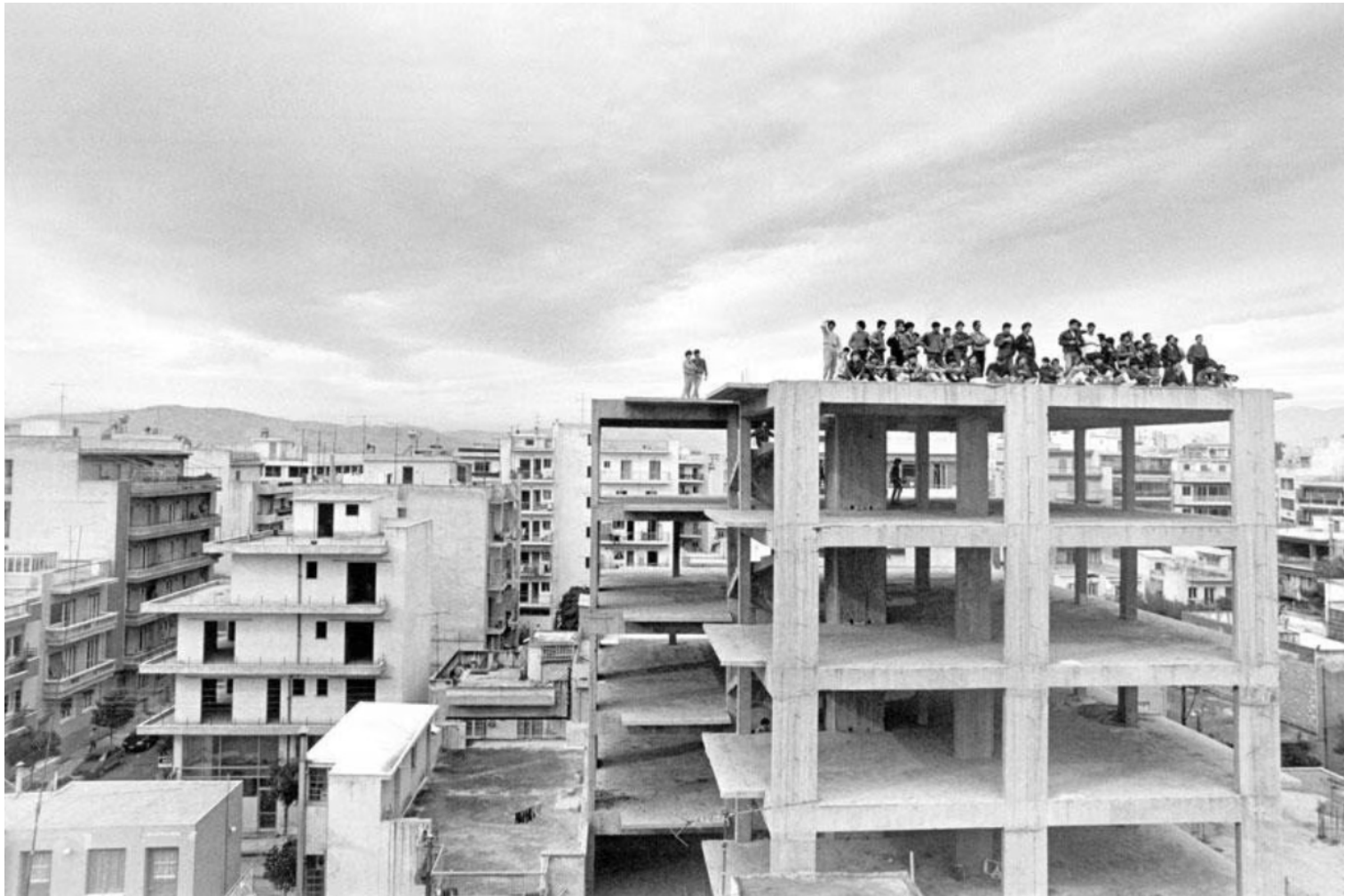


## Polykatoikia?



"Can the Polykatoikia, a cornerstone of Greek urban identity, be redefined to restore a sense of community in the city?"

