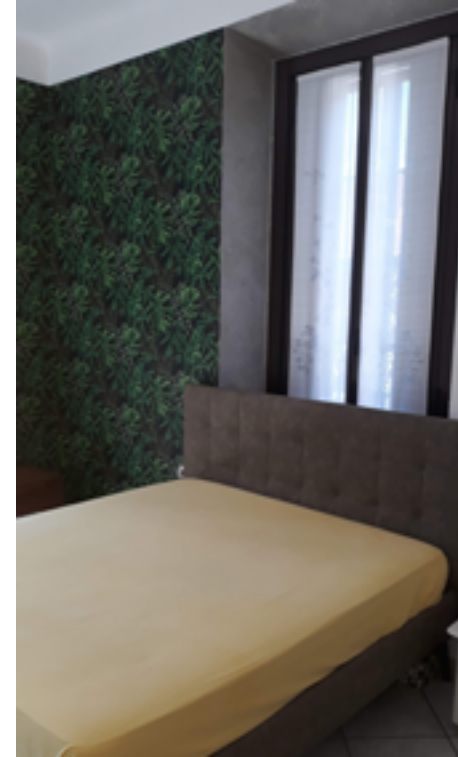
Original plans		Modifications	
Kitchen	6.16 sqm	Kitchen	3.50 sqm
Bathroom	1.40 sqm	Bathroom	4.60 sqm
Living room/ dining room	20.18 sqm	Living room/ dining room	20.18 sqm
Main bedroom	18.72 sqm	Main bedroom	15.63 sqm
Second bedroom	9.06 sqm	Second bedroom	11.87 sqm

The access



The apartment

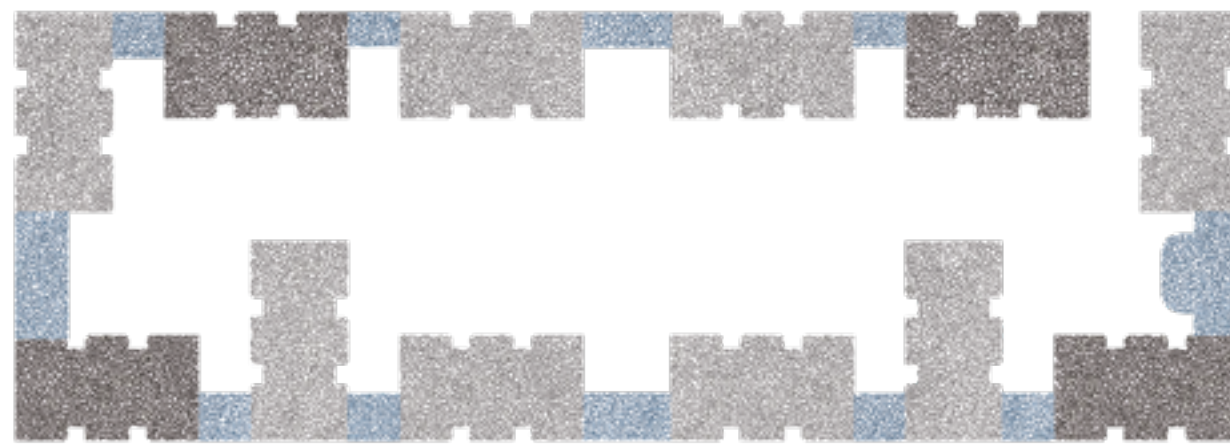




Composition analysis of the complex

Ground floor

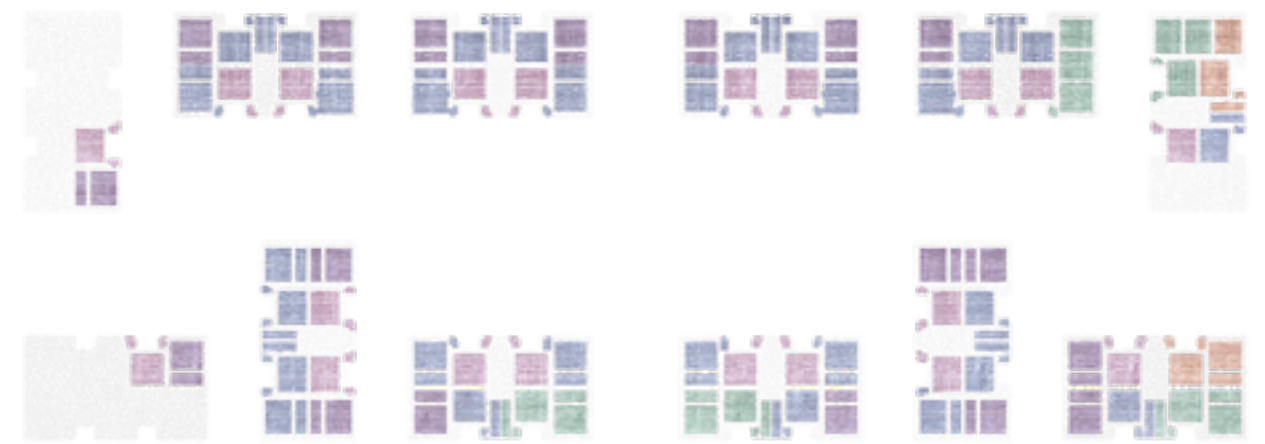
Modules and connections



Viale Lombardia

5 level module 4 level module Connection element

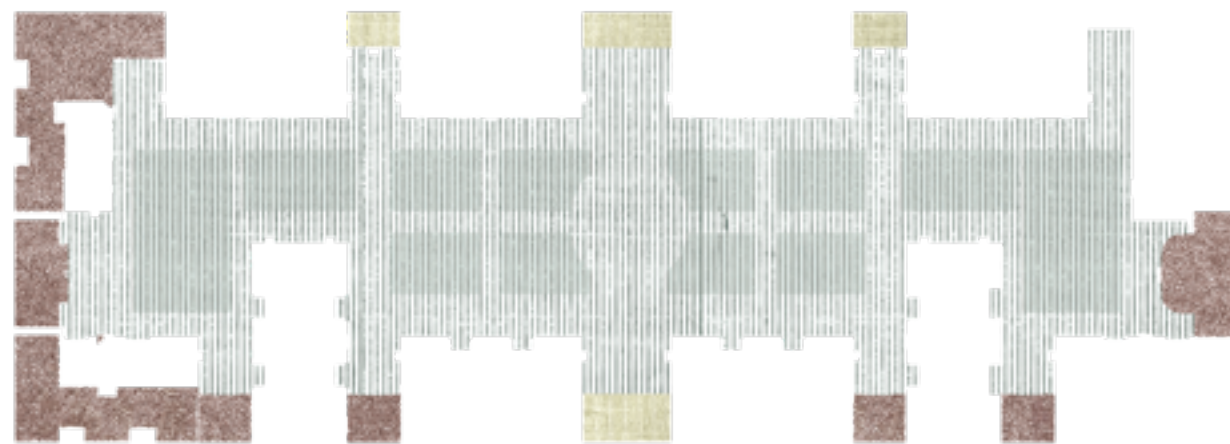
Typologies of apartments



Viale Lombardia

1 module + bathroom 1.5 module 1.5 module + bathroom 2.5 module + bathroom 3 module + bathroom

Courtyard, public and shared spaces



Viale Lombardia

Courtyard Public spaces Shared common spaces



Facade to the city



Viale Lombardia

Courtyard Public ground floor Shared common spaces 5 level module 4 level module Connection element

PART III

The project

The project

Making a design strategy

Space 10 founded a project called One shared house 2030 that consists of an online data base where anyone can go and answer some questions about shared living. These questions are aiming to have an overview of what an ideal co-living space would be and the characteristics of it. As the search continues, we can see the results of more than 193,000 participants that englobes the summary of the most common answers. This is a very interesting project because it is a way to know what people would like to have and how much are they willing to share in a community. Although this is only a portion of the population it is giving us a lead of where we can go in our design.

After analyzing the Italian policies, the behavior of the population, the history of shared living and the case studies we can have an overview on what we think are the most important factors that will affect the project. This complex has the capacity to have 2 categories of staying, the permanent and temporary ones. The first one contains a senior population (aged 65+) and a young one, approximately from 25 to 35 years old that is the group less benefited by the policies in Italy and the one with less work stability that cannot find the ground they need in order to become independent and have to share spaces in apartments that are not very friendly with their needs. The latter category would consider a percentage of space for students (bachelors, masters, and PhD) so they can have an option outside of the market speculation of Milano; we also consider this because our complex is located near several educational institutions.

Anton & Irene survey

- 01** Would prefer couples, single women, and single men in their community.
- 02** Are happier with access to multiple homes they could easily move between.
- 03** Prefer to live in the city.
- 04** Think people with a design background would be the best at designing a co-living community.
- 05** Don't think it matters if the people who design their community have experienced co-living themselves.
- 06** Prefer members to share equal ownership of the house.
- 07** Would pay extra for a service layer to manage all house related items.
- 08** Only want the common areas to come furnished and furnish their own space themselves.
- 09** Want house-members from different walks of life.
- 10** Would rather have set private and communal spaces with clear boundaries of use.
- 11** Think being neat and tidy, honesty and being considerate are the most important qualities in a house-member.
- 12** Are most comfortable sharing internet, self-sustainable garden and workspaces.
- 13** Don't need their own private kitchen and would use the communal kitchen so they can have more flexible private space.
- 14** Want to make sure their private room is off-limits when they're not home.
- 15** Think 4-10 is the right amount of people for a community.
- 16** Want new house-members to be selected by a consensus vote.

A

Percentages of groups population

After deciding who will be our residents we can go more into the specifics of each group; The seniors 65+ would have the possibility to live in a comfortable space for singles or couples where we can have an option or those who need assistance through day or night. We have seen in the case studies that this is beneficial for all the inhabitants because there is an exchange of practices in a multigenerational day-to-day life. As we mentioned, loneliness is growing in numbers and sometimes for the seniors is more difficult to be part of a young environment where they can participate in communal activities.

The second permanent group are the young adults (25-35) that do not have housing policies to help them in the transition into independence. This group would be made by singles or couples of young workers or job seekers that need time to establish themselves in the working life. This will give a stable space where they can also work from the co-working space or be the ones in charge of a commercial space on the ground floor. The diversity of this group will be appreciated in the relationships between the inhabitants because they all are seeking the same but in different areas of expertise.

The only temporary group that involves students is important to add a sense of adaptability and change inside the complex. The former groups can stay from 1 year up to 10 or in the case of the seniors, for life. So, when a percentage of students are involved in this organization the way of living could be more active and the students could also use a community to shared social interactions as they are away from home. This could be a way to provide them with stability, comfort, accessible rents, and a community to exchange ideas and ways of living.

The next decision we want to make is regarding the inhabitants and how much dwelling are we giving to each group, so it has a balance that allows an organic growth.

25%

Seniors
+65 years old



Single



Couple



Senior +
caregiver

50%

Workers
Young people
Young couples
25 to 35 years old



Single



Couple



LAT Couple



Home working

25%

University students
18 to 25 years old



Single



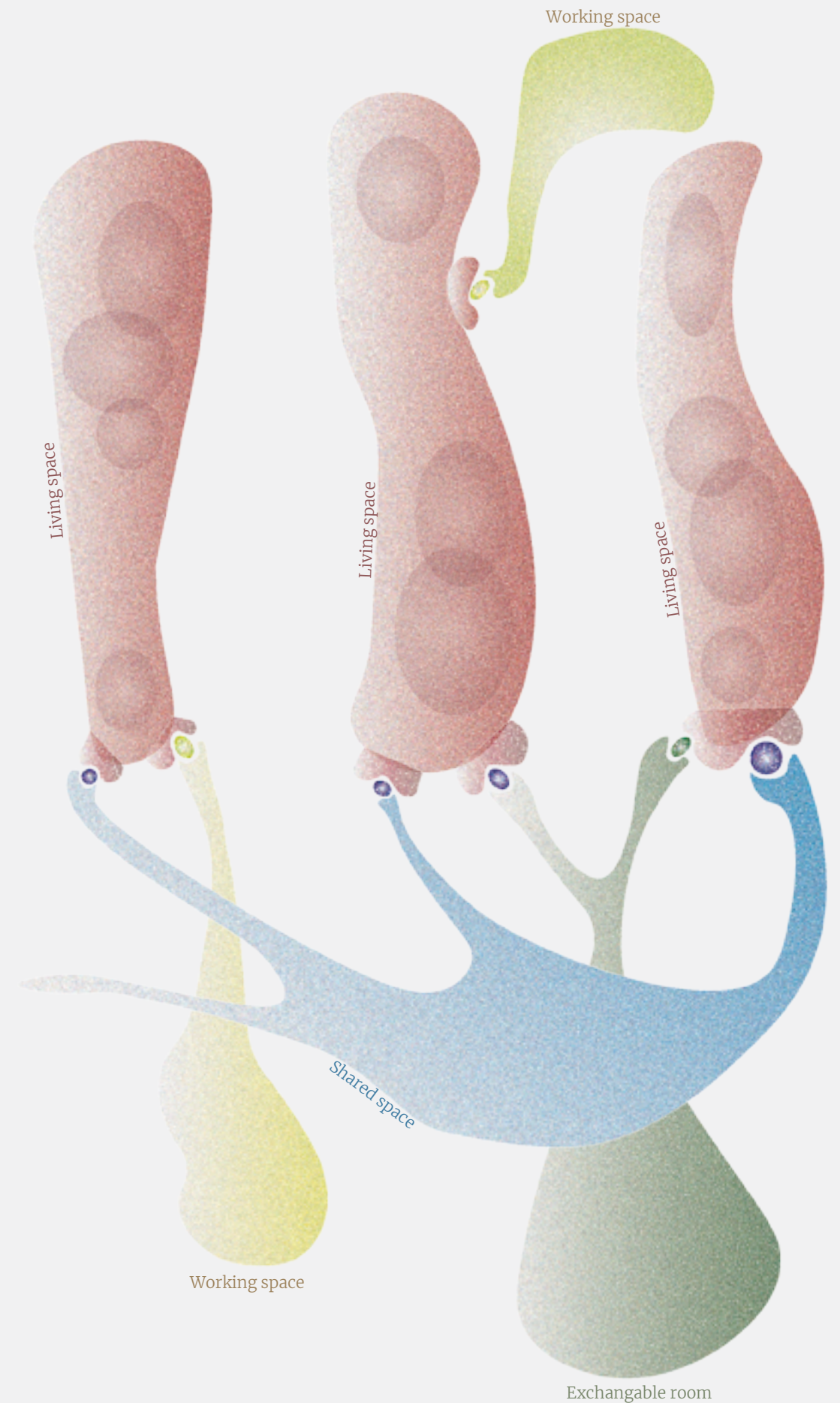
Couple

B

Basic nucleus, exchangeable nucleus and working nucleus

The complex in Viale Lombardia has a series of peculiar modules that conform different spaces. It is a kind of DNA of the building, and we can analyze the different options we can use to have diverse compositions to host different uses. Our aim is to have one basic module for every apartment, this one will contain the main spaces (unless a private nucleus is inside a cluster). Then we can have the exchangeable nucleus that can be added to the main ones, and this can be used as an extra bedroom or can even be shared or divided by two units to fulfill a new necessity. The adaptability and location of this nucleus is crucial to have an appropriate utilization.

Meanwhile the working one will be part of the main residential unit but in a different level so one of them is to live and the other one to work. The work module can also be divided into smaller areas or be shared by several habitational units.

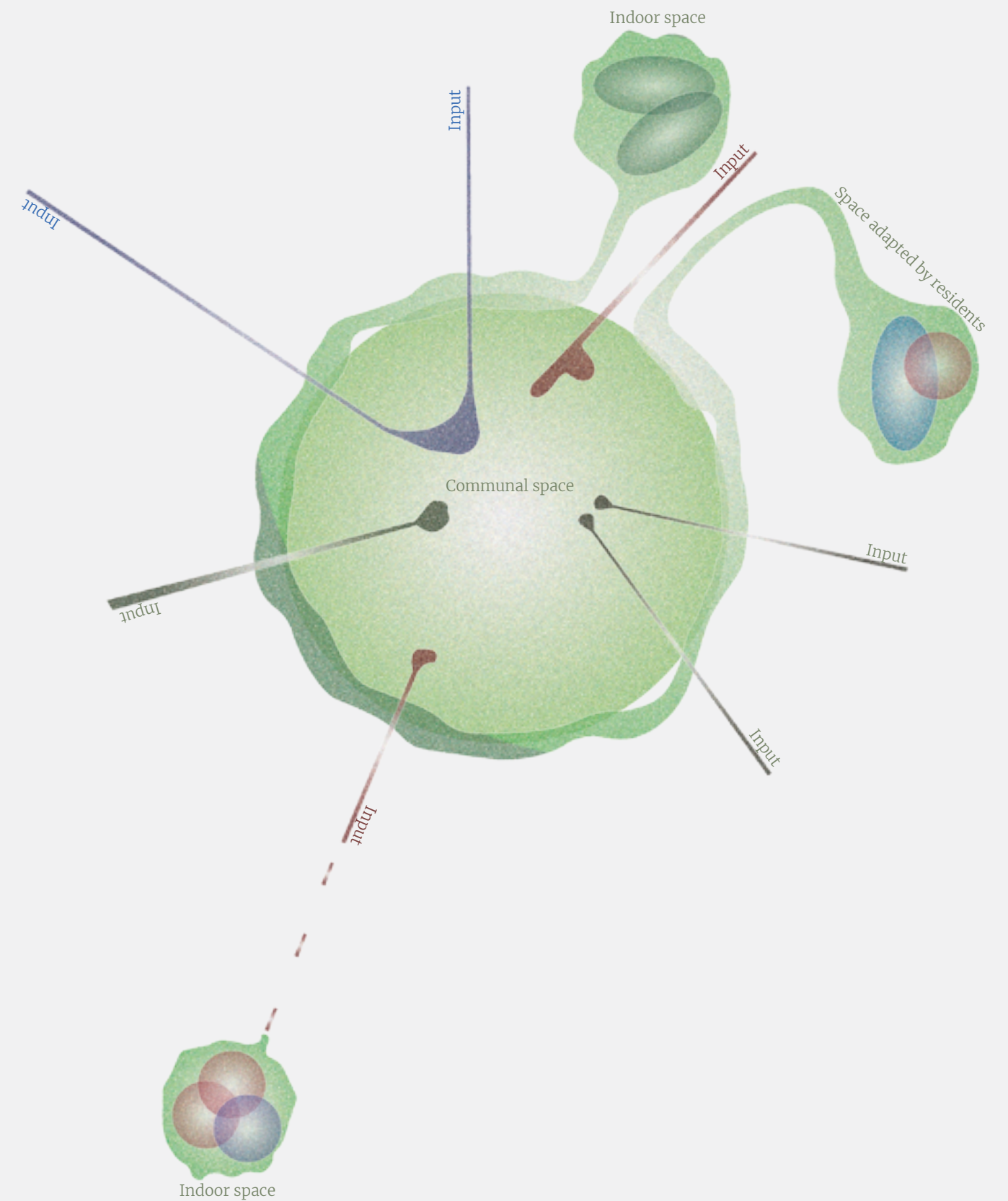


C

Communal spaces / activities

The case studies showed us the importance of communal areas -indoors or outdoors- that give the possibility to get in touch with the community and to improve the social bonds. They usually have a greenhouse to take care of some vegetation and vegetables, a main square where people can get together to have parties or terraces with kitchens that can be used by everyone. In the existing building there is a huge potential to interviewing the central courtyard and make it a livable place throughout the year.

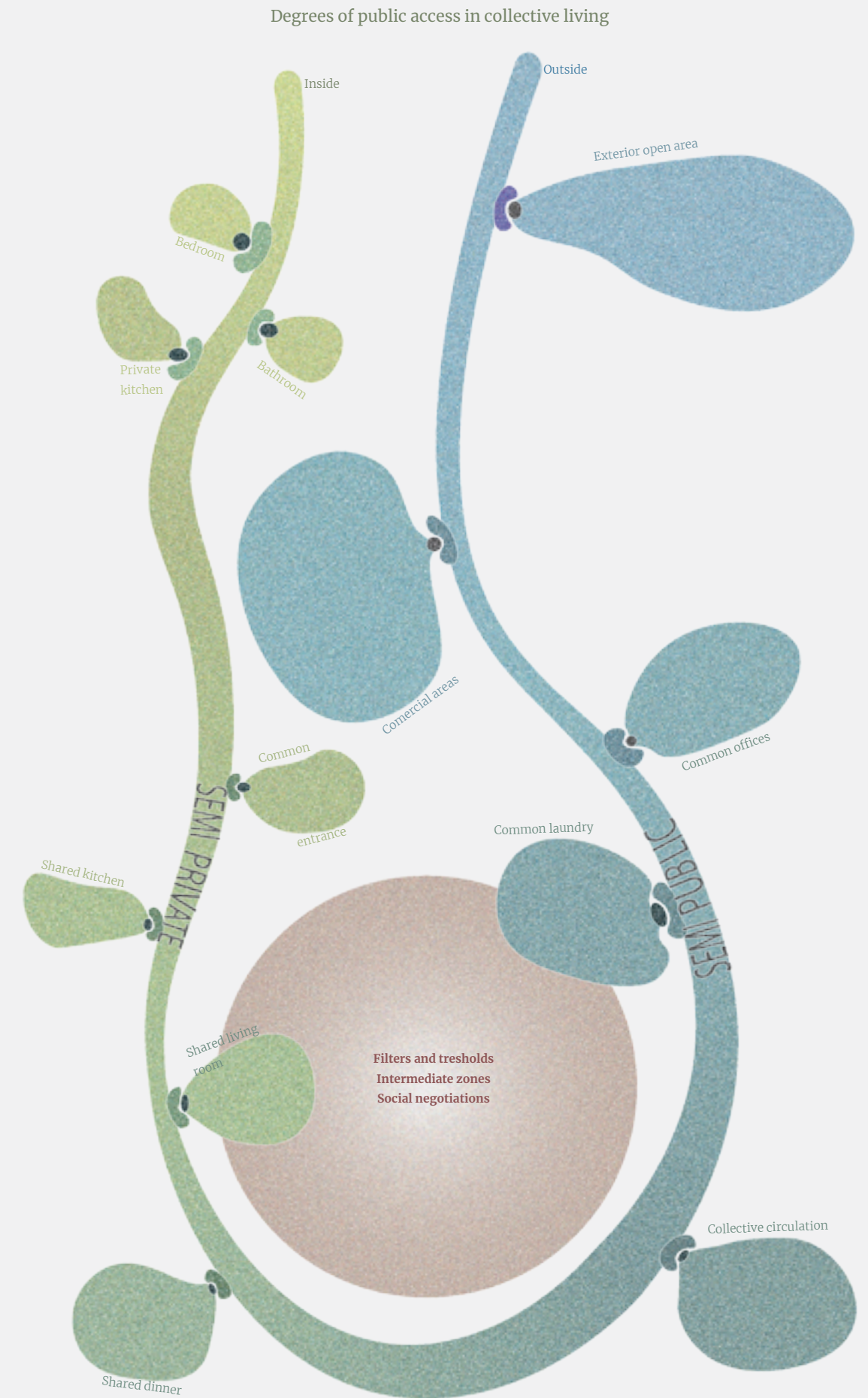
The indoors spaces also bring a lot of possibilities as we have seen some of them have nurseries, repair shops for bicycles, workshops, ateliers, or laundry rooms. These spaces are a starting point to open a conversation and find a common ground with others. For us the social bonding is crucial to have a successful shared living building; the intention is to feel like a big family one that you choose.



D

Transition into different degrees of access

The spectrum of accessibility is a subject to develop during the design of the strategy because it is going to have an impact on the way the spaces can be lived and the relationship between the private and the public is a subject. We need to have a starting point of what is considered private, semi-private, semi-public, or public and in what context. The appropriation of the spaces also depends on these definitions, and we can have a guide for how to treat them based on the Irene and Anton research and the analysis made in the case studies regarding the percentages that each category has. For example, the sqm per unit will help us to see which approach is more similar to ours and then make a relation of sqm for private and private spaces and, as a plus, see how they manage to have these changes in the plans. But if we zoom out to one floor or the whole building, we need to read the data accordingly and adapt the results to bigger parameters.



Source: Drawing by the authors, elaborated on the basis of a similar diagram in: Maryam Khatibi. (2021). Socio-spatial interactions of a cluster-house concept apartment in mehr als wohnen project in Zurich, Switzerland.