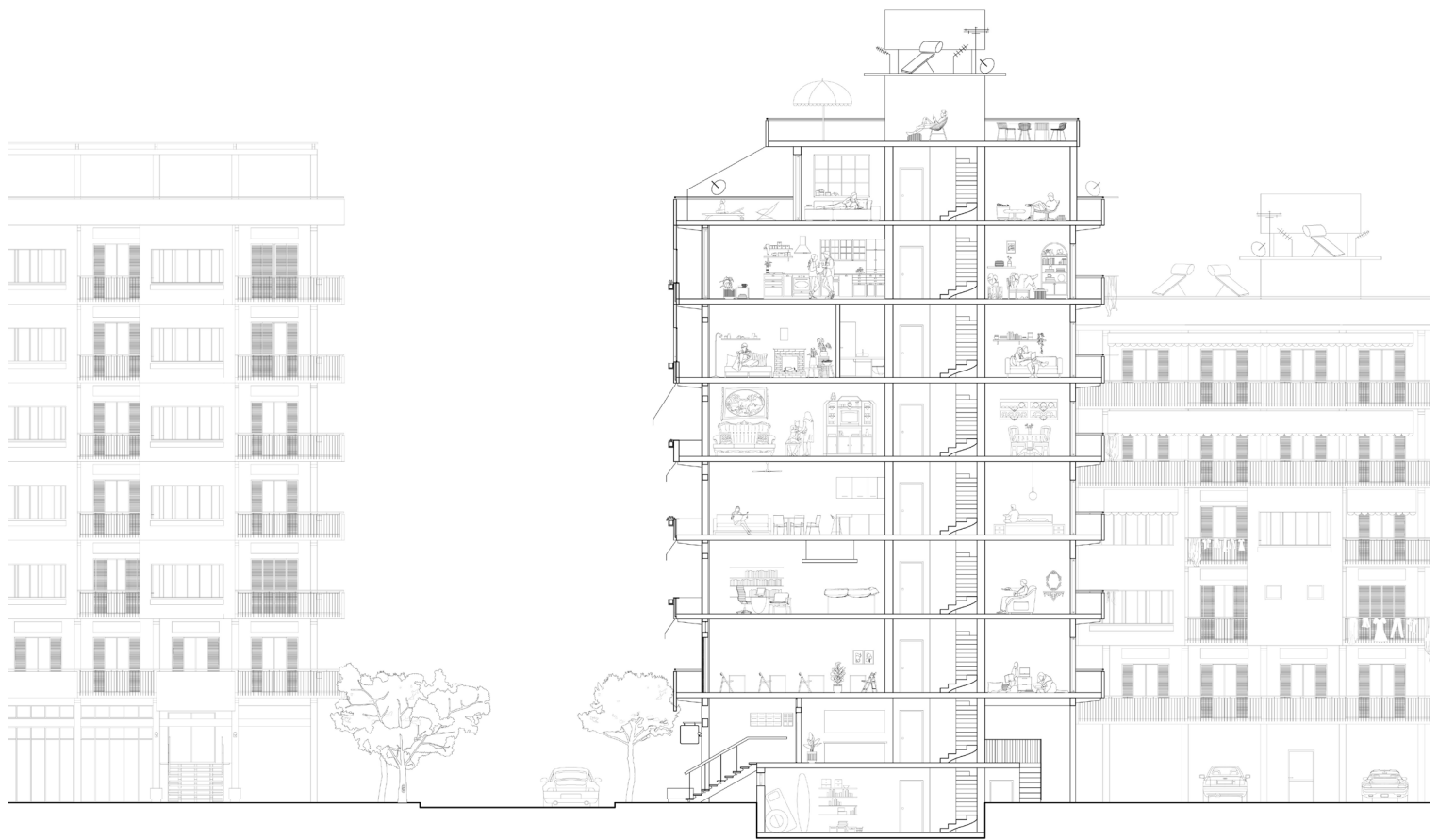
What is a Polykatoikia?



The term **Polykatoikia** (πολυκατοικία) /po.li.ka.ti'ci.a/ is a composite word, from (Πολυ) **poly**, translated as multi, and the noun (Κατοικία) katoikia, **dwelling**.