E

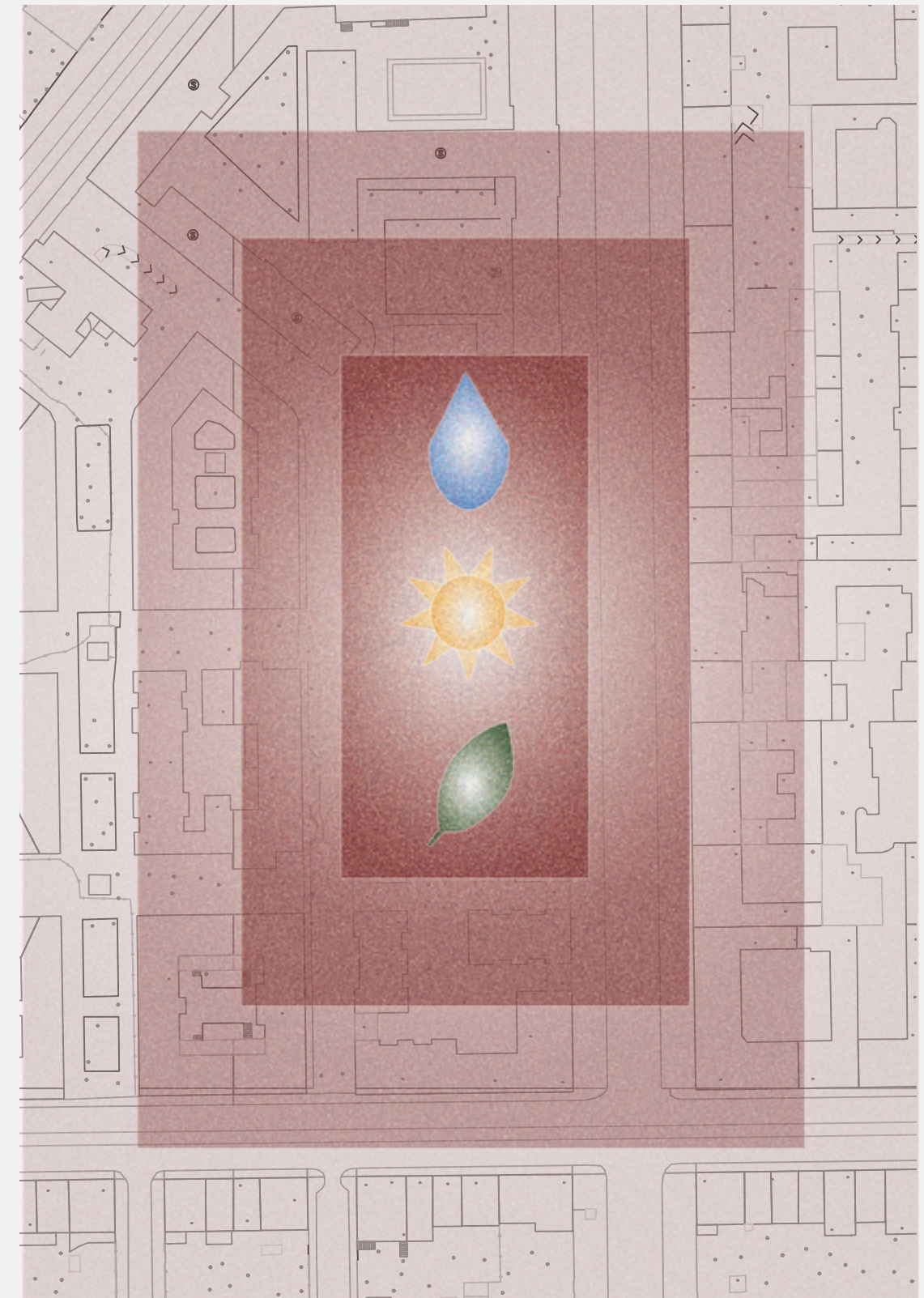
Integration to the city / open system /sustainability

How the building relates to the city and the people that live close to it makes a difference in a neighborhood; as we have seen in the past analysis, the public space can be a commercial space on the ground floor, a passage from one side to another, a square or even an open space. These places help to the development and appropriation that the city wield into the building; at the end the building is a living organism that need to operate as an open system that changes and adapts to the needs that will occur over time as mentioned by Anil Seth:

~~~~~  
*“Living systems are different... living systems actively maintain their boundaries over time -through moving, or sometimes even just through growing. They actively contribute to preserving themselves as distinct form of their environment, and this is a key feature of what makes them living.(Seth, 2021)”*  
~~~~~

On the other hand, sustainable systems are part of this change and can produce a positive effect on the people living there and to the city. It is an aspect that cannot go unstudied due to the current situation on the planet. So this factor should be investigated, analyzed and taken into the project in a responsible way.

~~~~~  
*“Importantly, living systems are not closed, isolated systems. Living systems are in continual open interaction with their environments, harvesting resources, nutrients and information. It is by taking advantage of this openness that living systems are able to engage in the energy-entropy, and warding off the second law” (Seth, 2021)*  
~~~~~

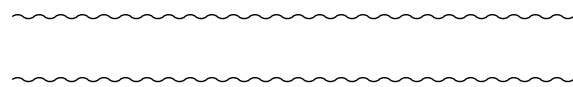


Urban guidelines

I

Uses

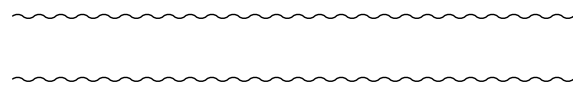
Make the courtyard a semi-public space during the day. This will imply an active ground floor that provides services for the neighborhood. The space can be used for several activities that involve the community and it can help to get a better response to the social links.



II

Connections

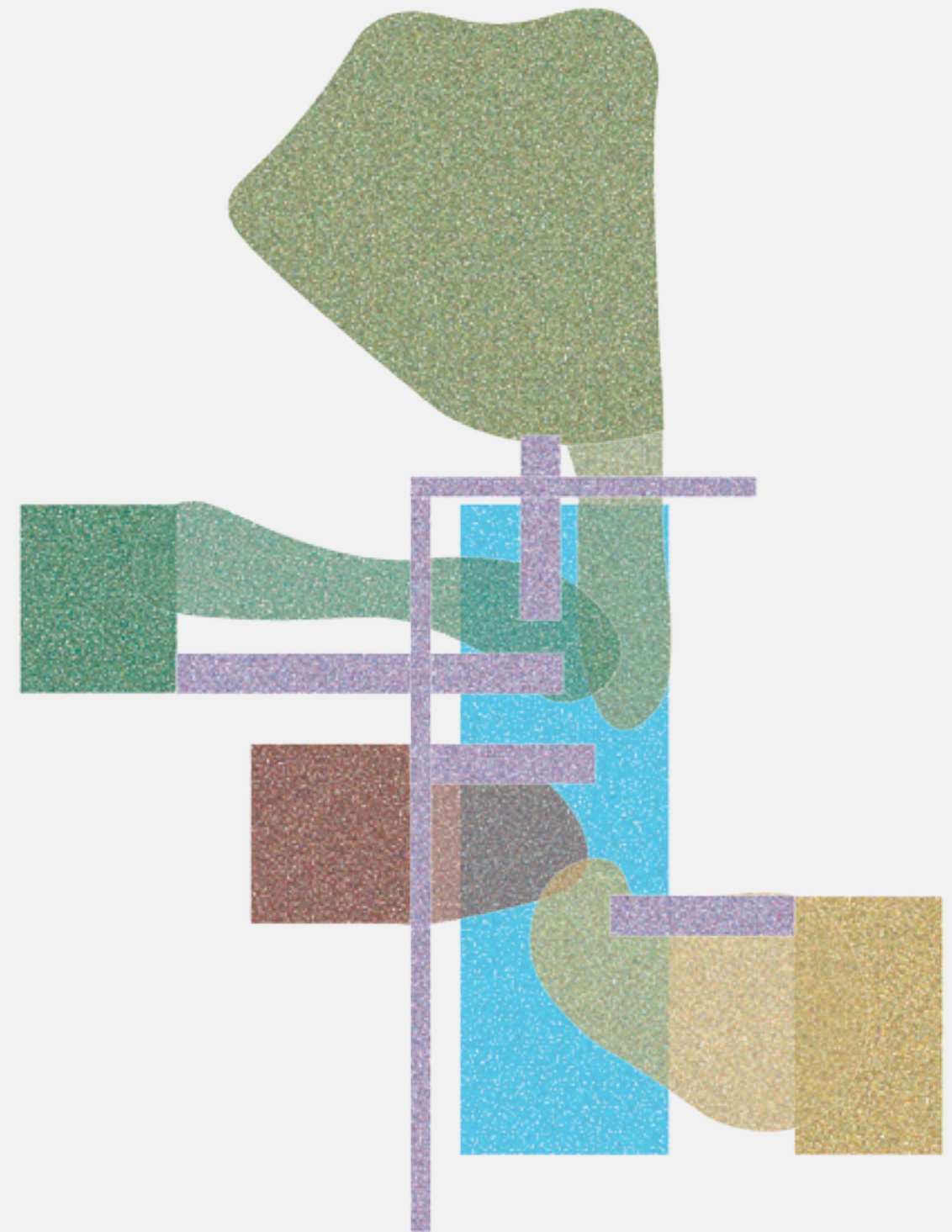
Connect the existing uses in the surroundings with public usable spaces like squares, sitting areas and green spaces. One example that could work in the area would be the removal of the parking spaces from Via Luigi Boccherini. These make the street very narrow and empty because of the poor livable space that they generate; they act more like a barrier, and we want that street to link the two sides of the block.



III

Environment

Make a sustainable complex with an energy plan and water saving strategy. In such a big complex it is important to have a plan to make it more efficient. Sustainability is an important part for the current situation of the world, and we must try to create a plan that helps the city and the environment.






Urban vision

The urban vision is a way to stand our position towards the neighborhood and the interventions we think will be appropriate to enhance and modify some spaces and how they can be used and lived in a diverse way.

Loreto is a neighborhood well connected and with a lot of close-by services in the city. The area has a potentiality to provide a more friendly experience to the inhabitants of the area and the temporary ones that are passing by or working there. Right now, the Loreto's roundabout is mostly a plank of concrete where a lot of important streets of Milano are connected but, for the pedestrian and the bikers it is a different story. The crossing is chaotic and long because there is the need to surround the roundabout. This gets translated into the areas nearby and provokes a hostile atmosphere dominated by the private car transport and the facilities that better suit the needs of the vehicular services.

The complex is just four streets away from this and this hostile atmosphere is translated into the area where the predominant space for cars is visible. There are not much green areas to enjoy and the one closer to the building is a small park that is next to Via Andrea Costa; this green area is used by the citizens, but it is not in the best state to provide a quiet and tranquil space. The passing of the cars and the continuous noise is noticeable. As mentioned before there is also the issue that concerns the environment, for this is also important to consider that an improvement in the sidewalks, the bike paths and the general improvement of green areas and crossing paths could enforce the mobility with a transportation that is more environmentally friendly.

-  Potential green semi-public space
-  School connected network
-  Public quality spaces

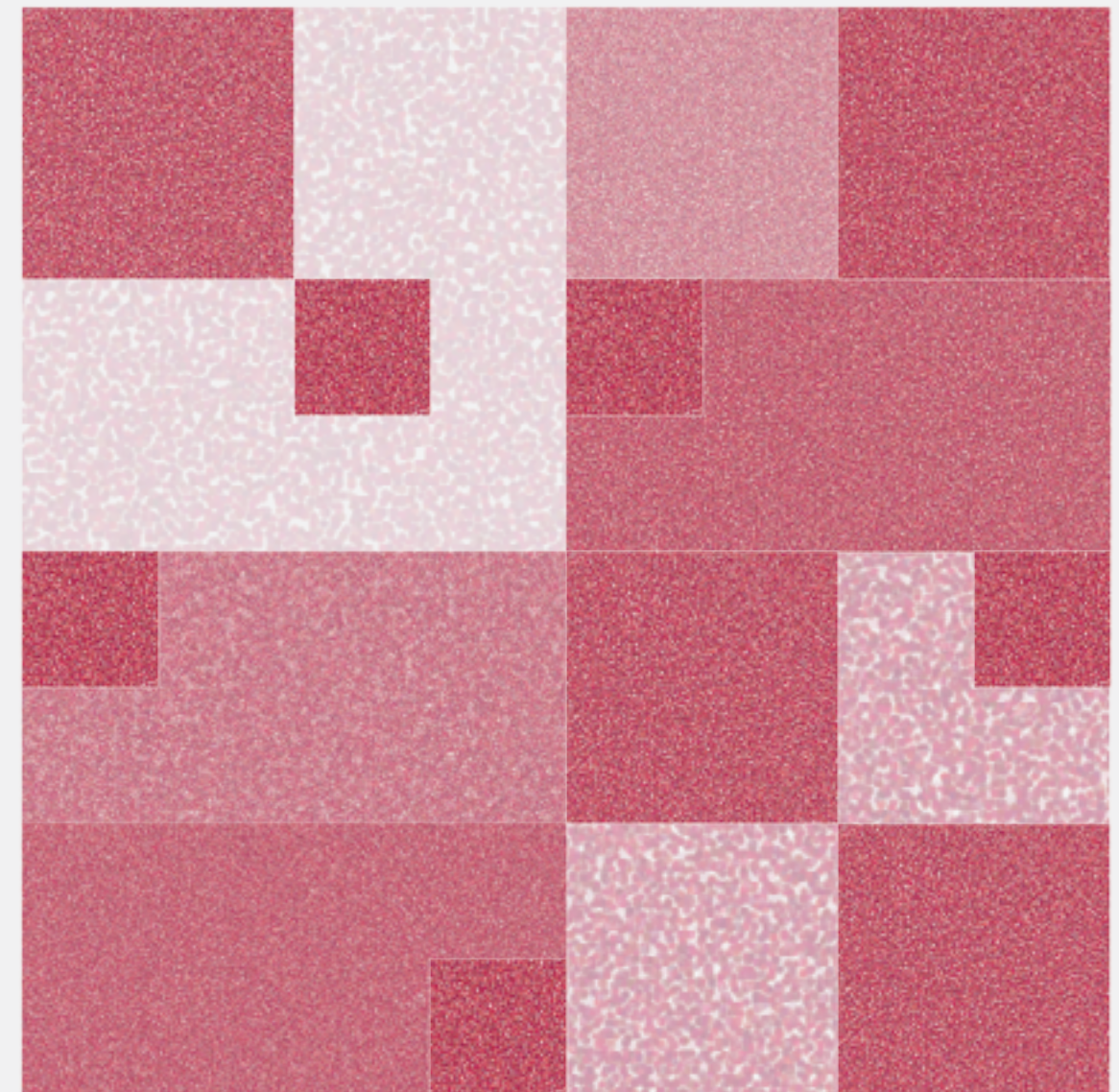


The building unit

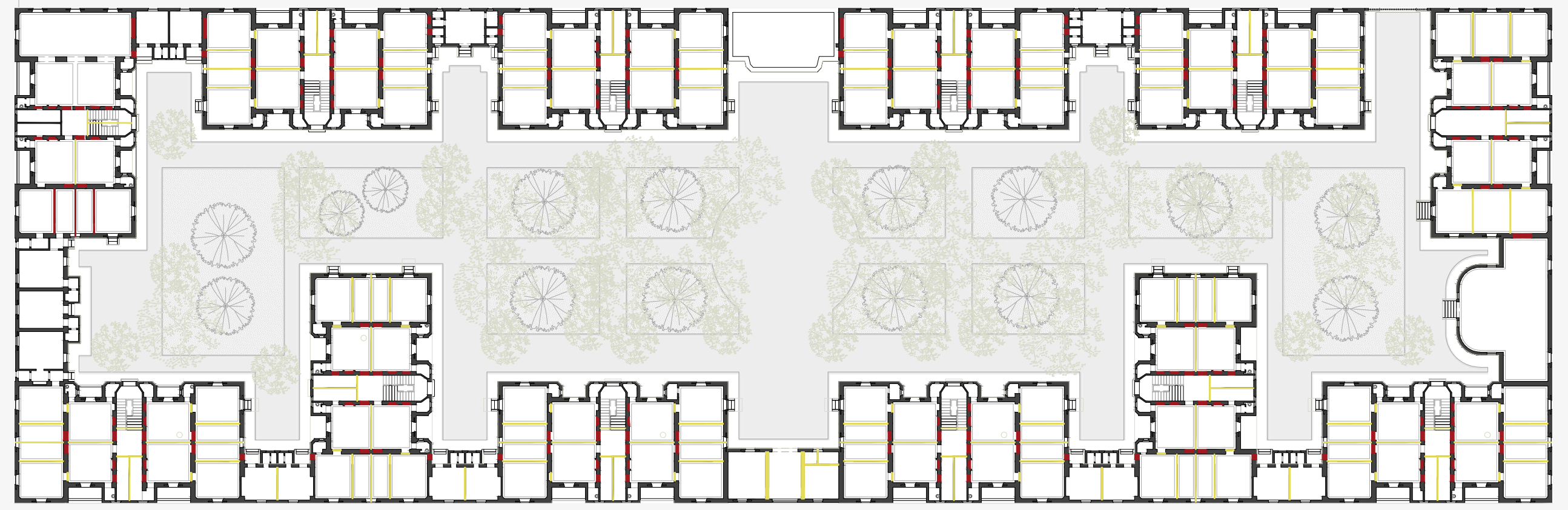
In architecture, a light and scalable structure has the potential to revolutionize the way we design and build our living spaces. By using lightweight materials and modular construction techniques, architects can create buildings that are adaptable and can be easily scaled up or down to accommodate changing needs. Such structures offer many benefits, including lower construction costs, reduced environmental impact, and increased flexibility for occupants. Furthermore, a light and scalable building can help to improve the quality of life for its residents by creating spaces that are more comfortable, healthier, and more energy-efficient. Ultimately, by embracing lightweight and scalable architecture, we can create buildings that are not only functional and aesthetically pleasing but also contribute to a more sustainable and equitable society. The units are developed in the main volumes of the building. We removed all the internal non-structural walls to allow an openness in the center of the walls to collocate the new modules. By doing so, we are also allowing the building to change over time and adapt along the cultural and social movements as its happening now with this project were we are using a building that was made for another typology of families and society and transforming it to embrace new ones. This building is very interesting because of the way that is made. It has its own DNA conformed by this aggrupation of modules in different sizes that are replicating and dividing themselves into other components. This is the main drive in our project, our methodology and our building units. We are giving them a new module that can be modified, replicated, and divided in a very subtle way.

The goal is to respect the existing that is related to the history of the building and the neighborhood and doing the additions in an acupunctural way, trying to touch the existing in a very respectful way. This gives a balance between the existing and the new when they are not trying to overpower the other but to maintain a relationship of balance.

The flexibility of the structure of the module makes it easy to be adaptable to different layouts and uses on each floor. The aim is to have a replicable structure that can be easily built and that respects the footprint of the original division of the rooms. The structure is made to be light and neutral so each individual can appropriate the space as they need. For the way is made, the apartments can change the distribution in case they want to close or open a new door or connection between the spaces. All the doors that are on the existing structural walls were already there as niches or doors, so we only took what was already there and used it to work with the division of the rooms and the modules.

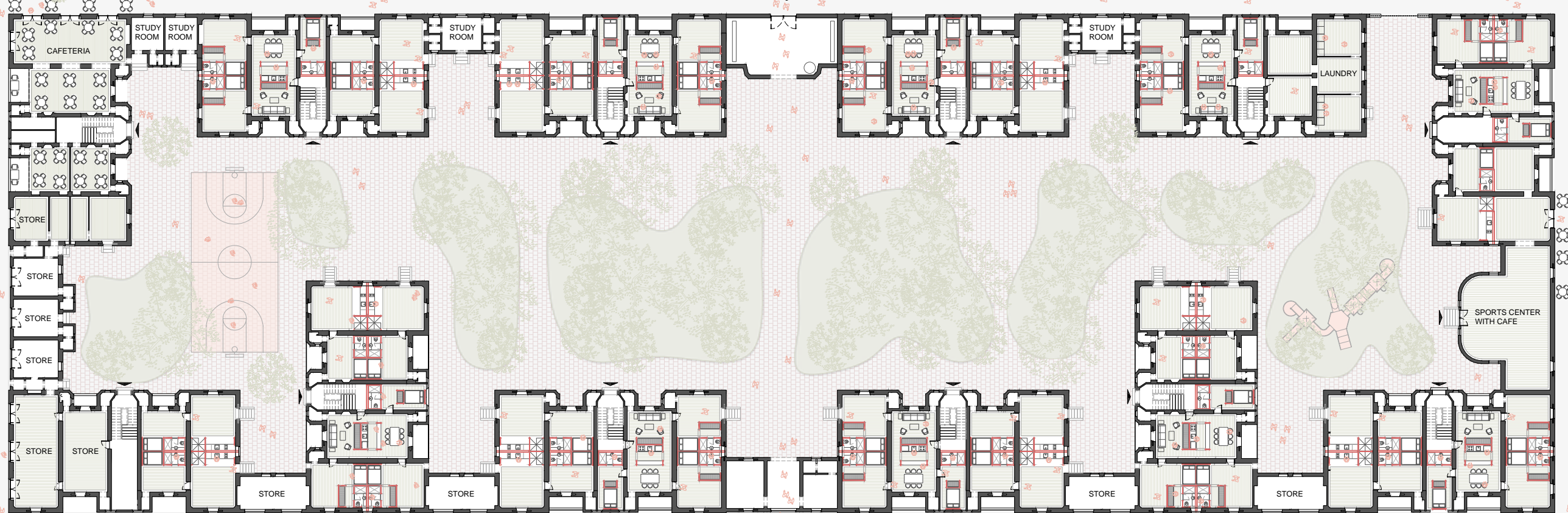


Urban / Ground floor / Demolition and construction



Demolition Construction

Urban plan / Ground floor



Urban plan / First floor / Demoliton and construction



Demolition Construction

Urban plan / First floor



Urban sections / Integration to the context



Facade Viale Lombardia / 1:500

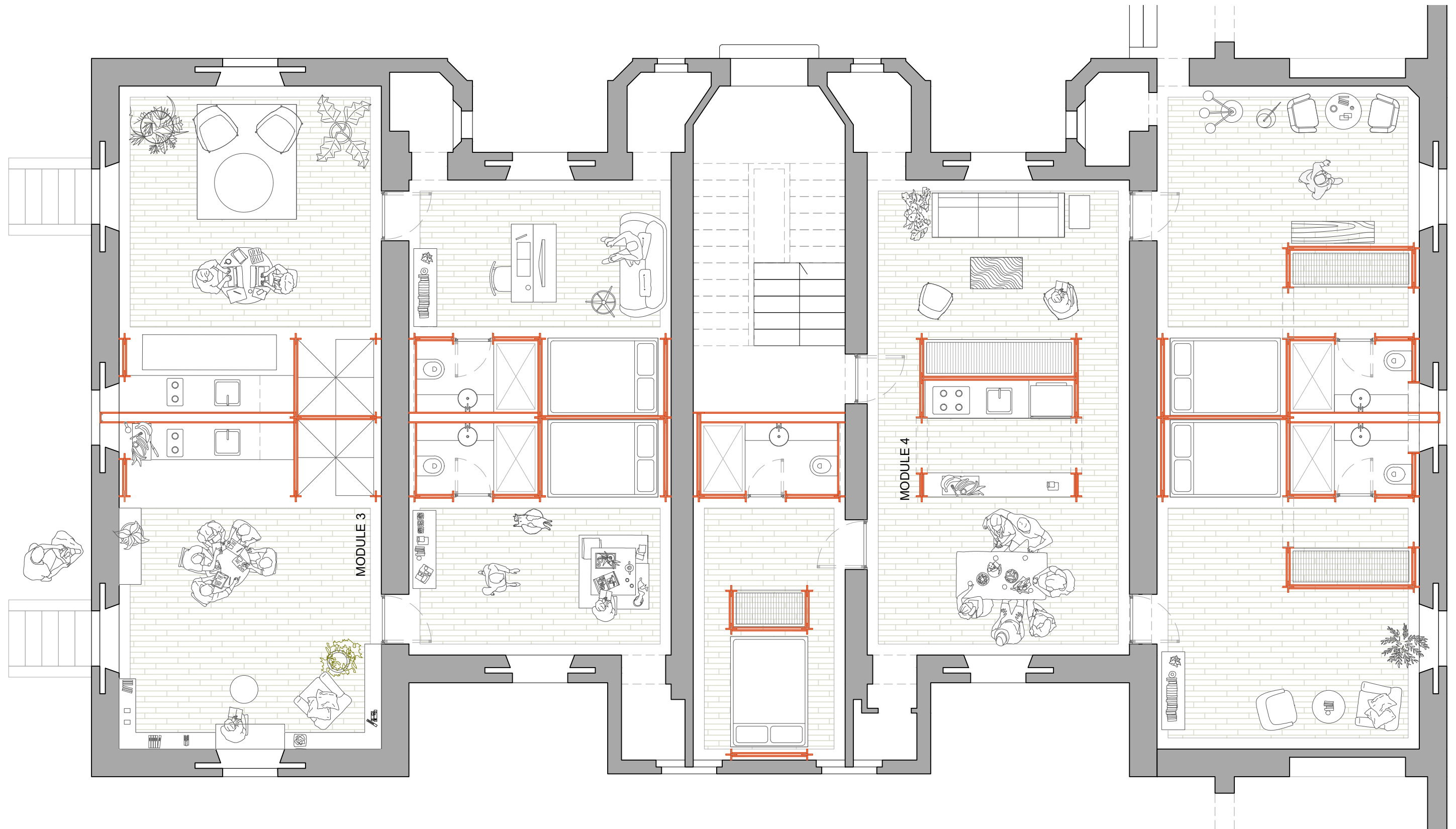


Longitudinal section / 1:500

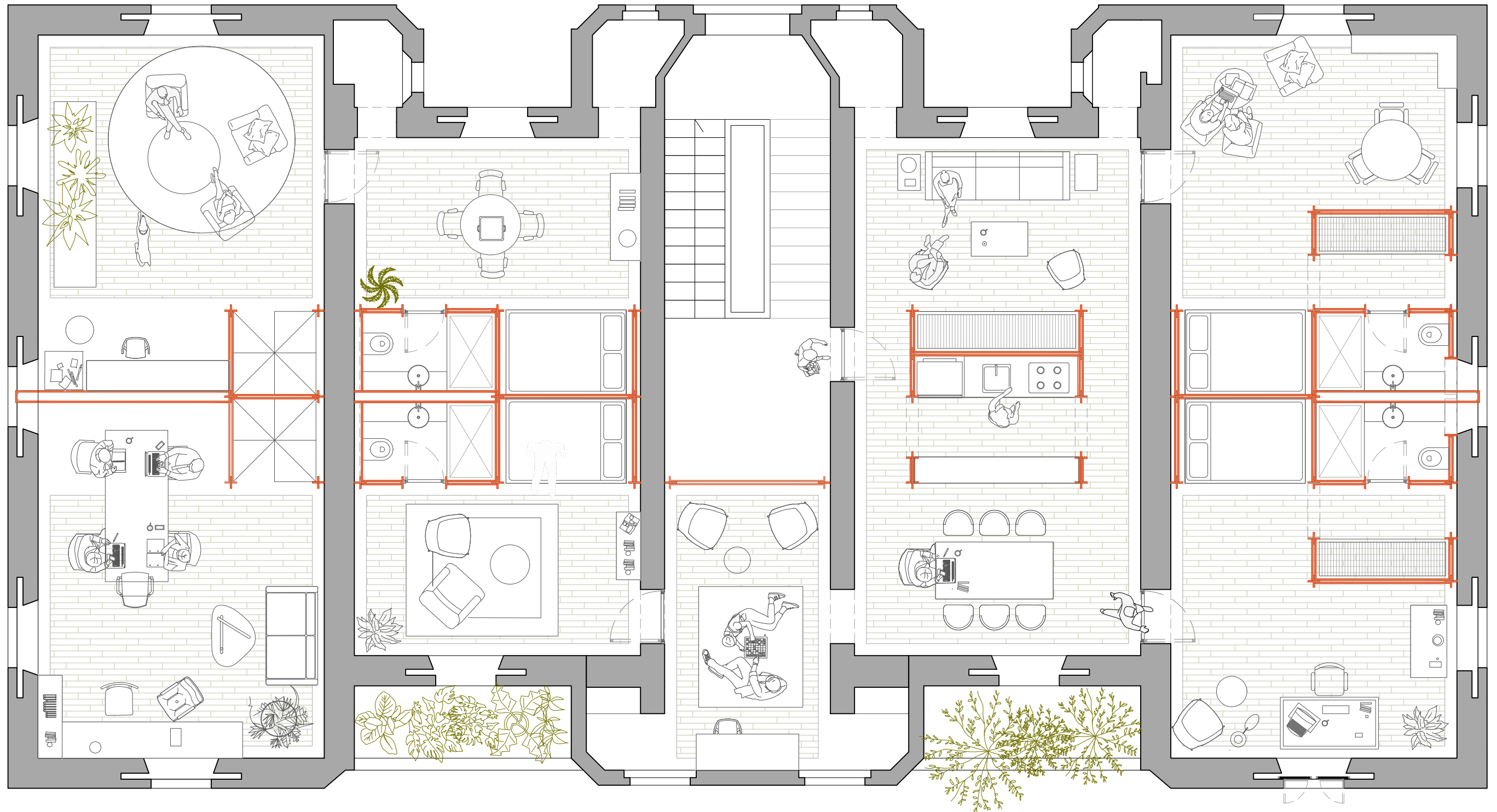


Transversal section / 1:500

Inhabited plan / Ground floor 1:50



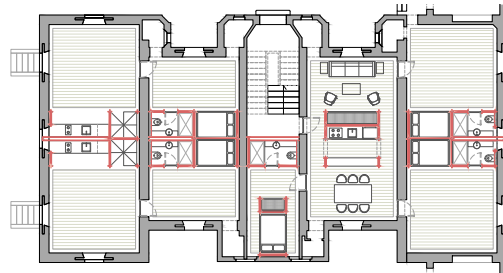
Inhabited plan / First floor 1:50



Project floor plans

GF

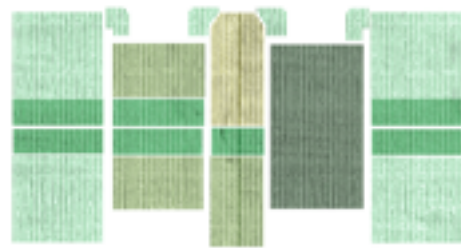
Areas and typologies



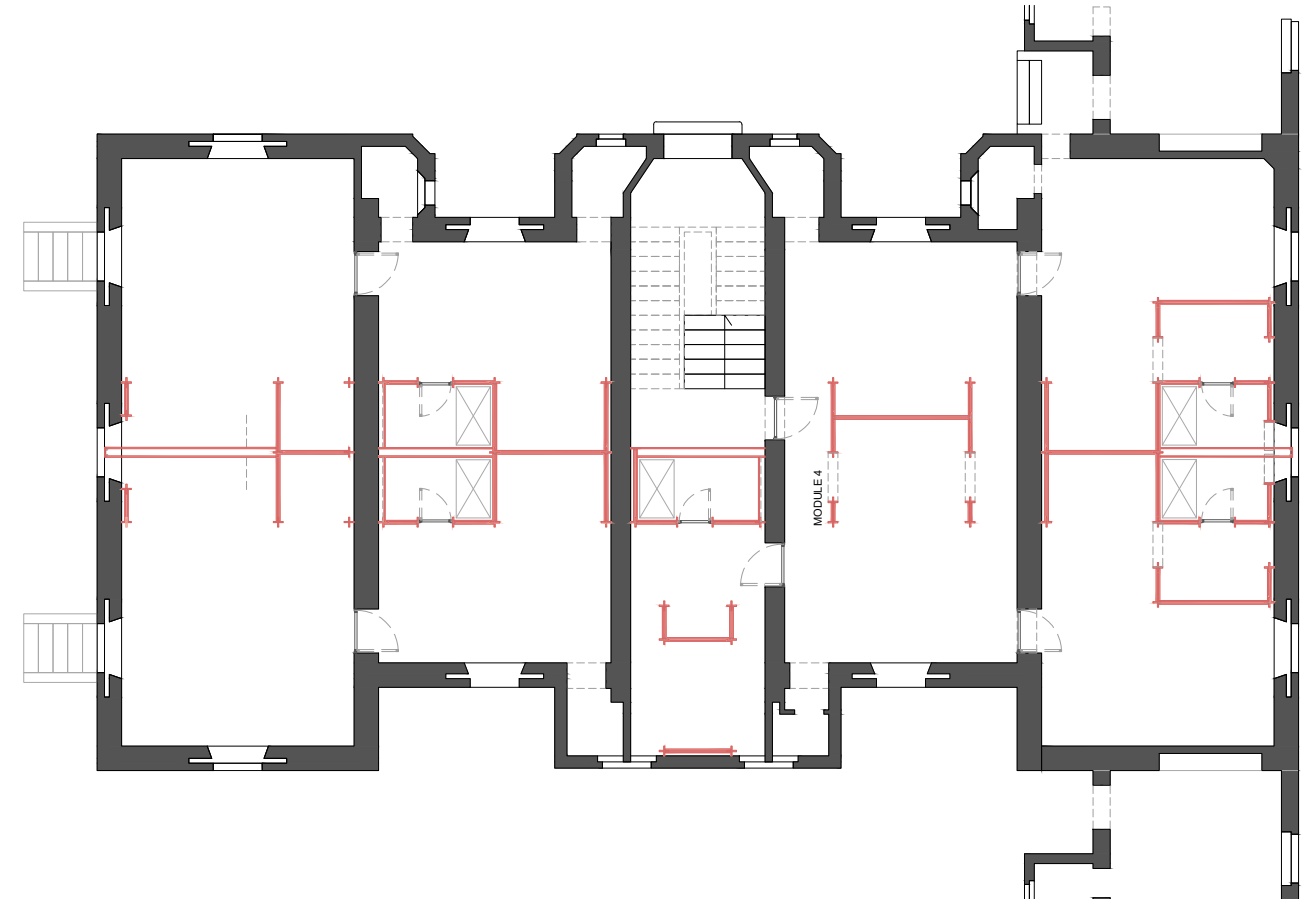
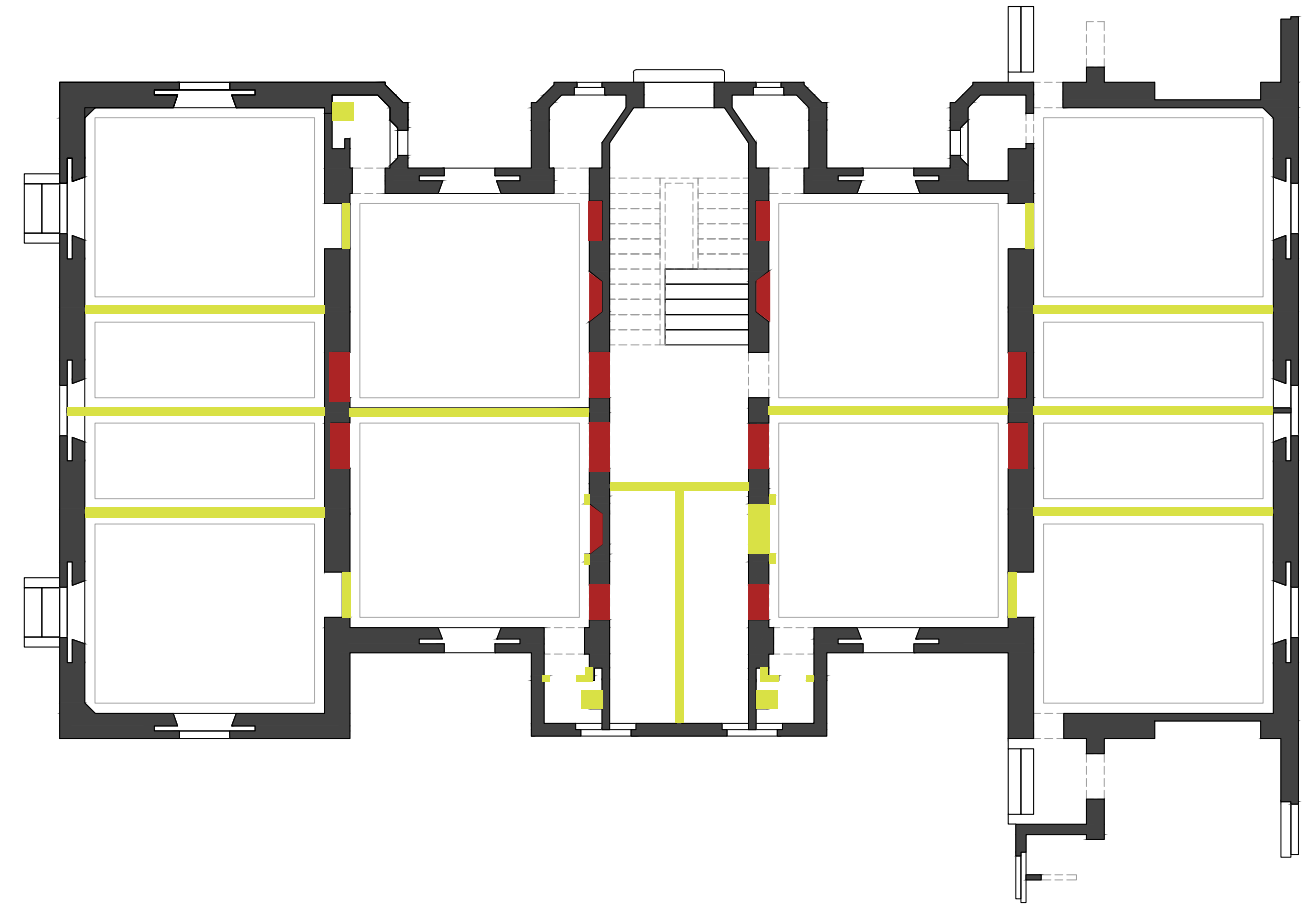
Project



Apartments



Modules



Demolition Construction

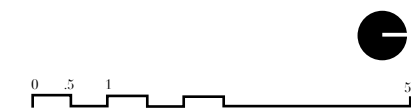
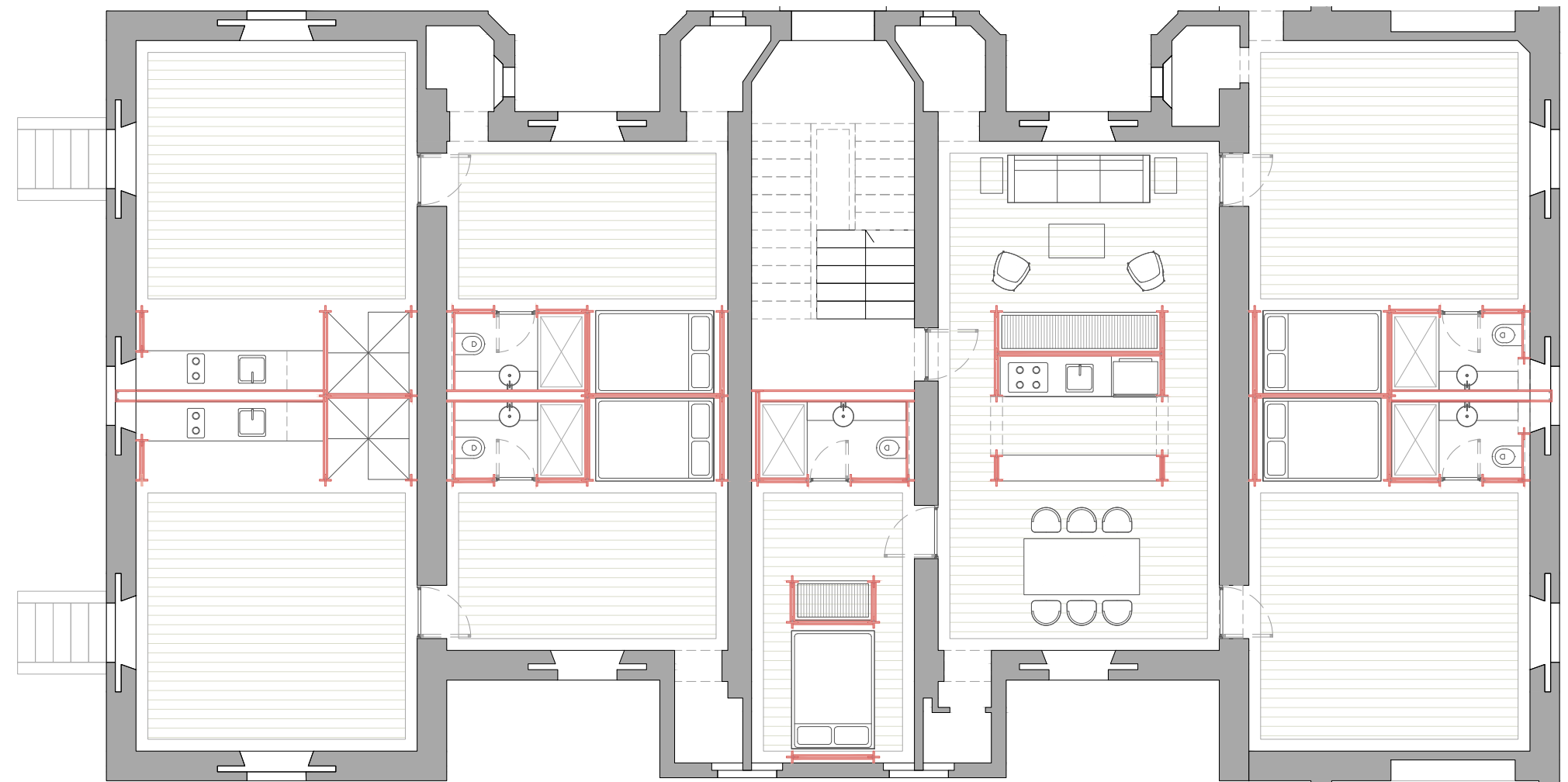
Typologies of apartments

T01: for couples or LAT couples
 T02: for elder people with or without caretaker

#residents

Maximum 9 residents

	area m ²	in%	max #pers.
Usable floor space			
total	228.10	100	9
● Typology 01	51.30 (X2)	45	4
● Typology 02	125.50	55	5





LAT Couple
Young people
working from
home.



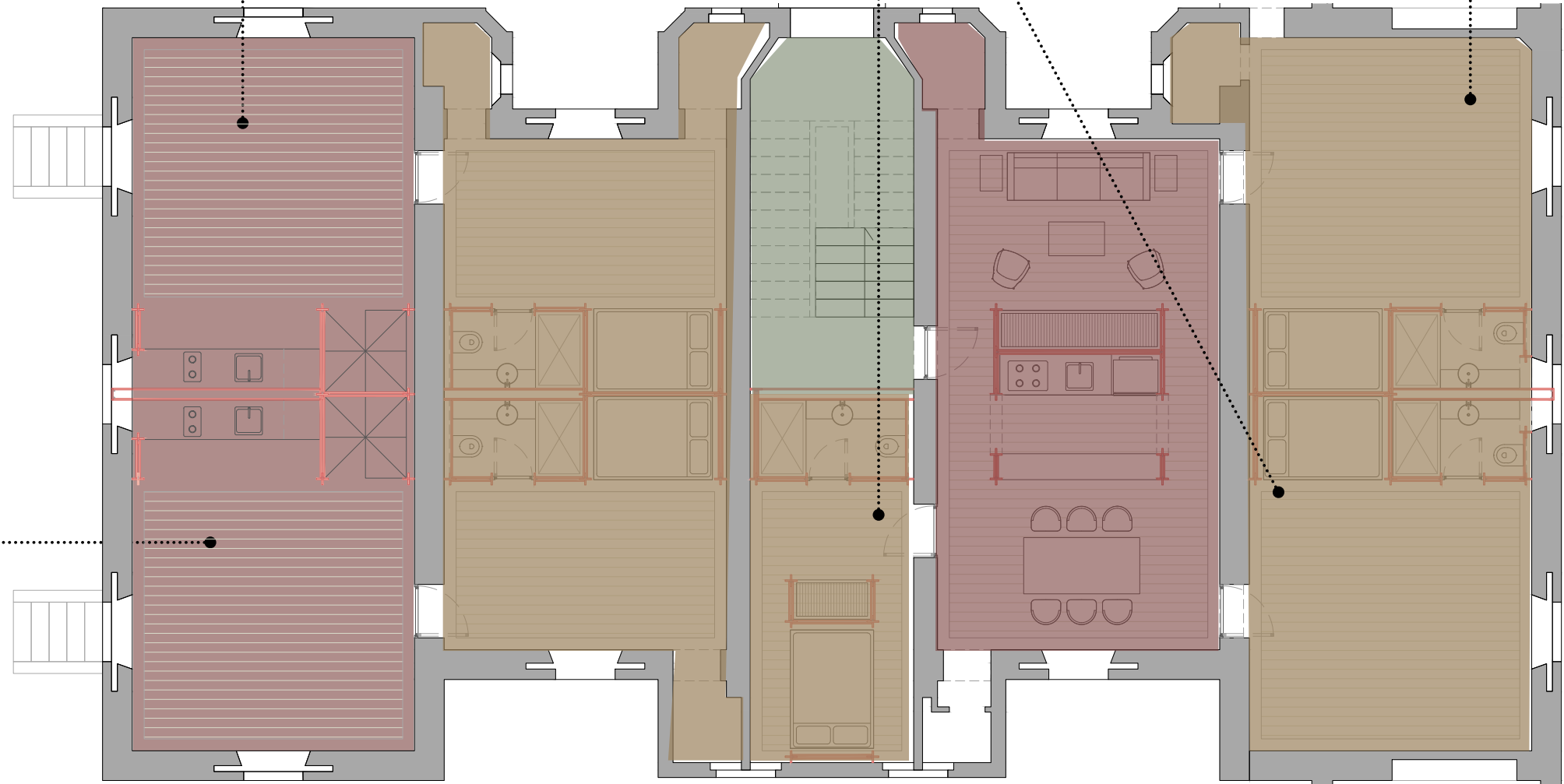
Senior +
caregiver
Limited mobil-
ity senior with a
health assistant



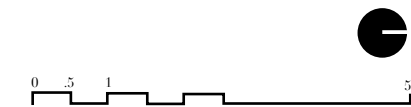
Couple
Seniors sharing
main areas



Couple
Young people
working from
home.