# Ownership Regime



0 5

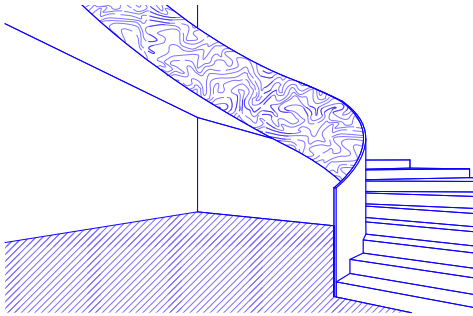
Site that embodies these principles and offers the potential to bring this vision to life



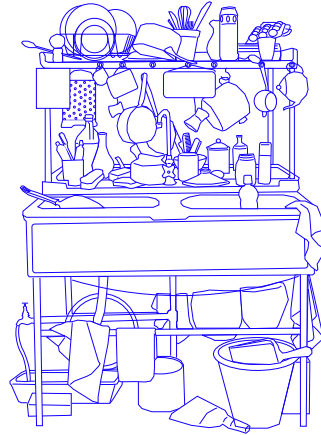
0 5m



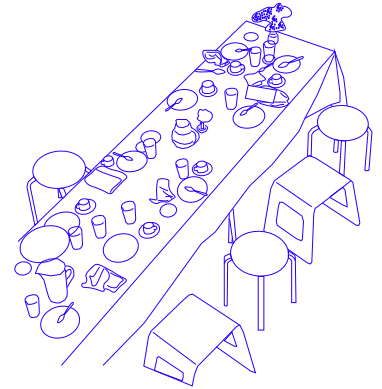
# Activities traditionally confined to private spaces, transforming them into shared facilities



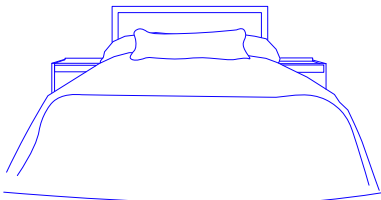
Large inviting staircase at the entrance of the apartment building



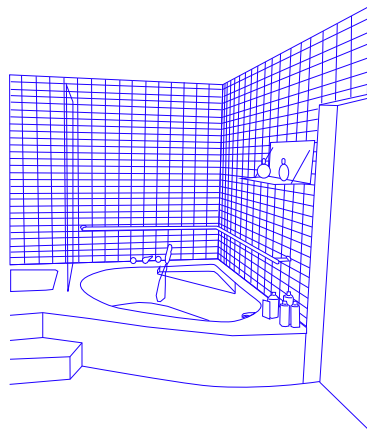
Tiny functional individual kitchens in each apartment



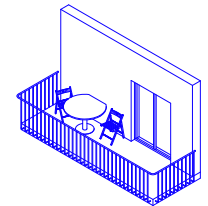
Collective access to a table for celebrations and events



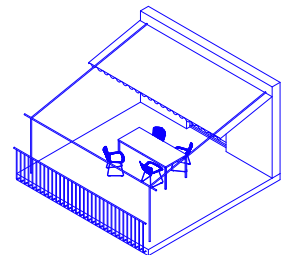
A collective guest room that can be accessed by all tenants



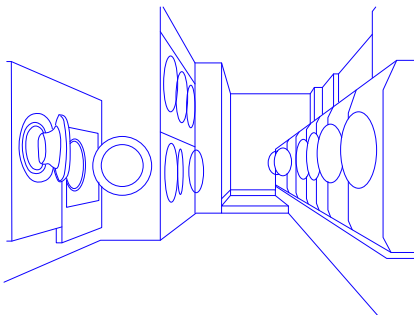
A collective bathroom that can be accessed by all tenants