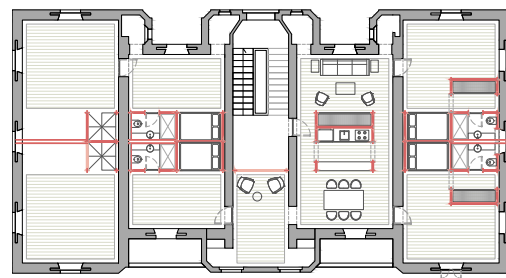


■ % private ■ % shared
■ %collective

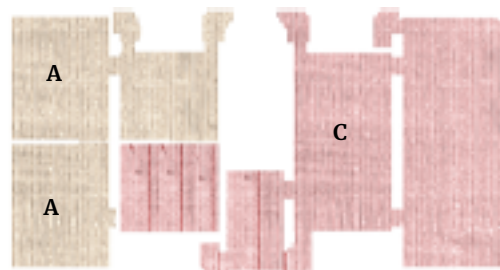


1st

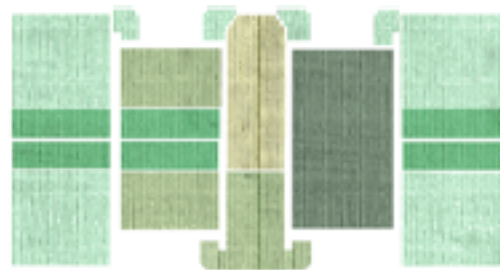
Areas and typologies



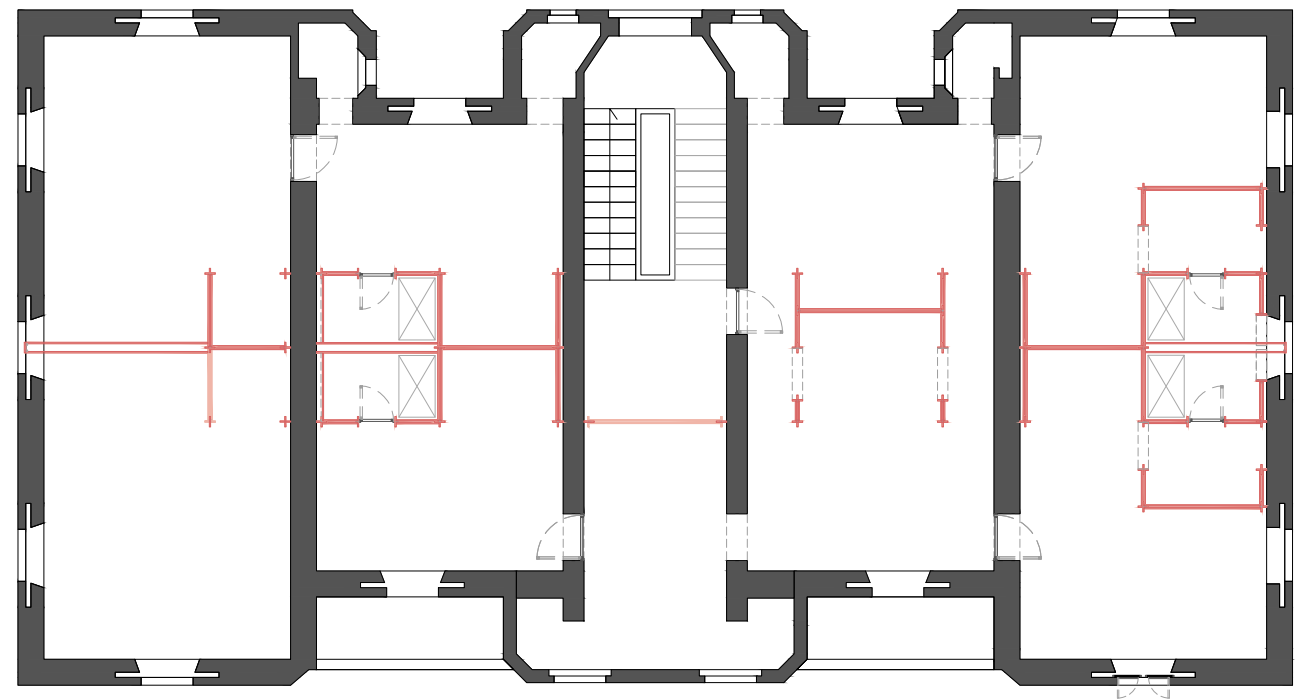
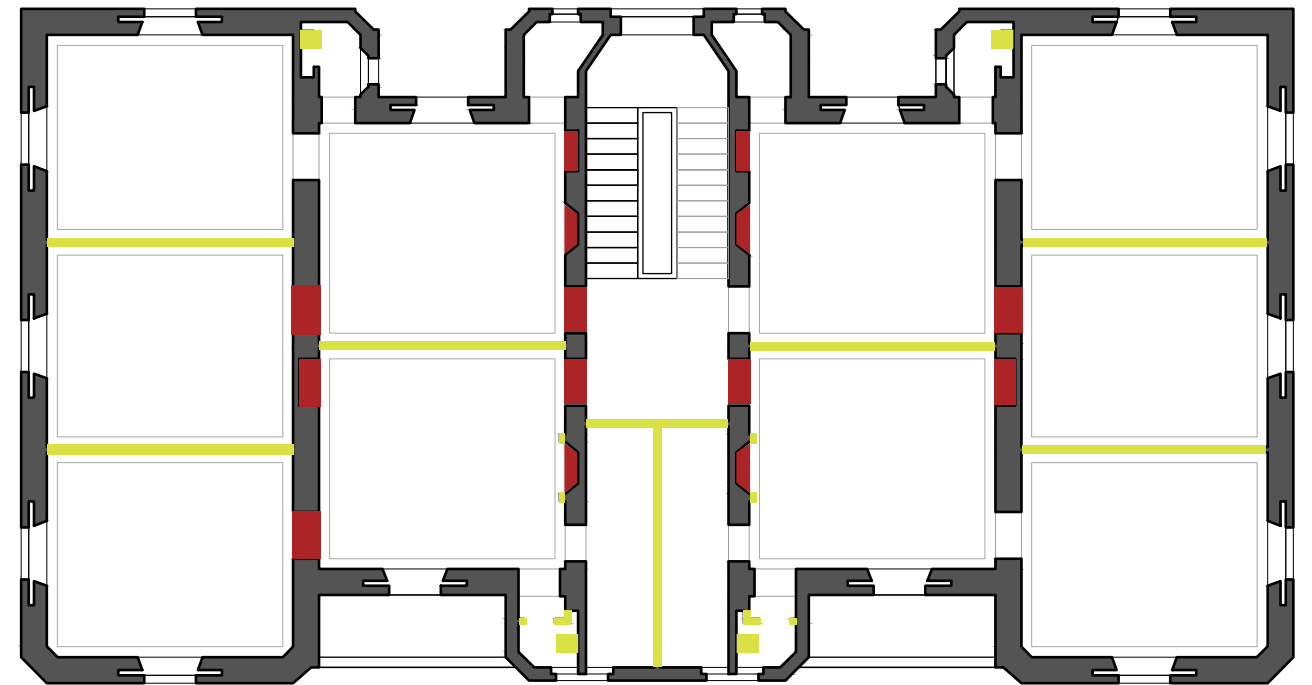
Project



Apartments



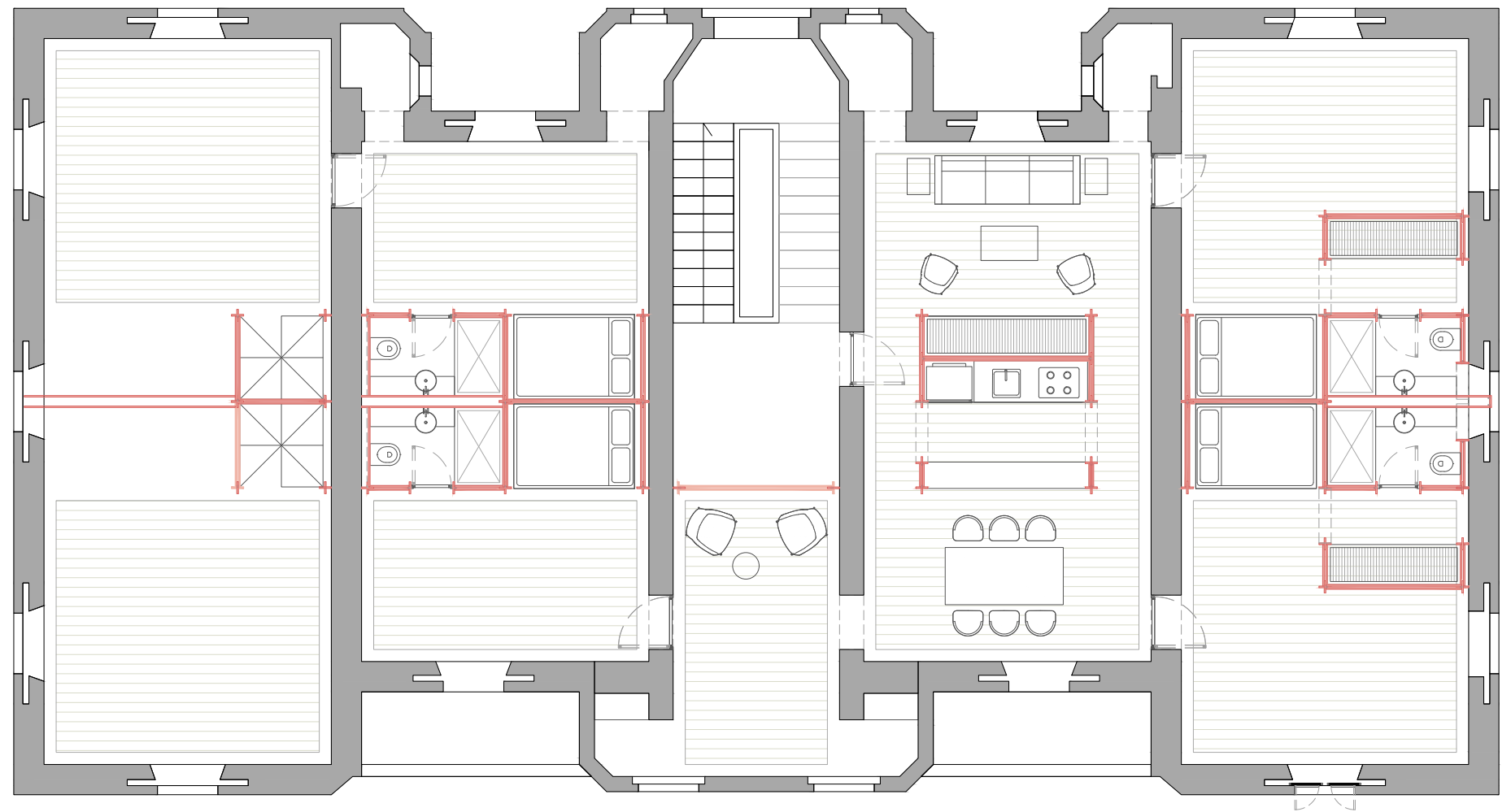
Modules



Demolition Construction

Typologies of apartments T01: for couples or LAT couples
 T03: for workers
 #residents Maximum 8 residents

	area m ²	in%	#pers.
Usable floor space			
total	223.3	100	8
● Typology 02	28.5	12.75	2
● Typology 02 a	51.3	23.0	-
● Typology 03	143.3	64.24	6





LAT Couple
Young people
working from
home.



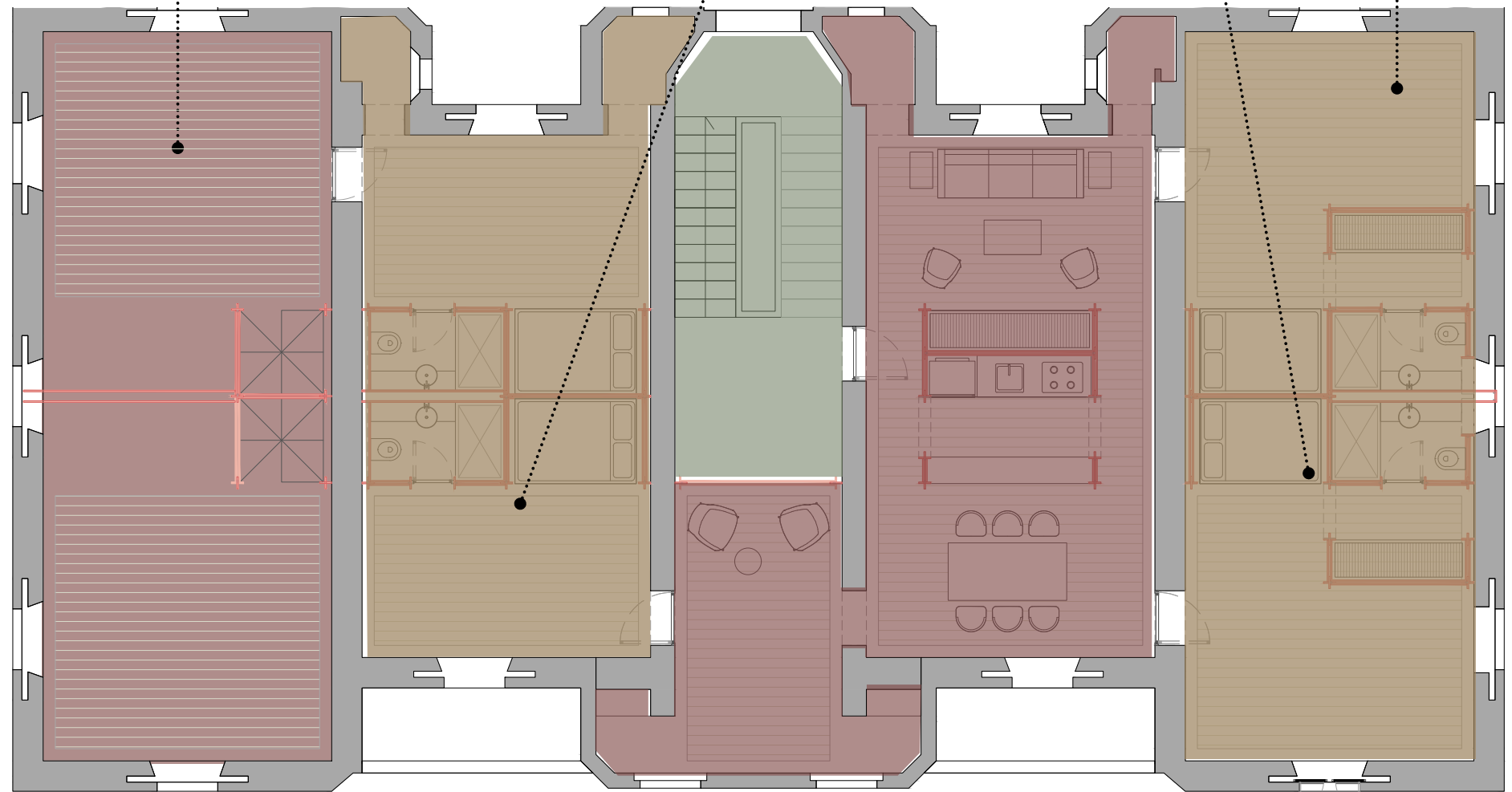
Single
Workers haring
main areas



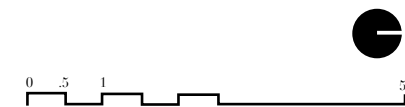
Single
Workers sharing
main areas



LAT Couple
Young people
working from
home.

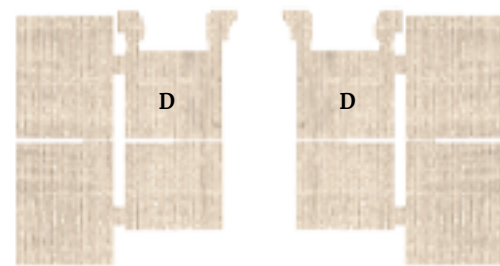
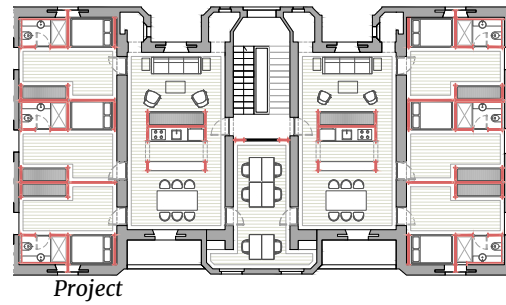


■ % private ■ % shared
■ %collective

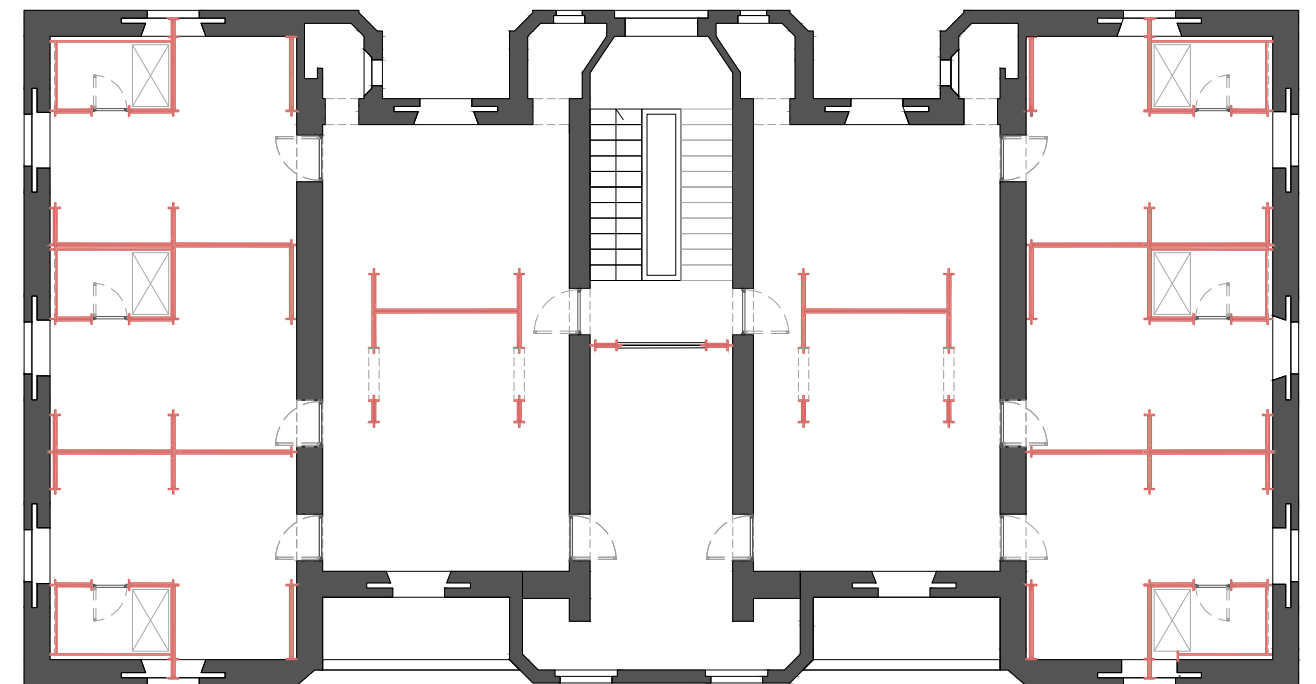
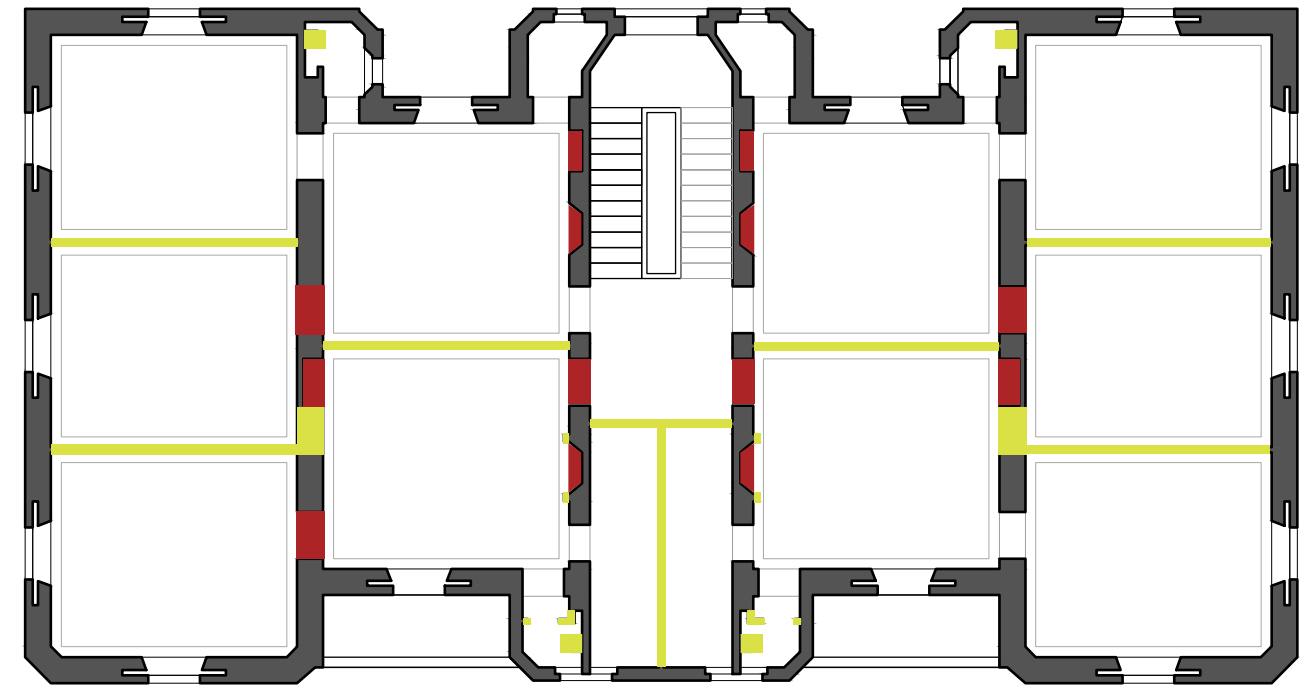


2nd

Areas and typologies



Apartments



Demolition Construction

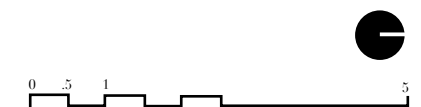
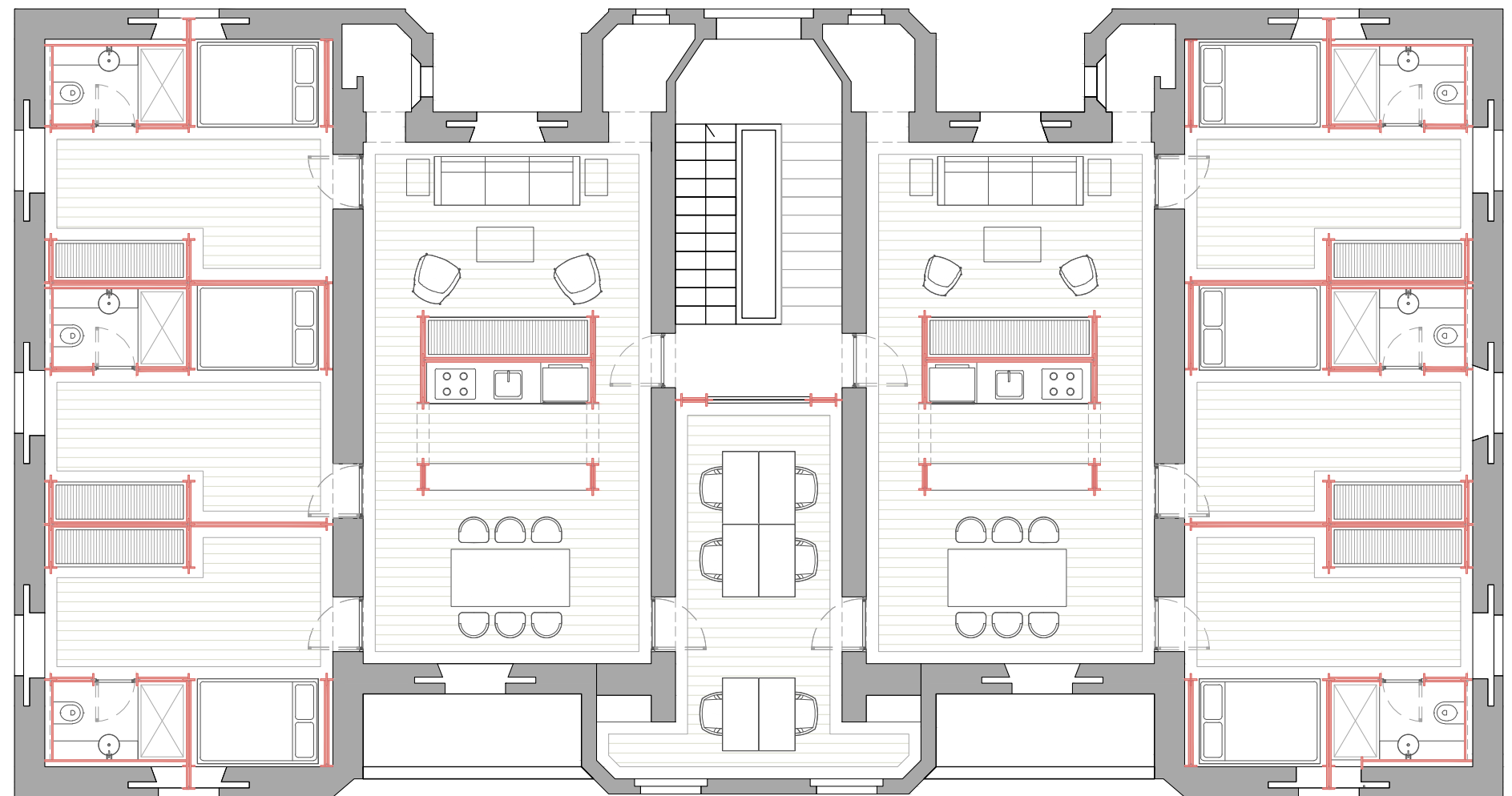
Typologies of apartments

T04: Students sharing the space

#residents

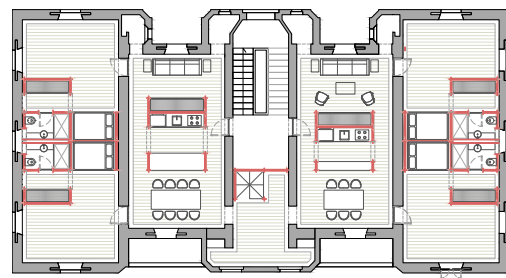
Maximum 8 resident

	area m ²	in%	#pers.
Usable floor space			
total	202.8	100	8
● Typology 04	202.8	100	8

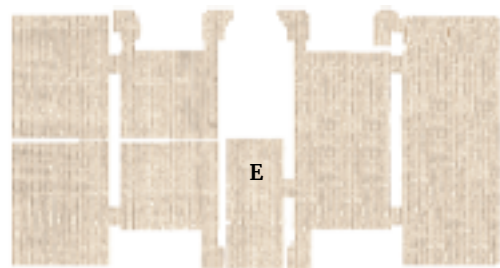


3rd

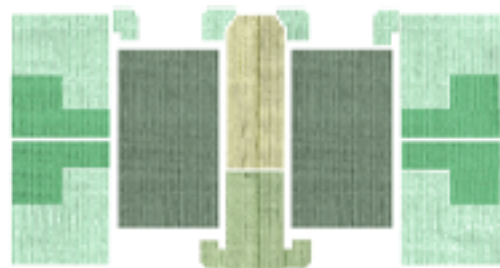
Areas and typologies



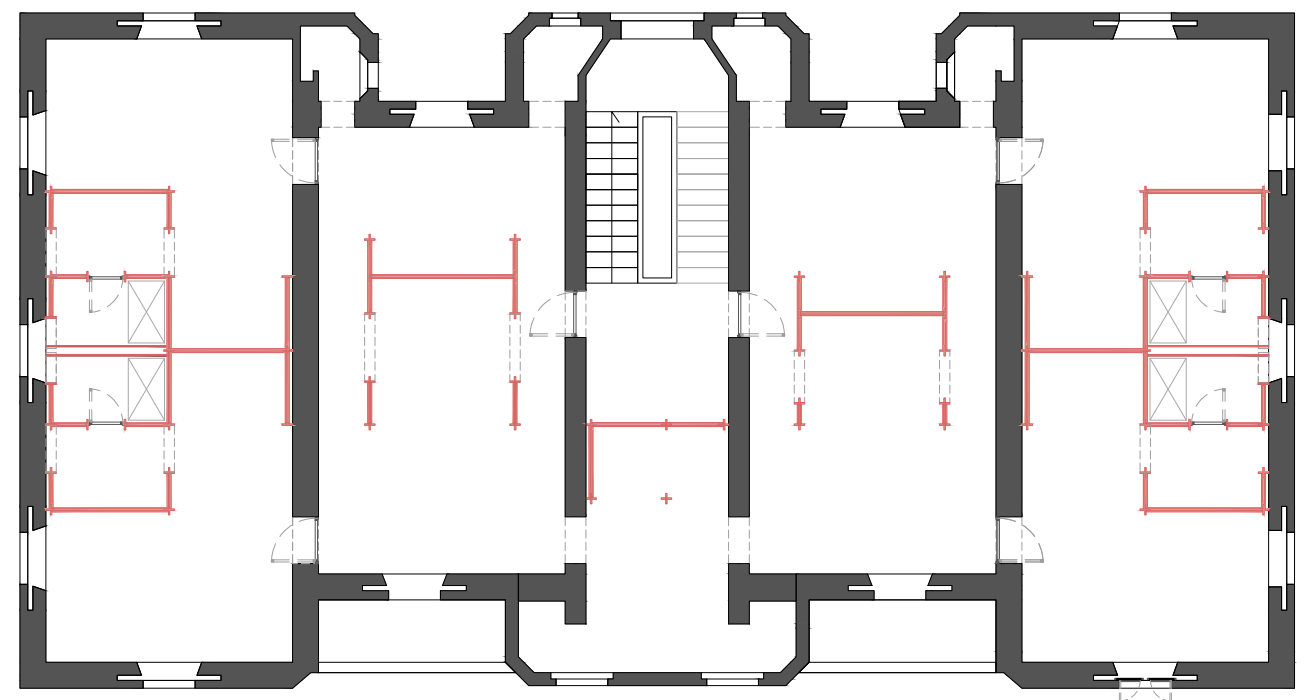
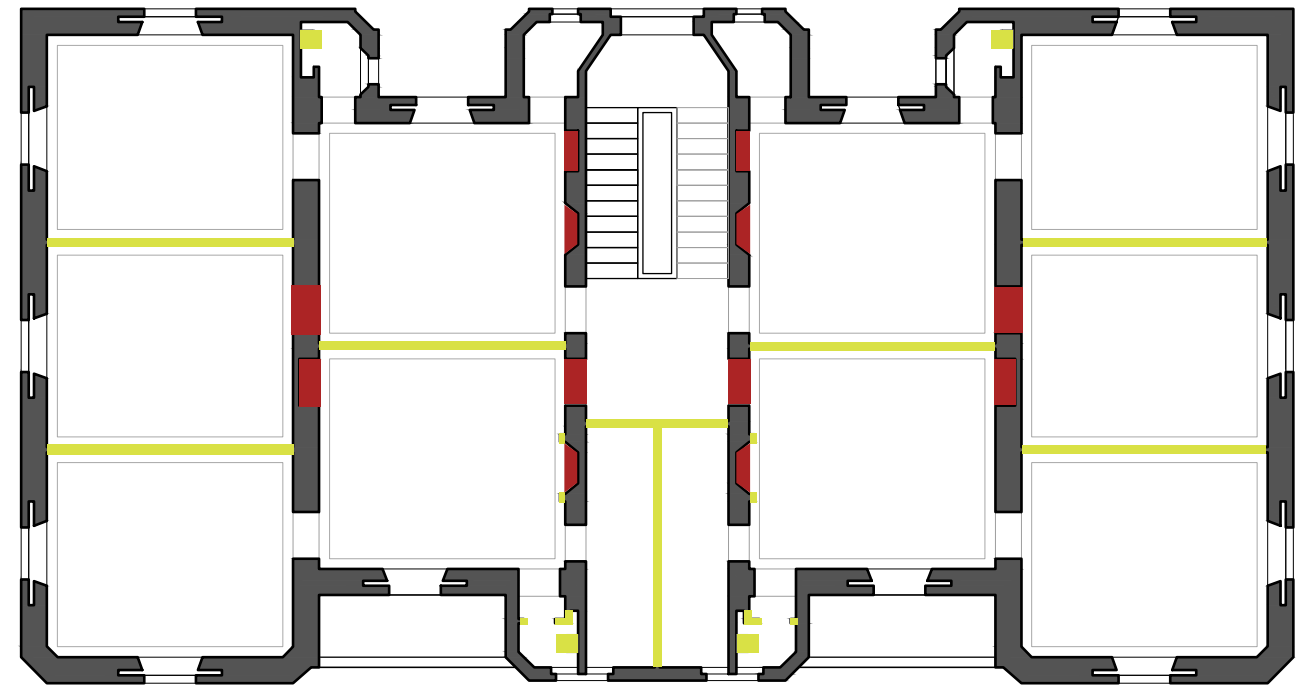
Project



Apartments



Modules



Demolition Construction

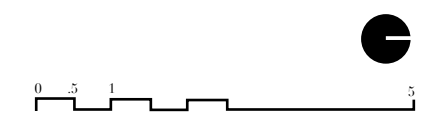
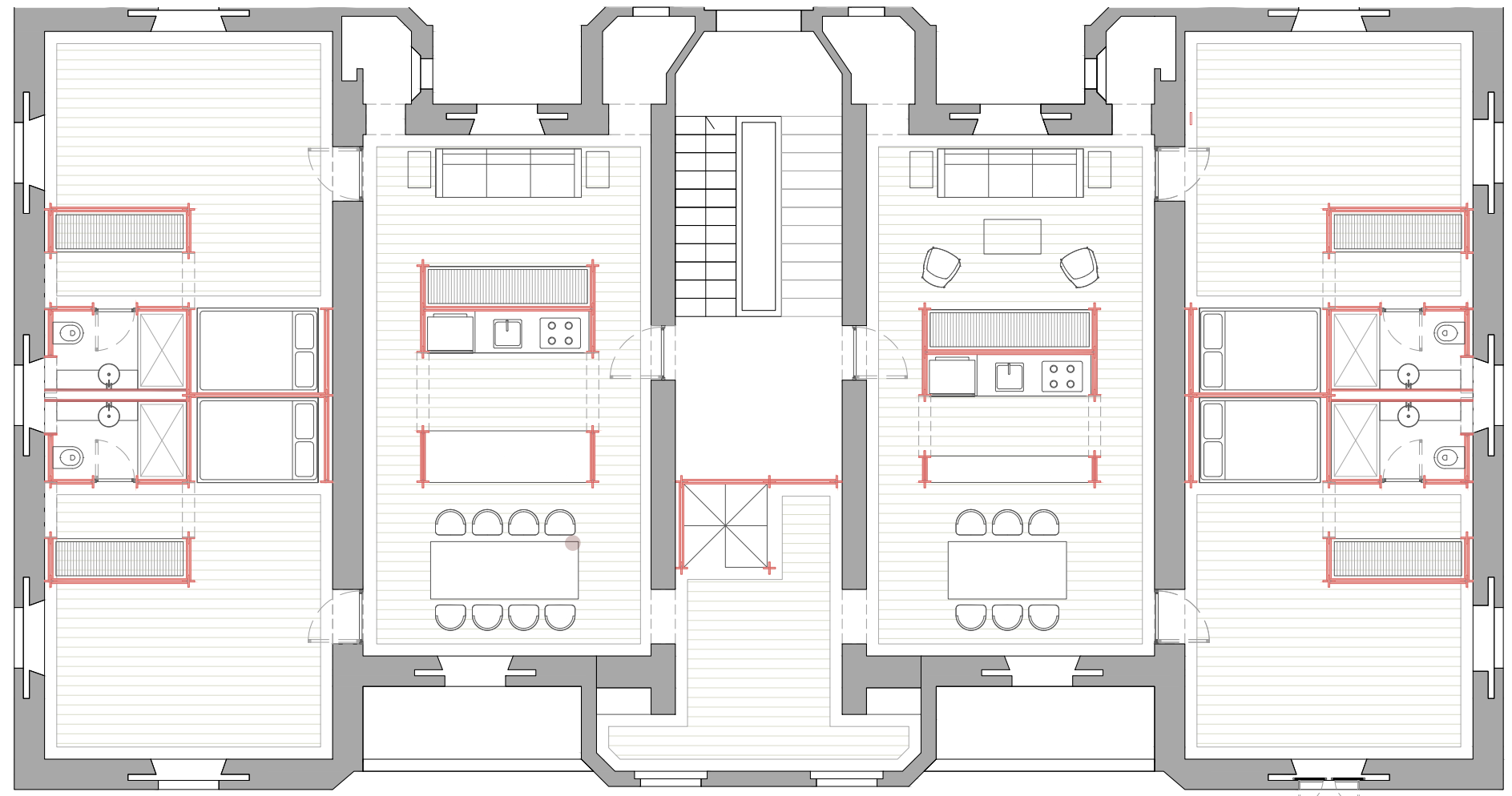
Typologies of apartments

T05: Students and workers sharing the space

#residents

Maximum 8 resident

	area m ²	in%	#pers.
Usable floor space			
total	228.80	100	8
● Typology 05	228.80	100	8





LAT Couple
Workers sharing
main spaces



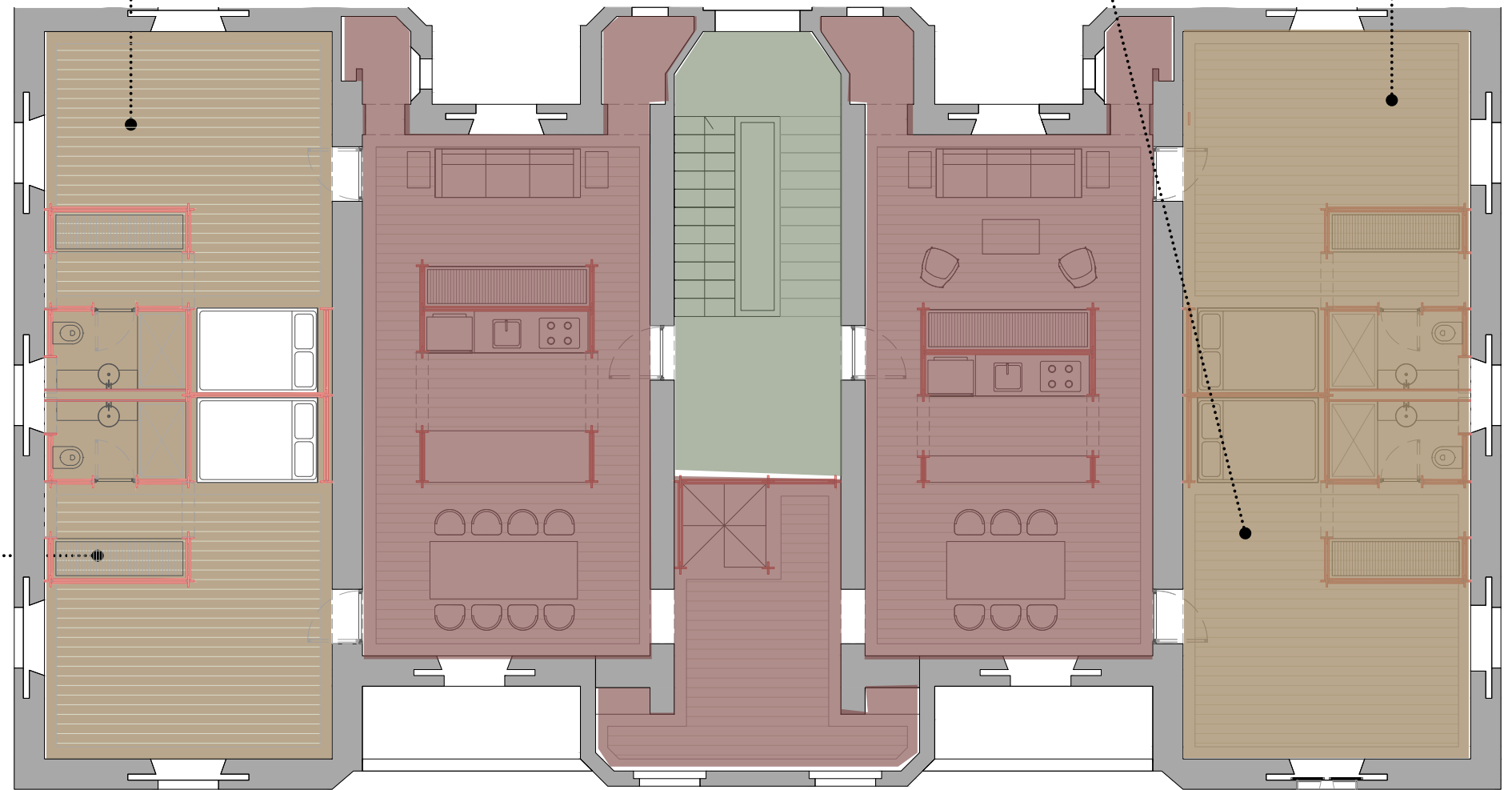
Single
Worker sharing
main areas



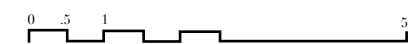
Single
Worker sharing
main areas



Couple
People working
from home.

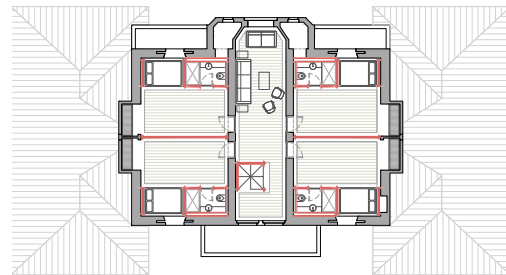


■ % private ■ % shared
■ %collective

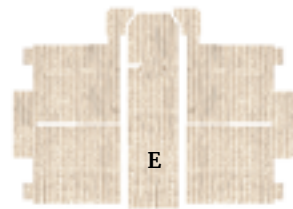


4th

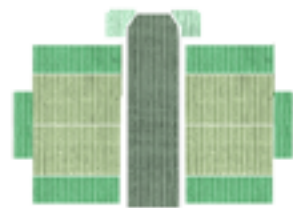
Areas and typologies



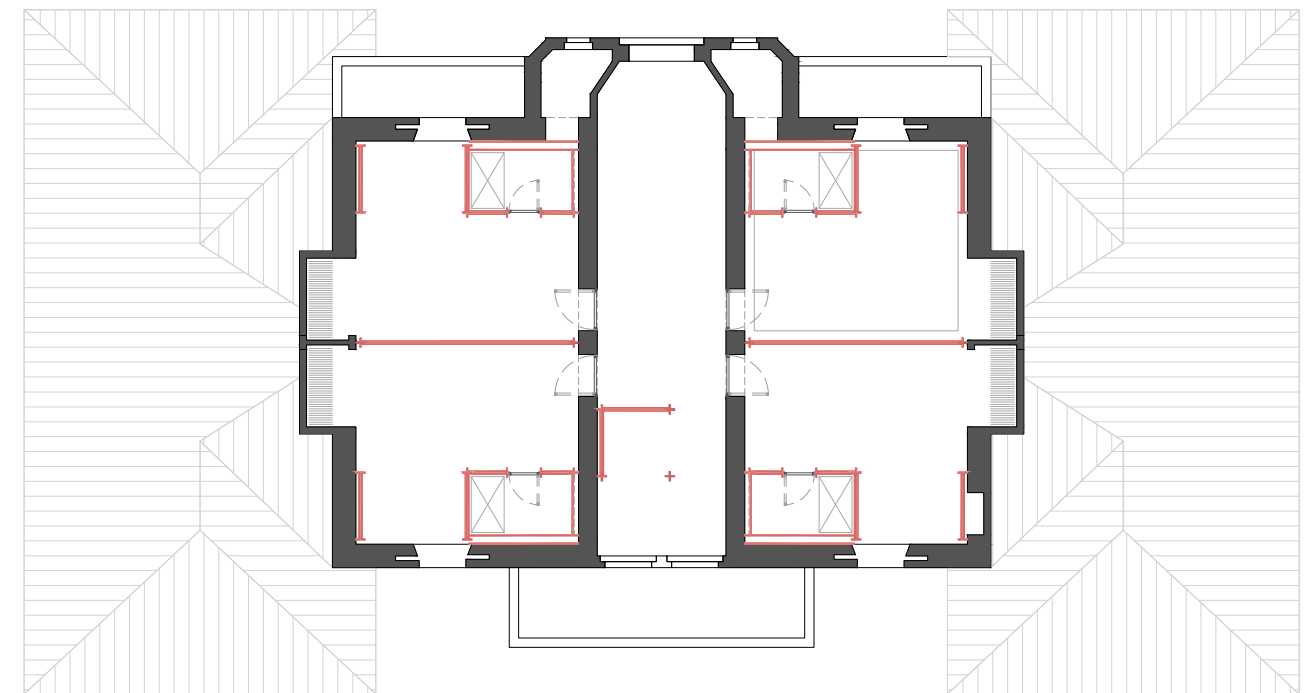
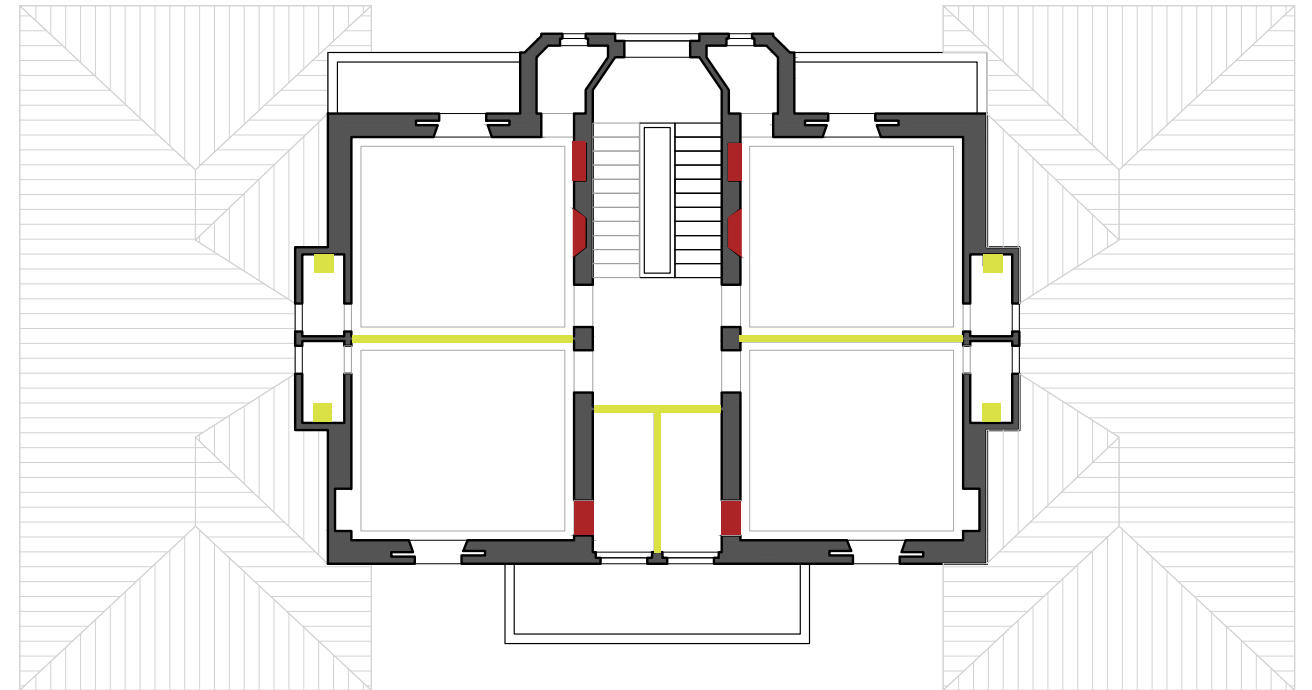
Project



Apartments



Modules



Demolition Construction

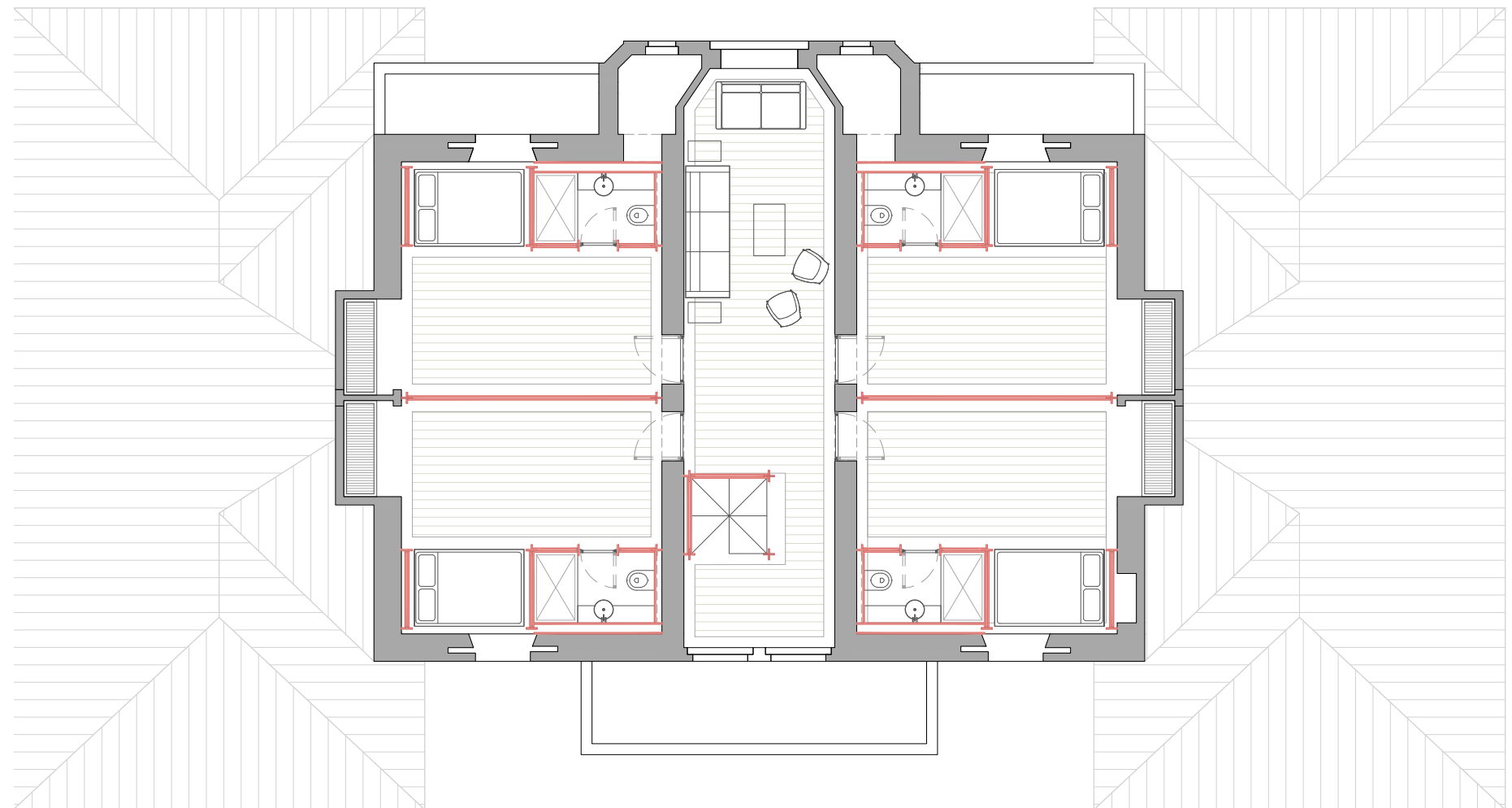
Typologies of apartments

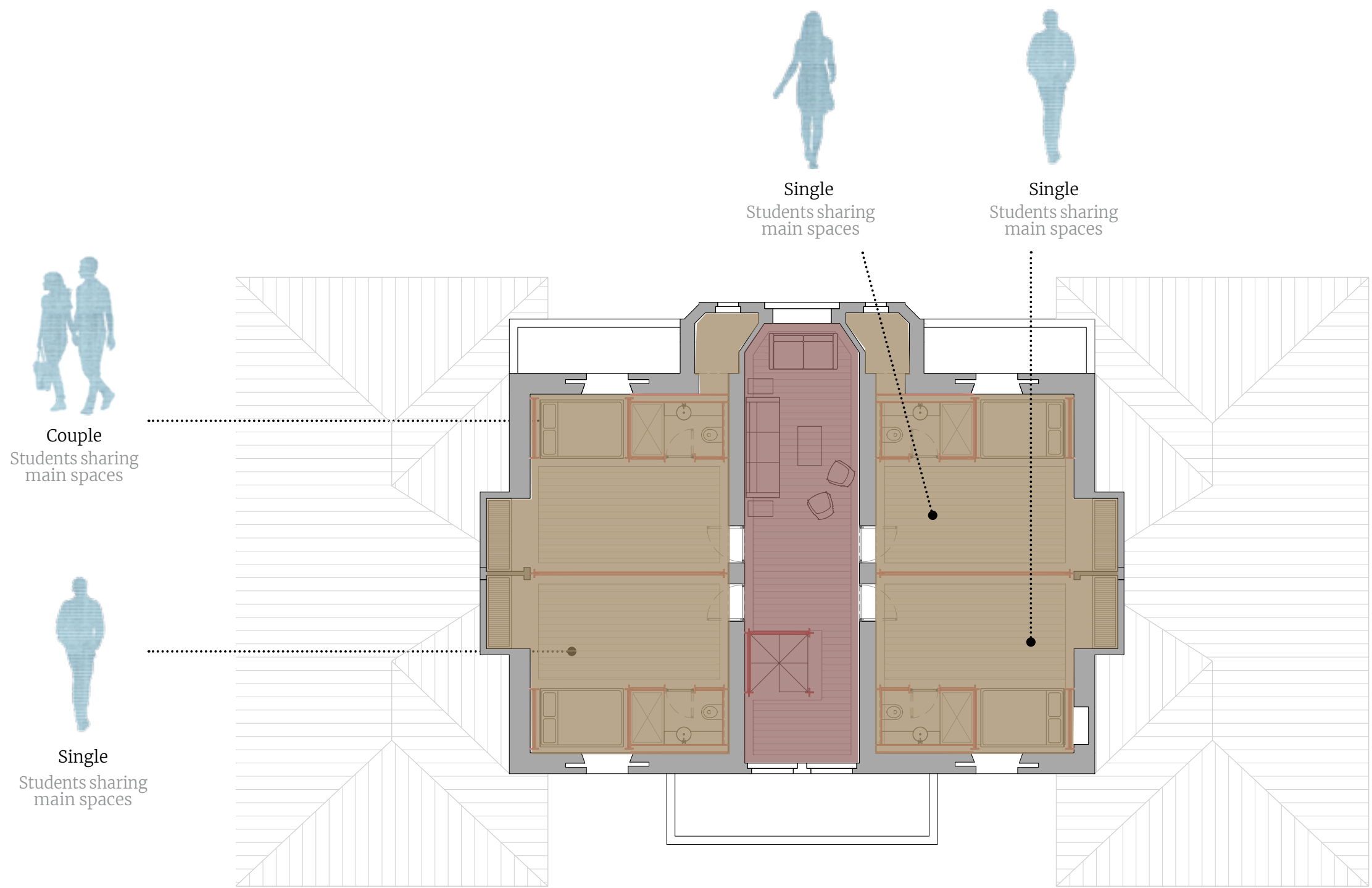
T05: Students and workers sharing the space