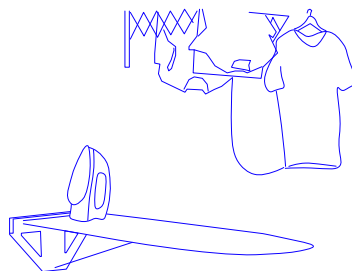
Small balconies on lower floors



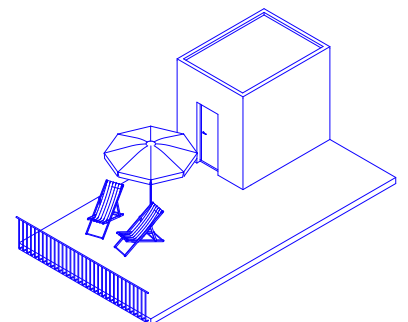
Penhouse Balcony



Collective laundry room

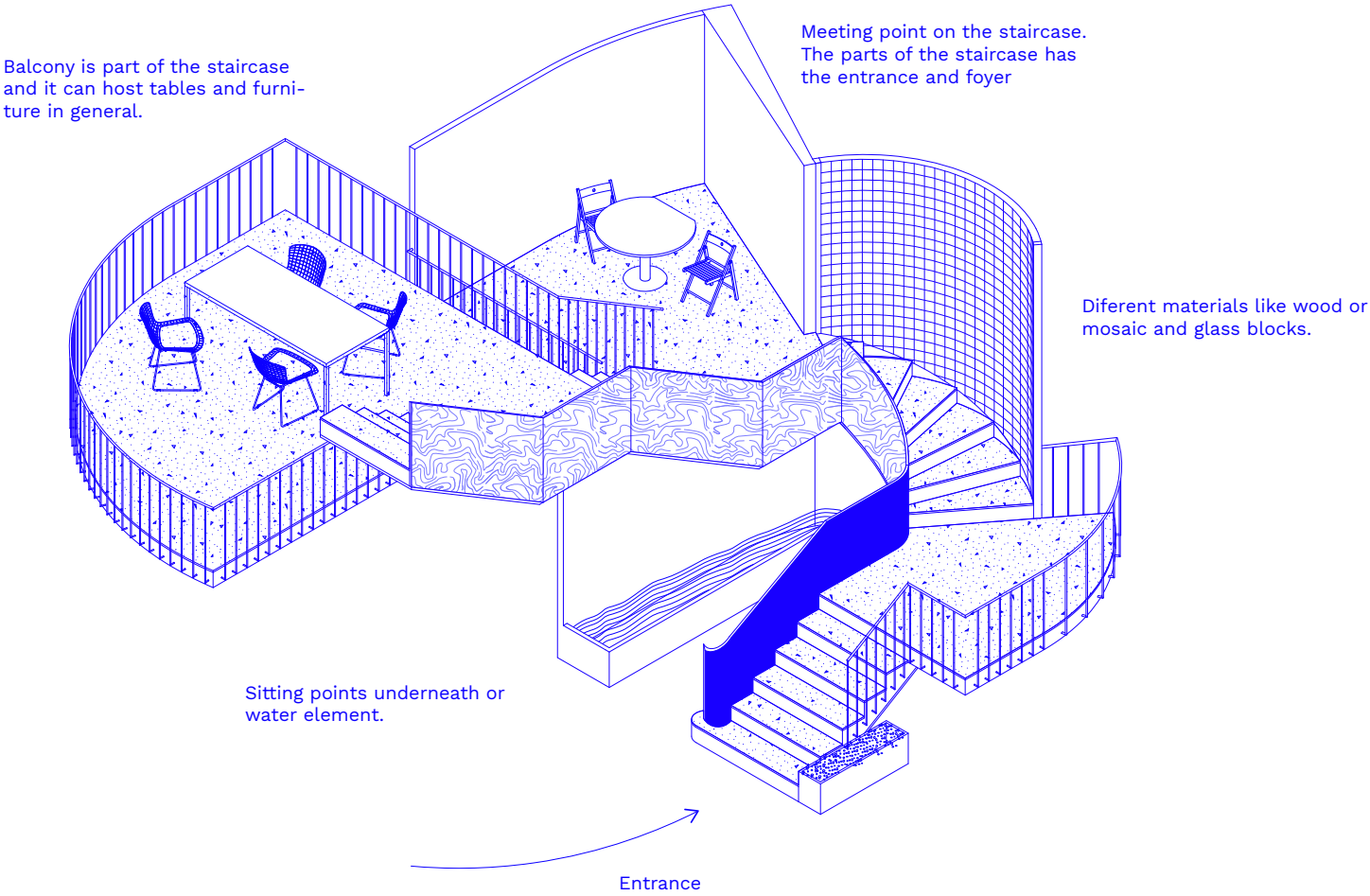


Collective ironing and drying of clothes



Terrace

Conceptual fragment of shared facilities





001. Redefining Housing:

The new polykatoikia is not merely a place to live but a tool for transformation. It challenges the individualistic mindset of the past and embeds the principle of collectivity in every aspect.