#residents

Maximum 5 resident

	area m ²	in%	#pers.
Usable floor space			
total	124	100	5
● Typology 05	124	100	5





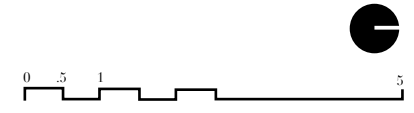
Single
Students sharing
main spaces

Single
Students sharing
main spaces

Couple
Students sharing
main spaces

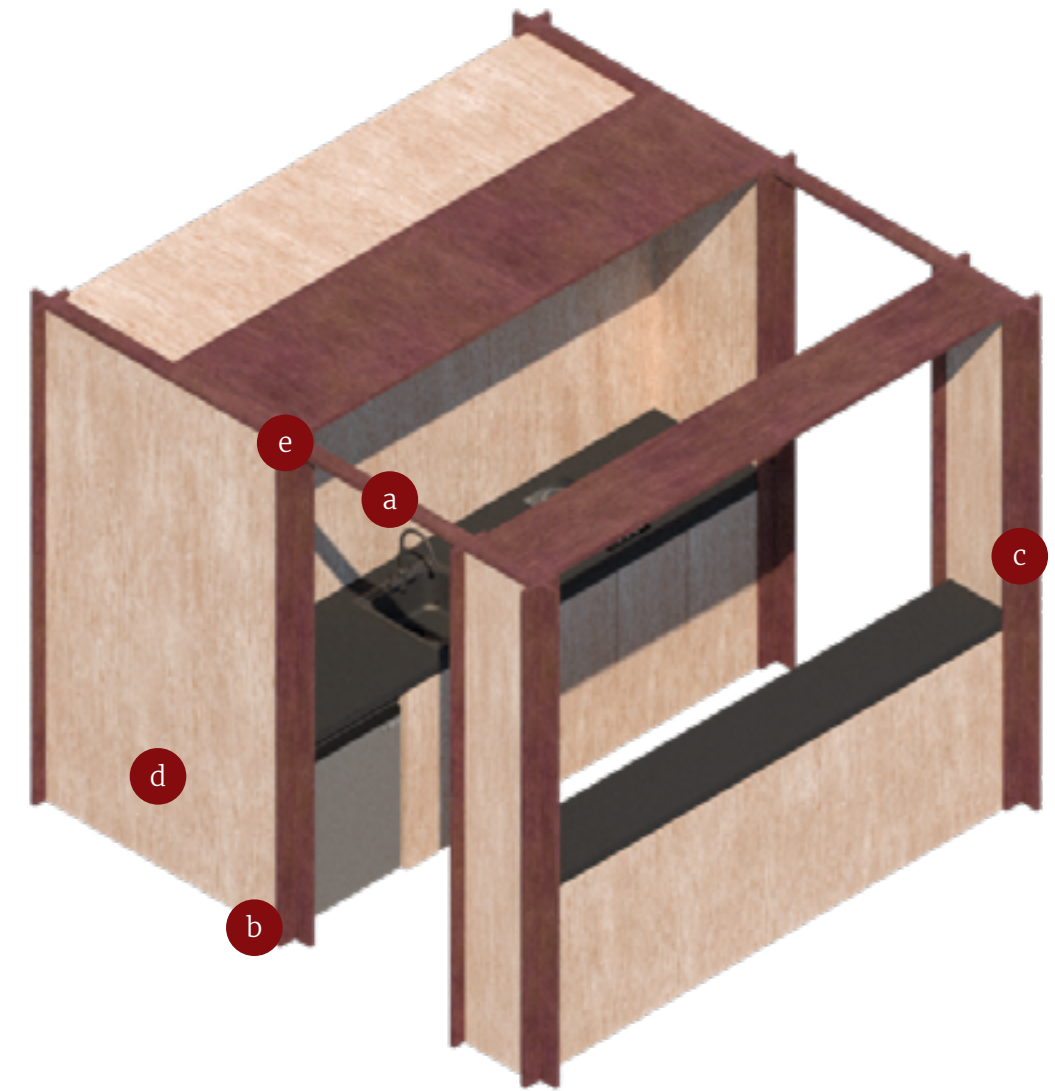
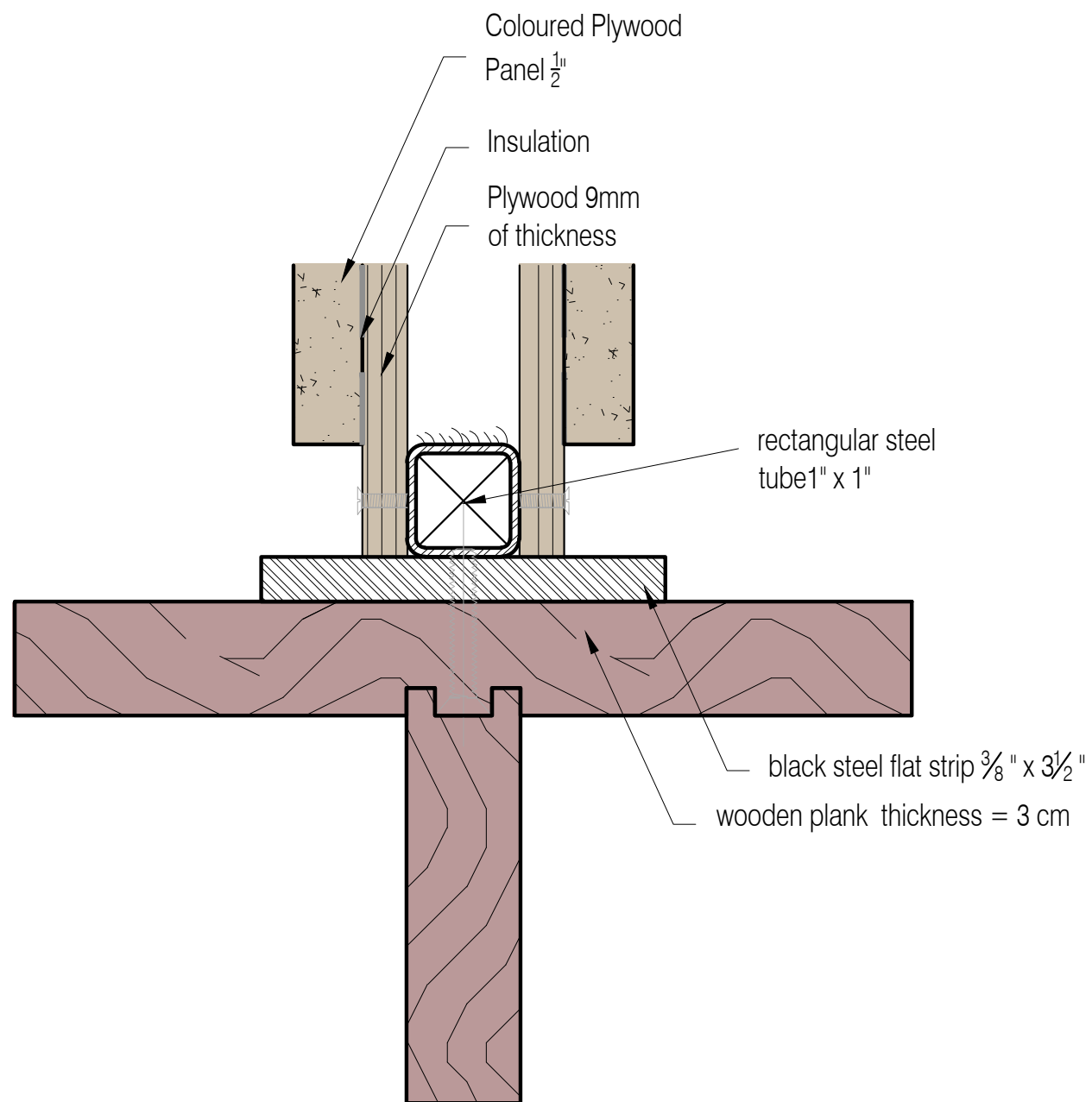
Single
Students sharing
main spaces

■ % private ■ % shared
■ %collective



The structure

Base of the module configuration



COMPONENTS OF THE WALL

- a** Plywood plank 20 cms x 3 cms
- b** Steel flat strip, black color, $\frac{3}{8}$ " x $3\frac{1}{2}$ "
- c** Plywood vertical panels, red color, attached to a steel frame with a triplay panel to received the final finish.
- d** Plywood panels, natural color, attached to a wooden frame to support the closet.
- e** Steel rectangular tube 1" x 1" for the internal grid.

Modules

BATHROOM / BED / CLOSET

The modules

Modularity is a concept that has been applied in architecture for centuries, but it is still relevant today as we have seen in some of the case studies. Modularity refers to the use of standardized and interchangeable parts, or modules, in the design and construction of buildings. This approach has numerous benefits, one of which is the creation of legible spaces within the building. This refers to the ability of a person to easily understand and navigate space. When a building is designed with modularity in mind, it is easier for people to comprehend the layout and organization of them, this is a characteristic that was captivating for us in the original making of the building we chose to work with.

Modularity can also create a kind of code or DNA for a building, and we wanted to enhance it. By using a consistent set of modules throughout the building, a recognizable pattern or rhythm is established. This creates a sense of coherence and unity within the building and helps to tie together the various spaces and functions. This is particularly important in larger buildings like the one we are using, where there may be a variety of uses and activities taking place.

The use of light structures as modules in an existing building is particularly advantageous because it allows for changes and adaptability for the users. This means that the building can be easily modified or reconfigured to meet the changing needs of its occupants. For example, partitions or walls can be easily moved or removed to create larger or smaller spaces as needed. This flexibility is especially valuable in today's rapidly changing cultural, economic, and social environments, where the needs and preferences of users may evolve over time.

However, it is important to note that the success of a modular design depends heavily on the materiality and proportions of these. The modules must be carefully designed to fit within the existing building's architectural context, and to harmonize with the surrounding spaces. This requires a great deal of thought and planning and may involve a significant amount of customization to ensure that the modules are appropriate for the building's specific needs and constraints.

For us, wooden structures can be a great choice for modular designs because they are lightweight, durable, and versatile. When designed in the right way, wooden modules can contain all the main activities that we need like the bed to sleep on a niche, the kitchen, and the bathroom. By doing so, these allow the liberation of space both inside and around them depending on the location and use.

One of the key advantages of wood that made us realize that this was a good option for the proposal is adaptability. Wooden structures can be pre-

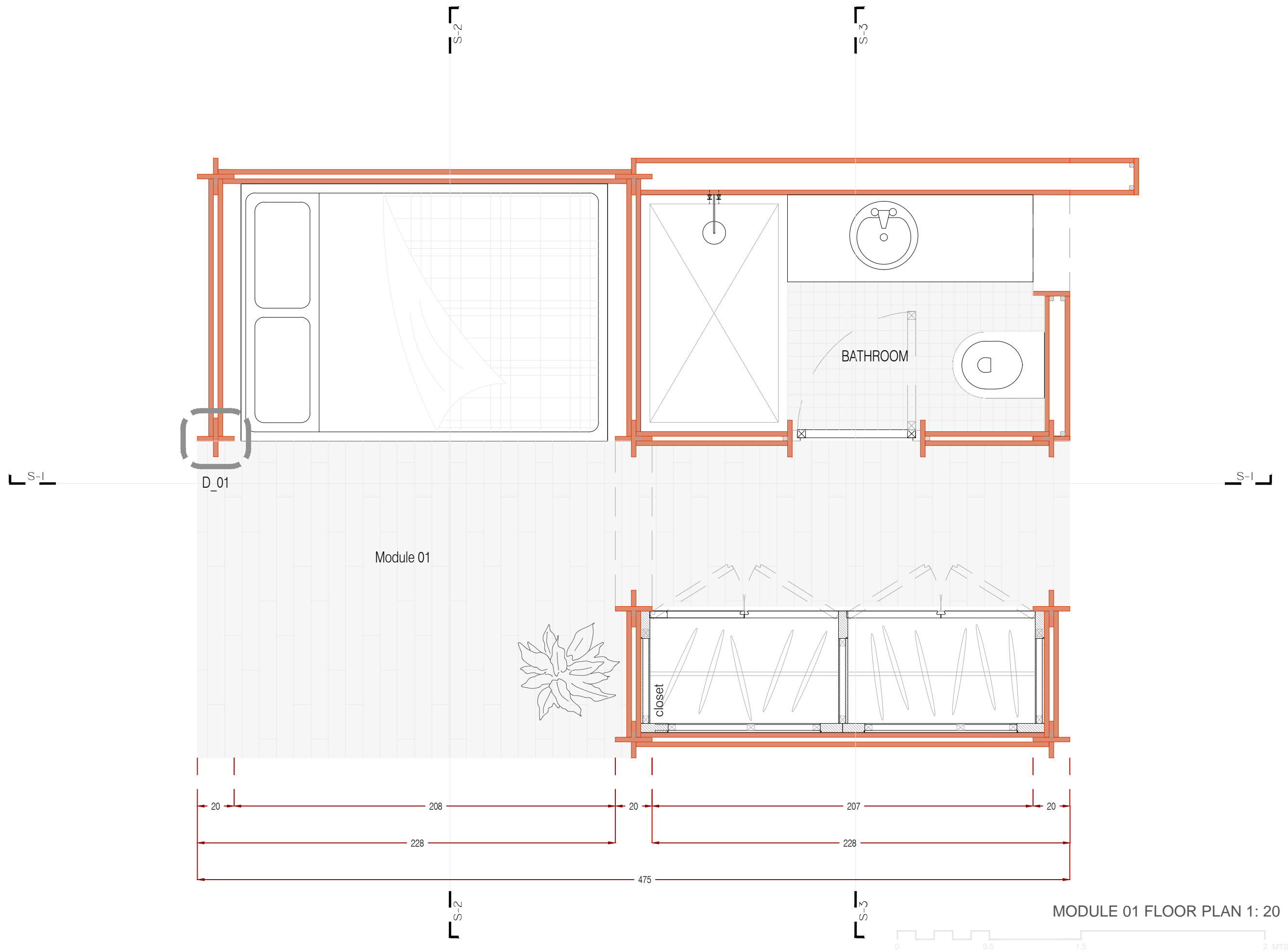
fabricated off-site and then assembled on-site, which allows for efficient and cost-effective construction that is one of the main aims of the thesis. Additionally, they can be easily customized to meet the specific needs and preferences of the building because there is always something that needs to be adapted, more when we are talking about an existing structure that has been there for a hundred years.

Another advantage is their ability to create a sense of continuity and unity within living spaces. We designed them to fit seamlessly together, so a cohesive and harmonious living space can be created. This is especially important in small spaces where every square meter counts, and where the division of space must be carefully considered to maximize functionality.

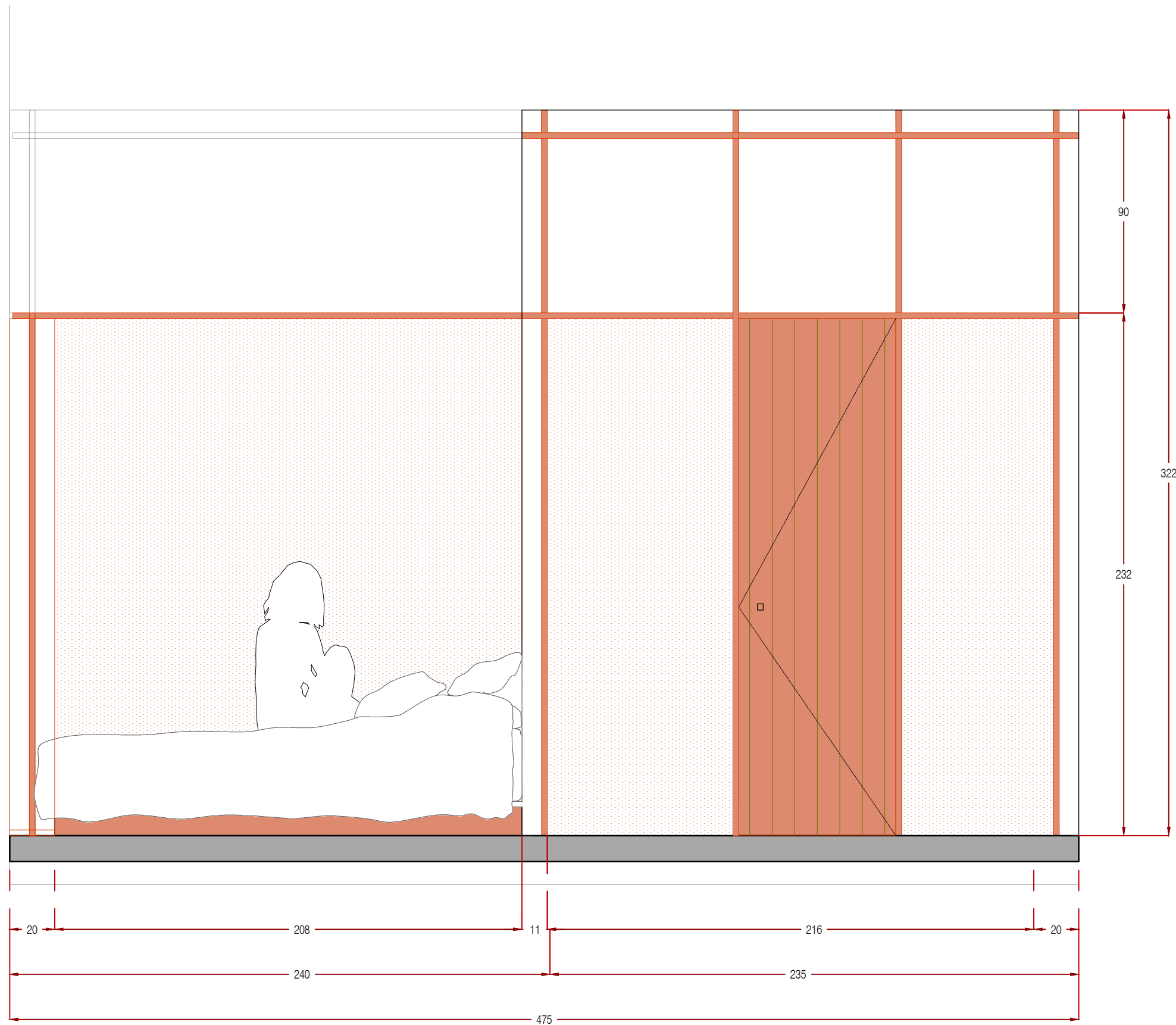
In addition, they can help to create a sense of warmth and comfort within them. The natural texture and warmth of wood can create a cozy and inviting atmosphere that is conducive to relaxation and comfort. This is particularly important in living spaces that are designed for rest and relaxation, such as the ones needed inside a home. Overall, the design of these wooden modules can be an effective way to create efficient, flexible, and aesthetically pleasing living spaces.

Technical design is a crucial component of our architectural process, as it enables us to transform ideas into more tangible and functional structures. This process involves the consideration of a range of technical factors, such as material selection, structural integrity, and spatial optimization. Spatial optimization is a critical consideration for us in order to divide the spaces but without leaving one of the two parts with a disadvantage. We wanted the modules to be designed to maximize the use of available space while maintaining a functional and comfortable living environment. This required a careful balance between the need for privacy and the desire for openness and flexibility.

In conclusion, the technical design that we did is a critical component of our architectural process. By understanding the technical considerations involved in modular design, we were able to transform this idea of the different modules inside the building into functional and beautiful structures that meet the needs of the population we are proposing in this type of co-habitational spaces. This required from us a deep understanding of materials, structural principles, and spatial optimization, as well as an ability to apply this knowledge in a practical and effective way. Ultimately, the technical design of is what enabled us to come to the following designs as the best option for our general and particular goals regarding the ages, occupation and private-shared-communal-public spaces that are entangled one to the other in different ways.