Minimize private living spaces giving more space for collective spaces

002. The Power of Collective Spaces:

Balconies, rooftops, stairwells, and foyers are not just transitional areas. They are spaces of shared luxury, accessible to all.

Shared kitchens, workshops, and recreational areas elevate daily life and foster social interaction.

003. Embracing Flexibility:

- Flexibility of the use and layout of the apartment.
- Spaces blending private and communal uses.

Sustainability as a Responsibility:

004. - Sustainable energy systems and the least possible material such as use of renewable energy sources, and energy efficient systems.

The Ground Floor as the Urban Core:

005. The open ground floor, with commercial and communal uses, strengthens interaction with the city.  
Integration with courtyards and streets activates the urban block, bringing life to the public realm.

Continuous Evolution:

006. Shared spaces are maintained collectively, fostering a sense of responsibility and collaboration.  
The building adapts to societal changes and emerging needs, ensuring it remains vibrant over time.  
Spaces that they can generate income.







The facade that touches the street is intended for extrovert commercial use.





Arcade to the inner courtyard blending collective luxury with personal agency



POLYKATOIKIA tapestry of shared ownership by Zoe Papaoikonomou





## Shared Reading Nook









Gallery that wraps around the building



POLYKATOIKIA tapestry of shared ownership by Zoe Papaoikonomou

Gallery that wraps around the building



POLYKATOIKIA tapestry of shared ownership by Zoe Papaoikonomou





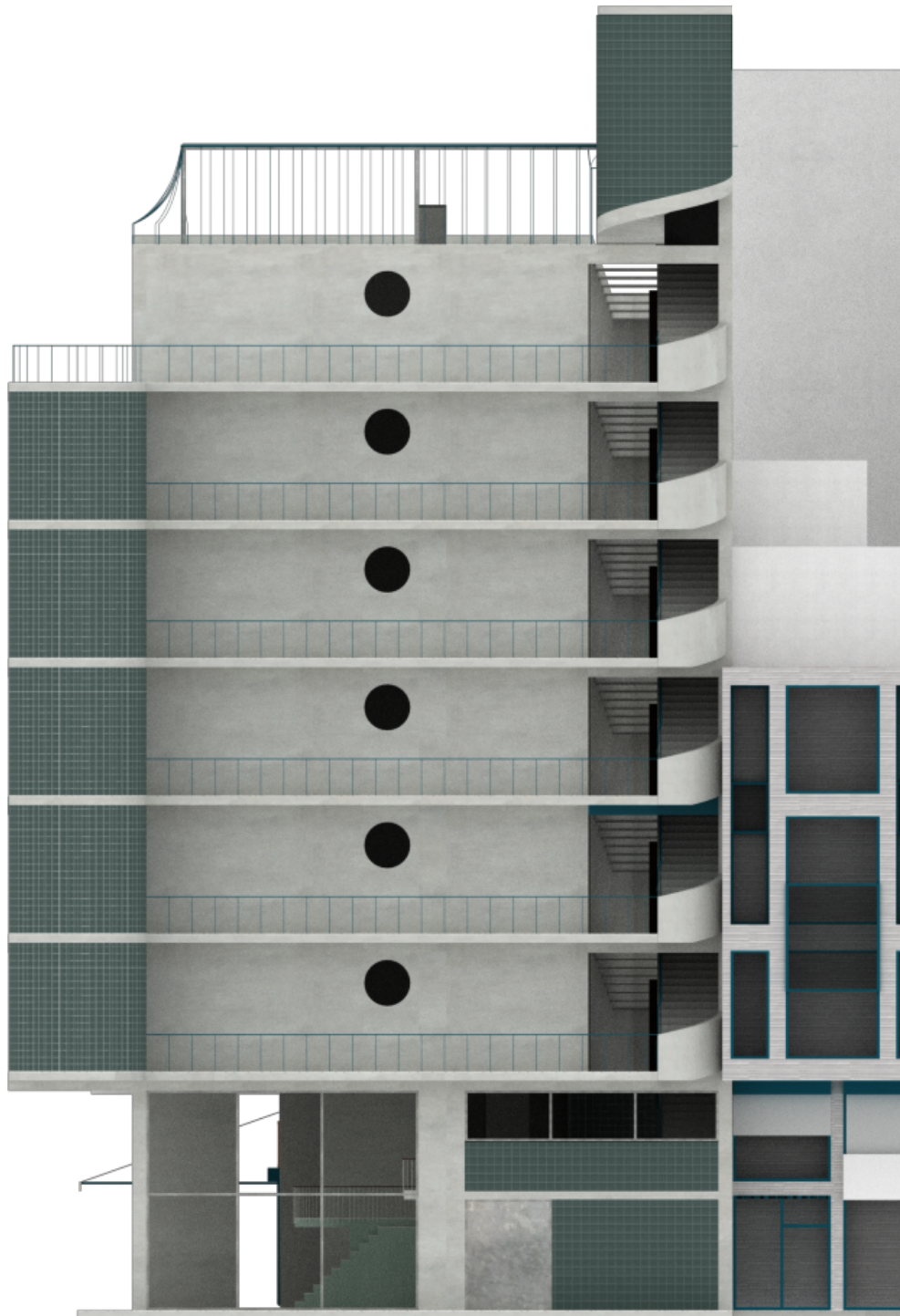


Bathhouse tower available for use by all tenants



POLYKATOIKIA tapestry of shared ownership by Zoe Papaoikonomou

Side view elevation





Front view elevation





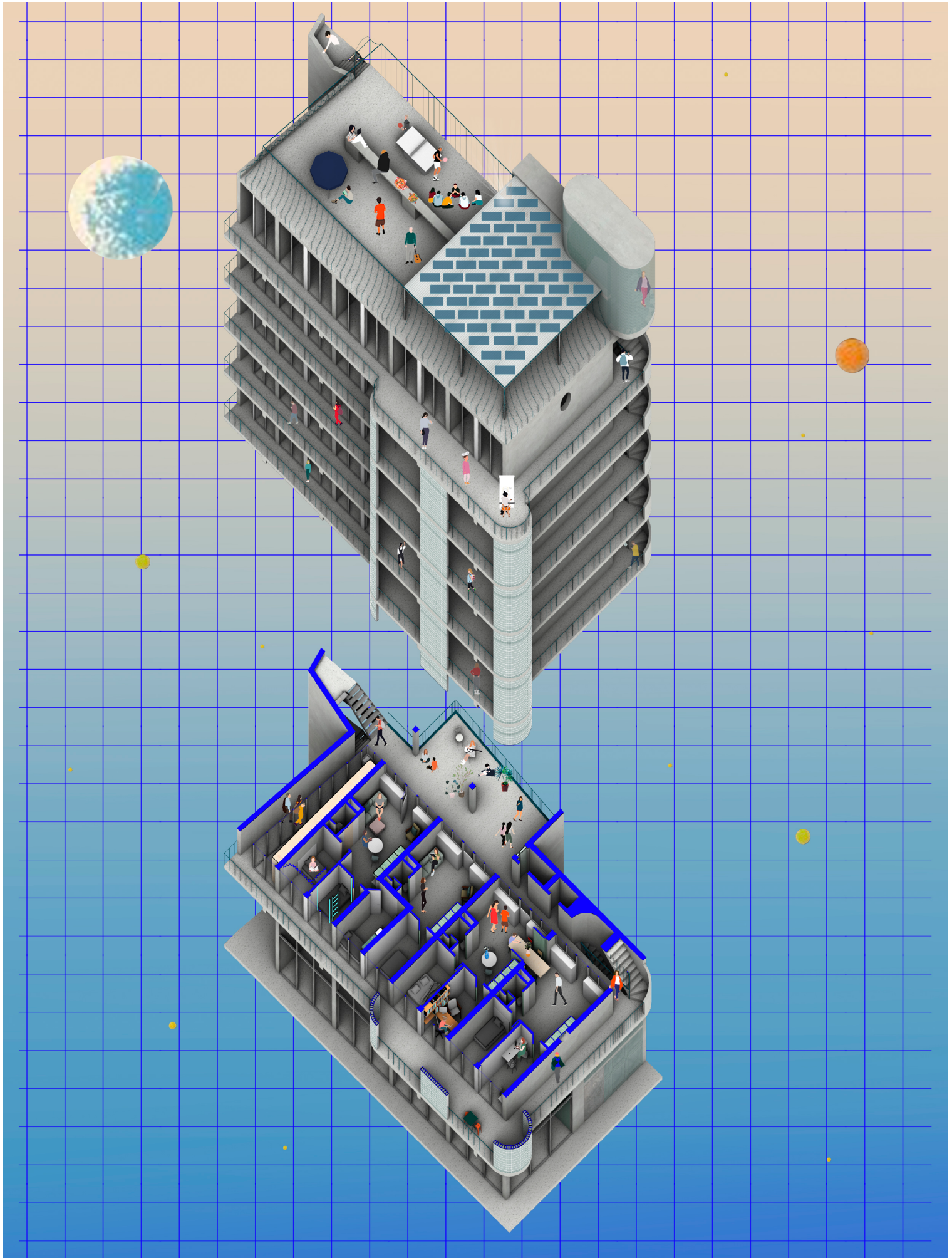












An architectural rendering of a multi-story building complex. The central focus is a large, multi-level courtyard or rooftop garden area. This area features a prominent, light-colored, wavy, sculptural element in the center, surrounded by greenery, trees, and small figures of people. The building itself is composed of several interconnected volumes with flat roofs and numerous rectangular windows. Some windows are illuminated from within, showing interior spaces. The overall style is modern and minimalist, with a focus on the integration of nature and public space within an urban environment. The color palette is primarily neutral, with greys and whites, accented by the green of the plants and the colorful figures of people.

10.1117/1.3017101





# GRADUATION PROJECT TERMS

EXARCHEIA ATHENS  
2024

FIRST ISSUE

SERIAL NUMBER  
997

## POLYKTOIKIA

Athenian “Polykatoikia” typically consisted of several stories, with individual living spaces or apartments stacked on top of each other. The ground floor often housed shops or businesses, while the upper floors were residential.

## MAIN QUESTION

How this flexible housing model can be adapted and re-transformed again in the future?

## TERMS

The terms of this project regarding the topics it will touch on and the method and tools it will use.

## RESEARCH TERMS

The research will be based on architectural examples related to the Polykatoikia model and theoretical manifestos. It will adopt an architectural perspective, focusing on the virtues of the Athenian Polykatoikia and identifying areas for improvement in the Athenian city through theoretical and practical examples, both national and international.

The research will concentrate on spatial development at three scales: the city, the neighborhood, and the interior.

## DESIGN TERMS

By leveraging knowledge of existing buildings, a design methodology that incorporates social and cultural virtues will be developed. Therefore, in an empty