MODULE 01 FLOOR PLAN 1: 20



SECTION 01

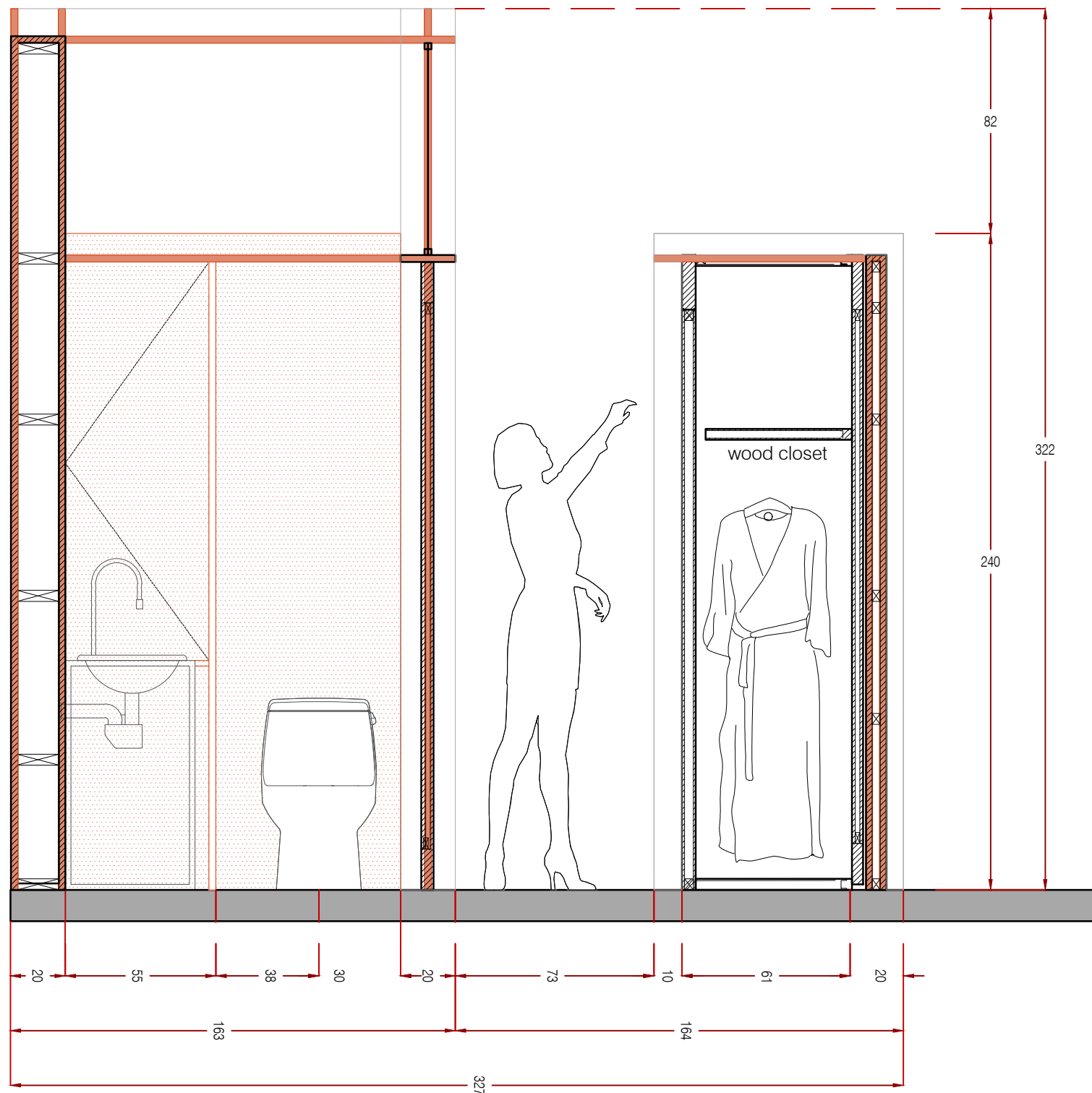




SECTION 03



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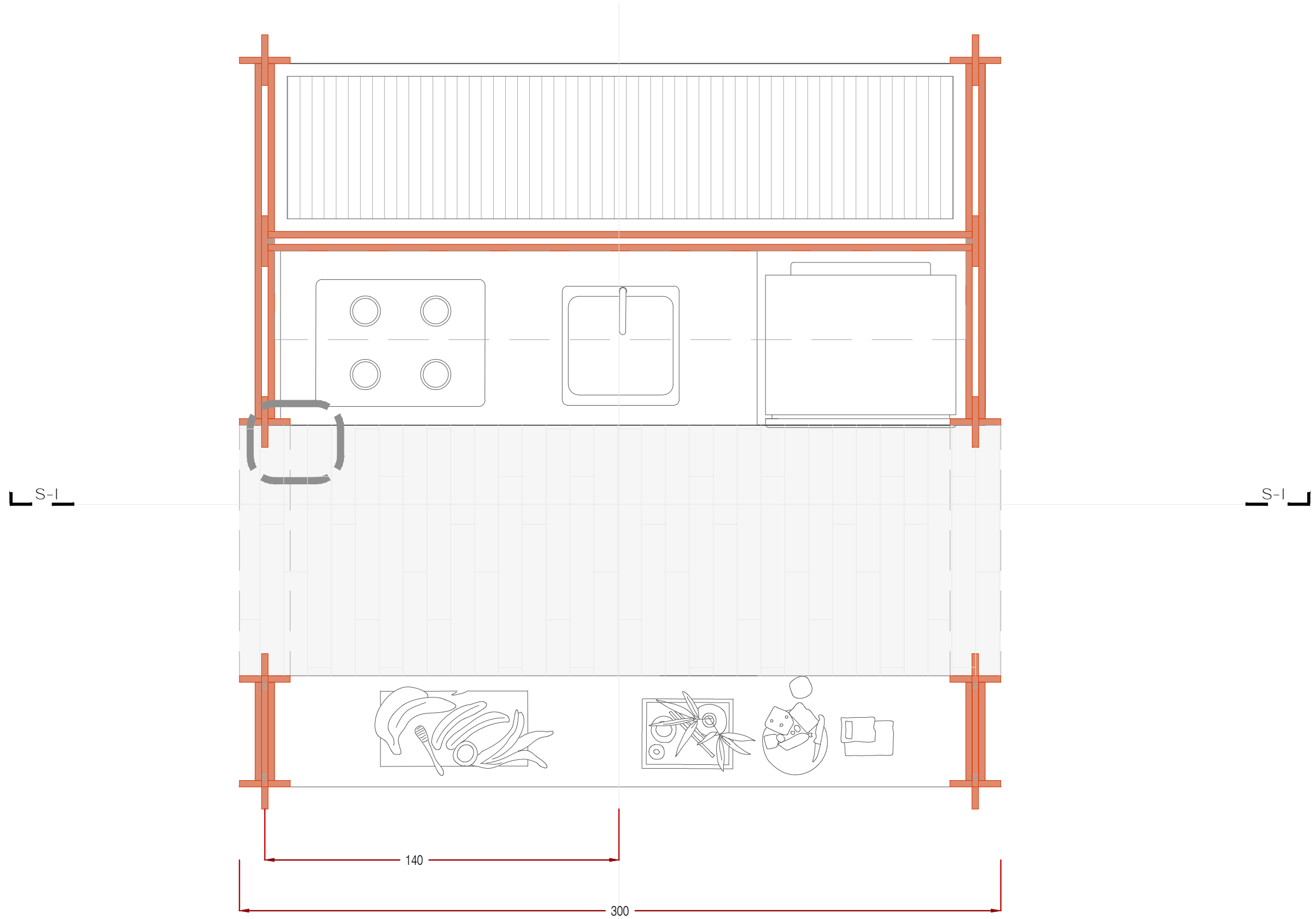


20

1
2 MTS

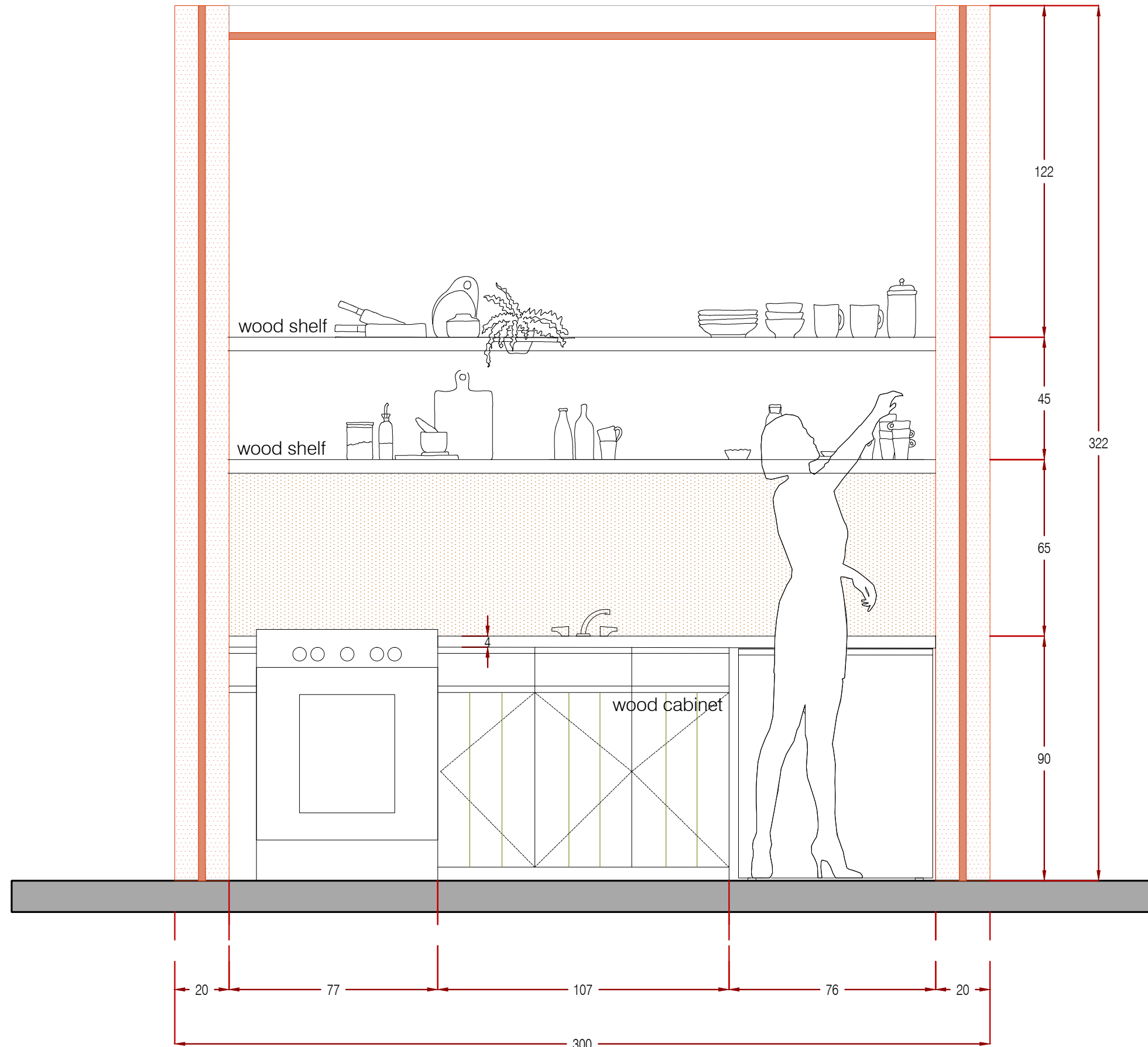
SECTION 02





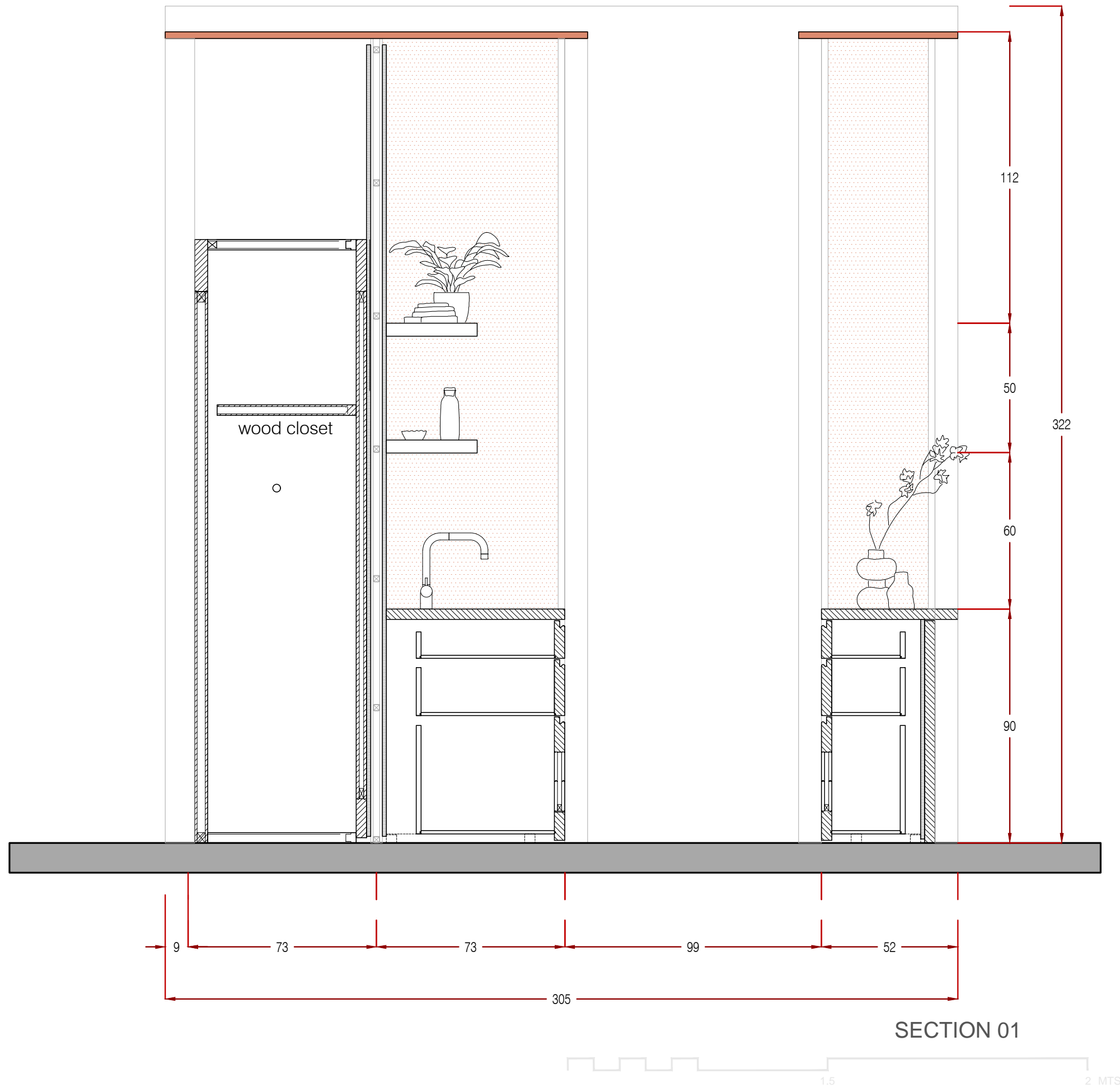
MODULE 04 FLOOR PLAN 1: 20





SECTION 01





The possibilities

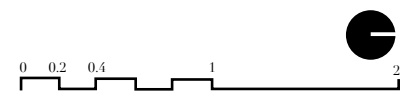
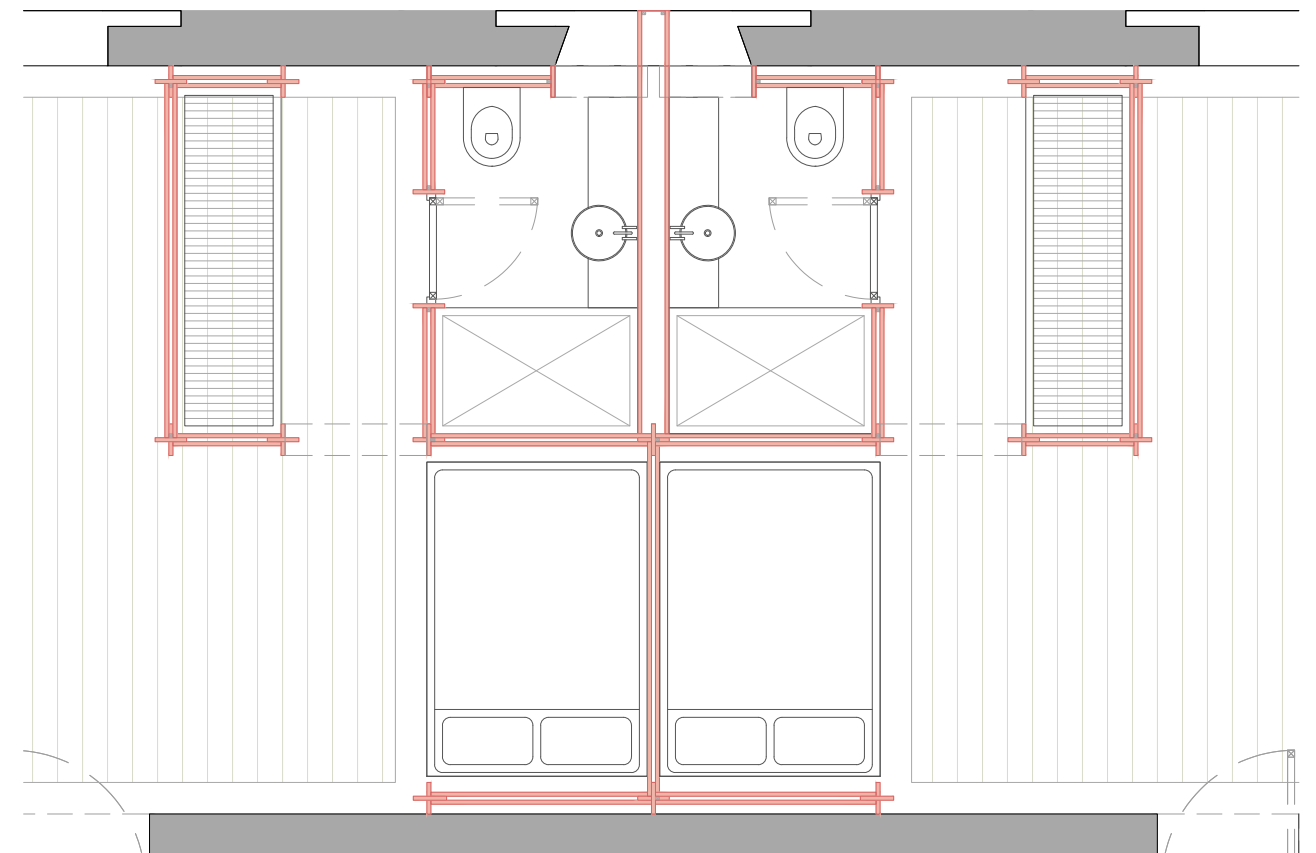
The flexibility of the modules and the idea behind it

Module 1

BATHROOM / BED / CLOSET

The first module is composed on the basis of the “niche bed” that allows the bedroom to have an open space that can be used for several activities. The bathroom is next to the windows to have natural ventilation and illumination and it is enclosed with the closet. This creates a new back wall to the open area where the residents can have more vertical area to embrace activities and necessities that they may need.

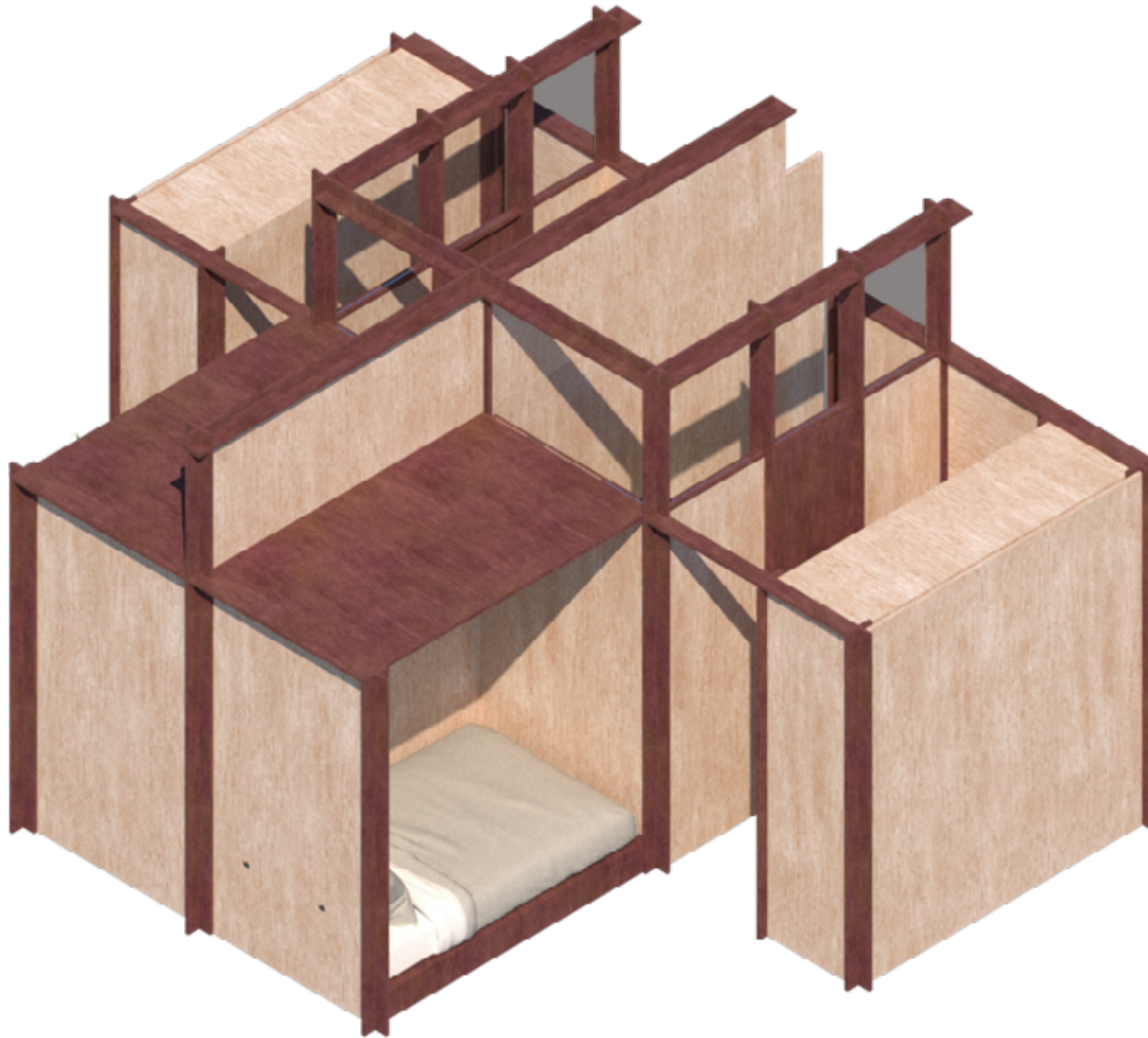
This module is mirrored into the other room which allows us to have all the furniture and areas concentrated in the middle of this elongated area of the existing building. By doing this we are trying to create a reinterpretation of the original modules, with the twist of having them made with this light structure that can be removed or modified without much trouble, giving it the possibility to be used in a different way in the future.



Posibilities



Iso



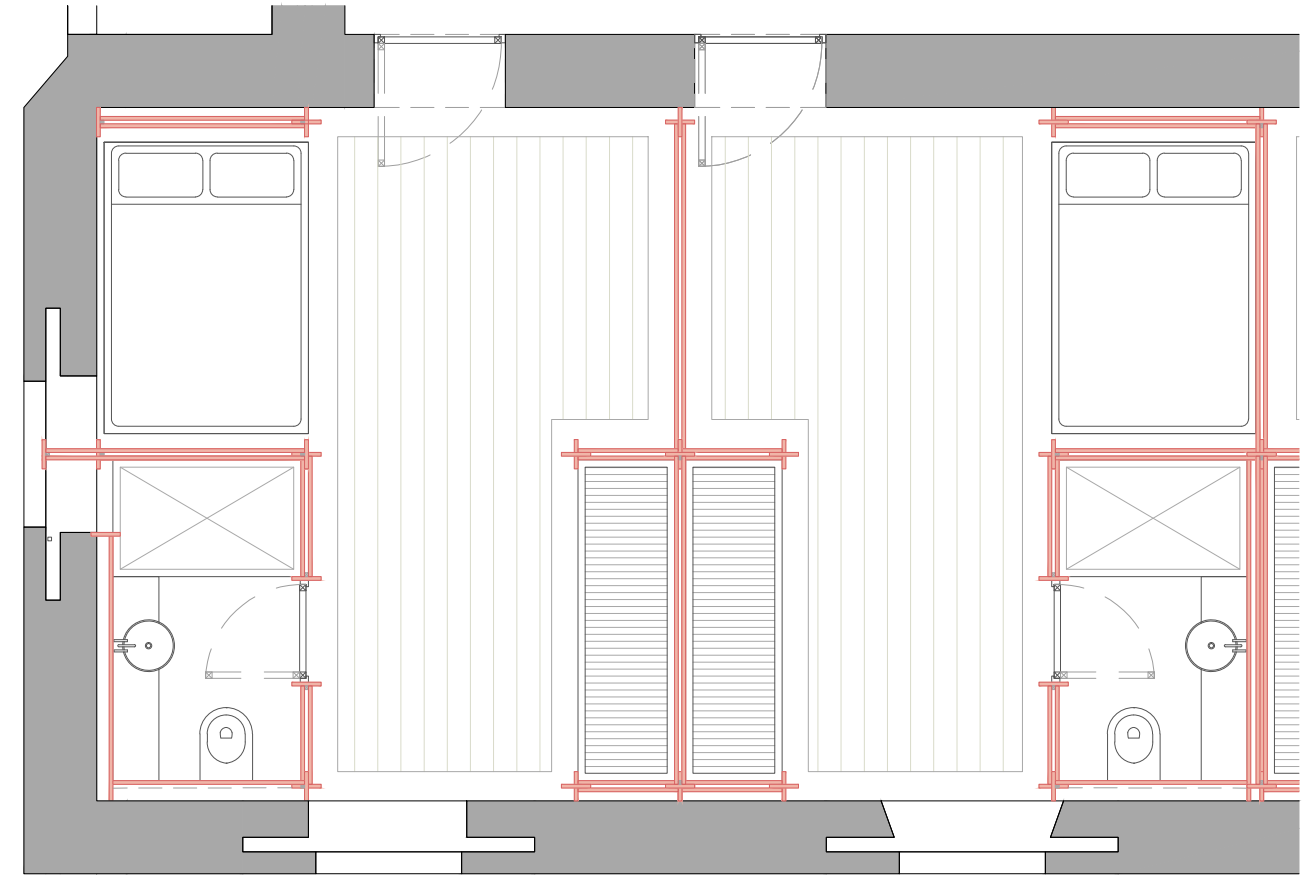
Module 2

BED/CLOSET

The second module is composed on the same basis of the “niche bed” that allows the bedroom to have an open space that can be used for several activities.

This module is for students, the main volume is divided in 3 parts and because of it the central space is reduced. The bathroom is next to the windows to have natural ventilation and illumination. On one side we have the closet area that does not create a vestibule for the bathroom but allows more space to be used in the middle.

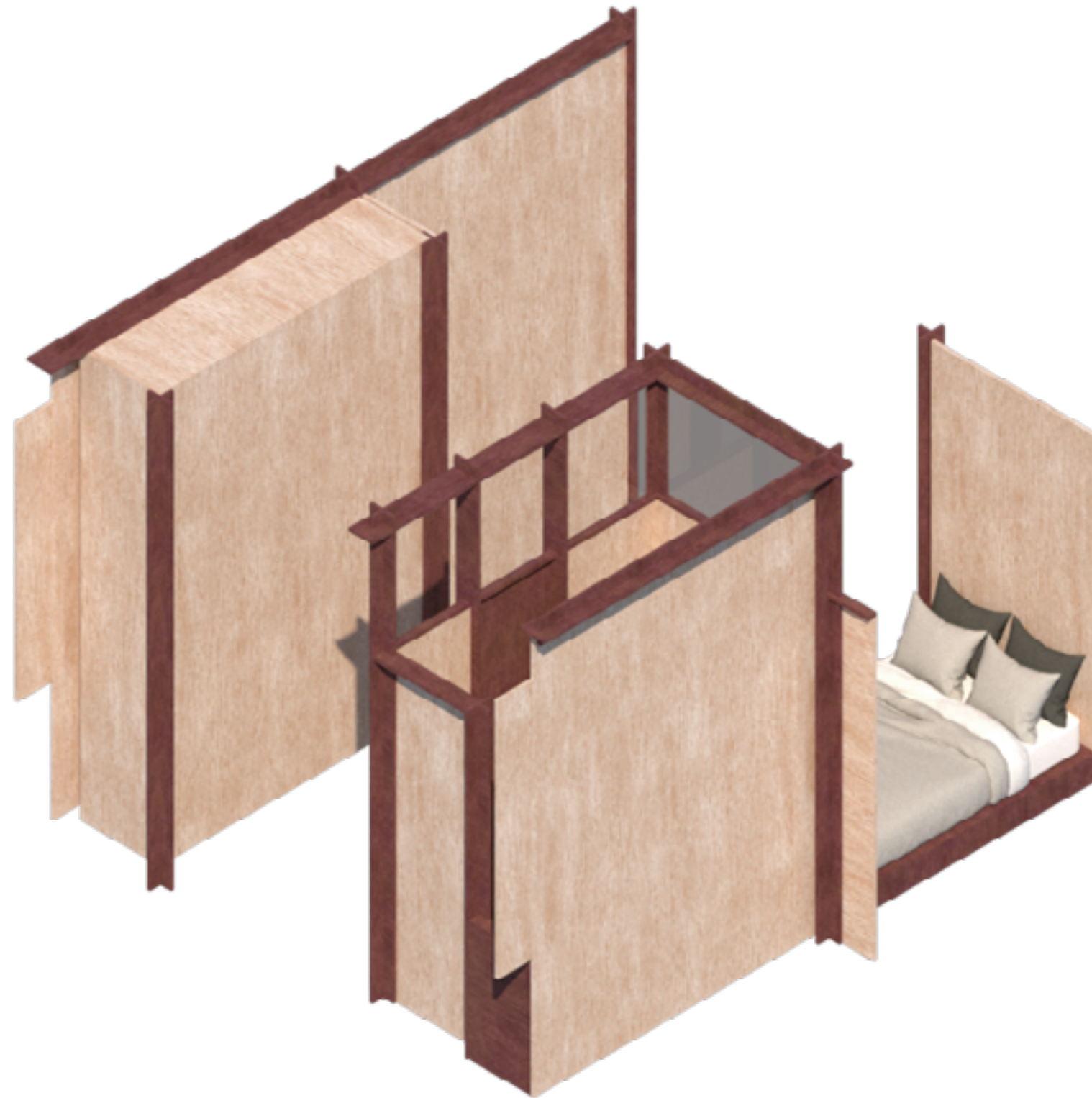
This module is mirrored into the other rooms which allows us to have all the furniture and areas concentrated in the middle and the sides of this elongated area of the existing building. By doing this we are trying to create a reinterpretation of the original modules, with the twist of having them made with this light structure that can be removed or modified without much trouble, giving it the possibility to be used in a different way in the future.



Possibilities



Details



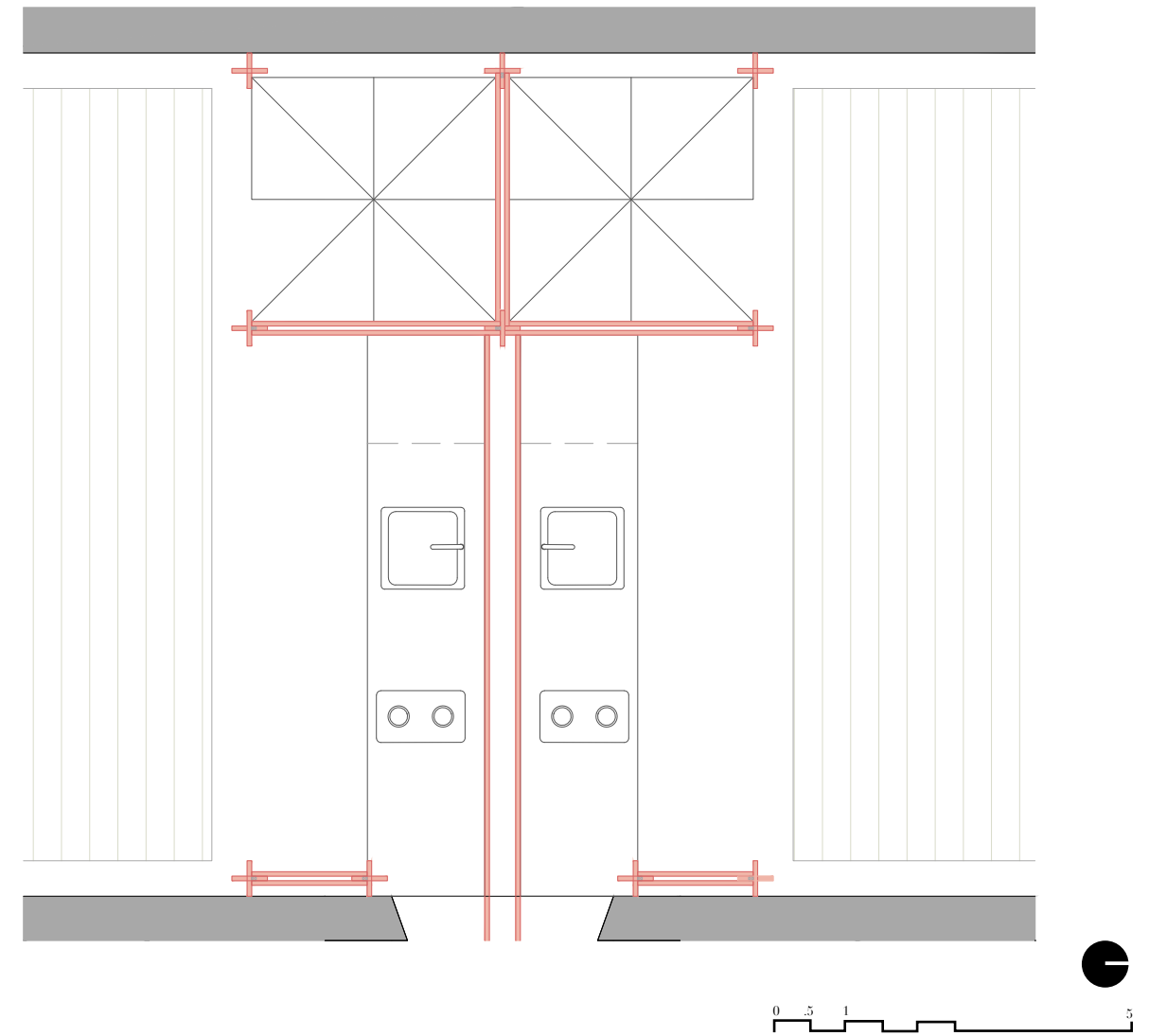
Module 3

KITCHEN / STAIRS

The third module is composed on the basis of having the main options along the division wall; that allows the room to have an open space that can be used in different ways.

The stairs are on the left side of the module and the kitchen is next to them until the window. This gives the kitchen natural ventilation and illumination.

This module is mirrored into the other room which allows us to have all the furniture and installations concentrated in the middle of this elongated area of the existing building. By doing this we are trying to create a reinterpretation of the original modules, with the twist of having them made with this light structure that can be removed or modified without much trouble, giving it the possibility to be used in a different way in the future.



Posibilities



Iso



Module 4

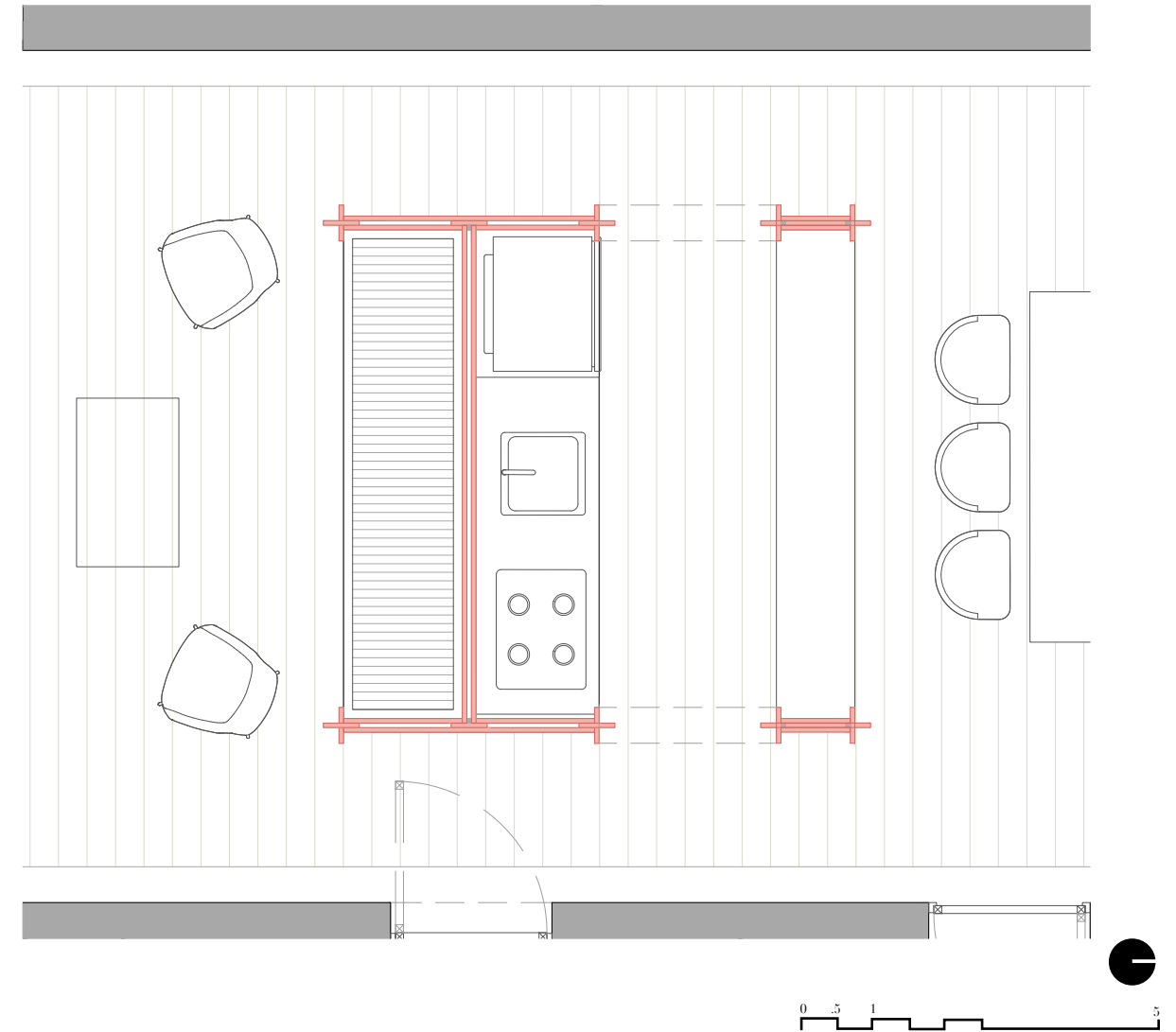
KITCHEN / CLOSET

This is a “unique” module in respect of the others that are mirrored into another room. The kitchen + closet one it is centered in the space of the living room and dining room to create a vestibulation between them and give them the uses they may need the most.

On the kitchen side we added a counter that allows more usefull area to the inhabitants and creates a frame to share the space with the dining room.

As for the living room, we added a closet that is shared and can be adapted to the necessities. It can work as a space to storage, to have a tv or to be a shelving area for the ones dedicated to students.

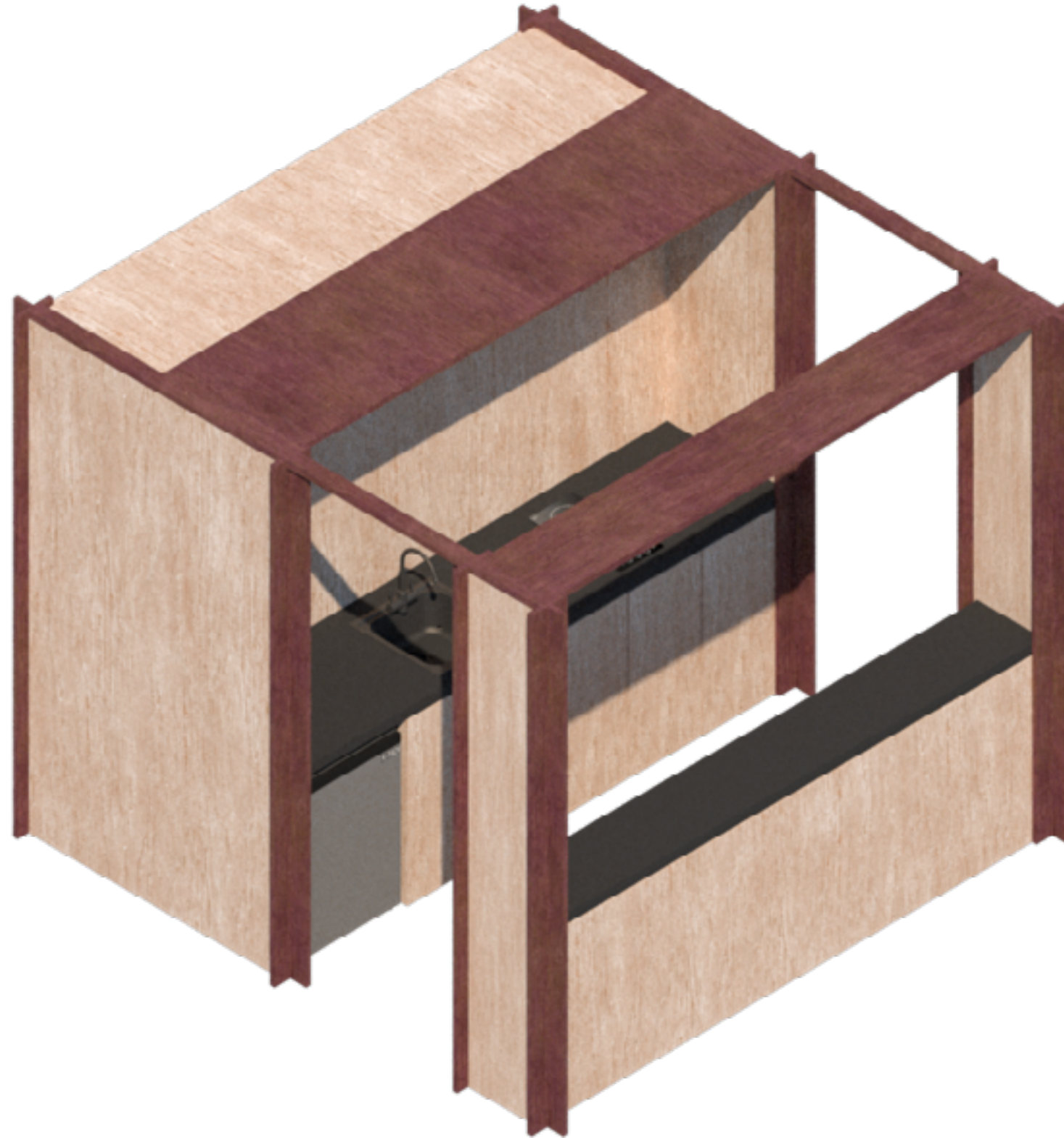
This module does not arrives until the total high of the ceiling because we want it to feel lighter. As an element that acts as an intermediator to the spaces and not as a barrier between them.



Posibilities



Iso



Module 1

BATHROOM / BED / CLOSET





Module 2

BED/CLOSET



Module 3

KITCHEN / STAIRS



Module 4

KITCHEN / CLOSET





PART IV

Reflections

Conclusion

Reflection on the project

As we have seen, in the last decades, there have been many economic and socio-demographic changes which are causing instability and demand for new housing alternatives. Housing affordability has become a major issue in many European cities, and co-living has emerged as a potential solution. The rising cost of housing has made it difficult for many people, especially young professionals and students, to afford to live on their own. These issues have and continue to affect the way we live inside cities. High rent prices are creating demands which are not being answered by the current market, which still is full of apartments with standard floor plans. The decline of wage labor opportunities of young men and women in the last decades, the precipitous decline in the relative income, the changing of family structures and the fact that societies are getting older have contributed to a longer transition to adulthood. All of these demographic changes have created new challenges and opportunities for co-living. It can provide a solution for older adults who want to downsize and live in a community, as well as for workers and students who need affordable housing and a supportive environment.

As we saw in the first part of our work, there seems to be a sense of group identity and solidarity in all of us, a *Gemeinschaft*, the sense of a collective self or a feeling of natural belonging. Balancing this sense of connection to a group and a unique individuality seems to be the key to any successful social system. Social and cultural changes, such as the growing focus on work-life balance and the desire for a sense of community, have contributed to the popularity of co-living, as it provides an opportunity for residents to live and work in a supportive community that shares their values and interests.

Co-housing is evidently not the answer to all of these problems, but as sharing trends continue to grow, it is becoming more and more important to consider it as part of the solution. As we have seen, sharing as a way of living is nothing new. Humans have always been very creative in finding alternative ways of dwelling. We explored the different motives behind collective living. Since the industrial revolution, there have been collective

housing options that have tried to change the rules, rewrite the script and reimagine their societies in different forms. These raise many questions as to why we are not trying to experiment more with this kind of model.

In the second part of our research, we have also shown many interesting examples of successful collective housing projects and how the type of residents and their lifestyle should determine the space they inhabit. As the co-living movement continues to expand it is becoming more important to study and understand it. We can learn a lot from these examples, because it allows us to learn from their successes and failures. Every co-living project is unique, and studying existing examples helped us understand the needs and preferences of potential residents. This helped us design a space that meets the specific needs of our target audience, because the lifestyle and specific qualities of the residents determine the space they can inhabit.

A Coliving apartment is a type of housing where a collection of private components is connected with shared spaces. These private components are where the residents can have their independence from the rest of the community. This is also why each unit must be designed with specific attention to how the user does his or her activities during the day and the night. In our project, we find it important to make an assessment as to the flexibility of the functions and to combine living-working schemes in an existing building in the city of Milan. A key aspect of our project was to combine social housing and co-living to ensure that the project remains affordable and accessible to low-income residents while also offering high-quality shared spaces.

Co-living is an emerging trend in urban living that involves sharing a living space with others, often with people from different ages and professions. In Milan, this trend has gained popularity due to the high cost of living in the city, which makes it challenging for many people to afford their own homes. Co-living spaces provide an affordable solution while also promoting a sense of community and social connection among residents. By sharing common spaces like kitchens, living rooms, and workspaces, people from different ages and professions can interact and exchange ideas, creating a dynamic and diverse environment. This type of living arrangement also encourages a more sustainable lifestyle, as residents can share resources, reduce waste, and minimize their carbon footprint. Ultimately, co-living in Milan is not only a practical solution for housing, but also a way to foster social cohesion and build a more sustainable future. The mix of inhabitants can bring the opportunity to grow a community along with the shared and common spaces. In common spaces like the main courtyard, we want to create a bond with the context, and we want it to be open during the daytime to all the community around it. There are several schools and universities next to the complex and for us it is important to create a safe shared space for all the people living in the area. As mentioned before we are doing this spaces to live to support a growing population in elderly people living alone, young people that cannot leave their parental home because the jobs in Milano are not well paid in order to have independence as a young

worker and to the students that are always arriving to the city to be there from 3 to 5 years at least and that need affordable, secure and well located housing in the city. The building originally hosted workers and we intend to have the majority of the population of the complex continue to support this group of people. We think it is vital to support a young generation that is usually overlooked by affordability programs. If we can provide a solid base for them to grow in the professional field then they can continue to grow and be part of the city and continue to search and support communal and shared spaces.

Our project is aiming the lack of affordable housing in Milano for the students and young adults that are searching for a job or have a job as a first experience where they are not paid enough to compete with the market. There has been an increase in young adults that cannot leave their parental house because of this reason and there is also an increase in elders that can be benefited by a community that can live there for a medium to long term and have to possibility to create bonds over time. This is why all the ground floor is divided between elderly and young couple of workers. Then the second floor is for young adults, the third for students and the fourth for young adults and the fifth where there is one, is for a mix of young adults and students.

This mix can bring the opportunity to grow a community along with the shared and common spaces. In common spaces like the main courtyard, we want to create a bond with the context, and we want it to be open during the daytime to all the community around it. There are several schools and universities next to our complex, so this is an opportunity for everyone to start sharing the greenery and open space. We have seen several case studies where a common place for the city can bring a lot of benefits to the community and its inhabitants.

On the ground floor, along the small streets, we have rooms for study or work that are very needed by the inhabitants and community around us, spaces for expression and growth. On the main street we are leaving the spaces for stores as they are because we think that having activities that are open all day makes the space feel safer for everyone and can provide services needed by the neighborhood.

We feel that a social housing and co-living project has the potential to provide a unique and innovative housing solution that promotes affordability, community building, and social cohesion. In our project, residents would have their own private bedrooms, but would share common spaces such as kitchens, living rooms, and bathrooms. The project could also include shared amenities such as fitness centers, laundry rooms, and workspaces, as well as social programs and events to foster community building.

By choosing to live in a co-living residence, you are making a conscious decision to live in a space where you will be living in close proximity with other people. This can be a great opportunity to meet new people, network, and collaborate on projects. In addition to the social benefits of co-living,

it is also an affordable housing option. By sharing living spaces, residents can enjoy a high standard of living at a lower cost than renting a traditional apartment.

In conclusion, co-living has the potential to offer an innovative and affordable housing solution that can promote social interaction and community building. By combining co-living with social housing, it is possible to create housing projects that are not only affordable but also promote social inclusion and cohesion. Through the evaluation of our case study in Milan, we have seen that well-designed co-living spaces can foster a sense of community and belonging among residents, while also providing access to high-quality amenities and services. As cities continue to face housing affordability and social isolation challenges, co-living and social housing will undoubtedly play a significant role in addressing these issues, creating vibrant and sustainable communities for people of all backgrounds and incomes.

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