plot, part of an existing neighborhood, the project will be anchored in order to meticulously craft the design from scratch.

Concepts and forms will be explored using media such as drawings and digital models.

The aim is to create not just an apartment building, but a community where residents can thrive. The design will feature individual apartments for urban settler, along with collective spaces for social interaction and more. The purpose is to expand the potential for communal living in the “Athens of property.” Additionally, the project seeks to restore the village mentality, which is foundational to the city's structure and, by extension, to the Polykatoikia itself.

The relationship of the Polykatoikia with the city, facilitated through elements like balconies, terraces, and uncovered back spaces, is significant. Inside the building, spaces such as the foyer and staircase will be thoroughly examined to understand how these common areas can gain greater dynamism and enrich the overall project.

## STATUTE OF THE NEW POLYKATOIKIA BUILDING

1. Improvement of the common area. Perhaps more common areas/rooms to be used by the residents according to their needs (event spaces, guest room, bathhouse, laundry room, dinning room, conference room) Utilization of the uncovered space as a neat garden reserved for collective activities and empowerment of the neighborhood. Spaces for collective activities. Creation of common green spaces and recre-



ational areas.

Redefining the use of rooftops, for social and energy uses (e.g. roof garden, solar energy)

2. Flexibility in the use and layout of the Apartments (to be able to adapt to different living conditions, e.g. telecommuting).

Creation of multifunctional spaces within the apartments.

Possibility of remodeling the interior spaces, e.g. removing or adding walls.

3. Energy upgrade:

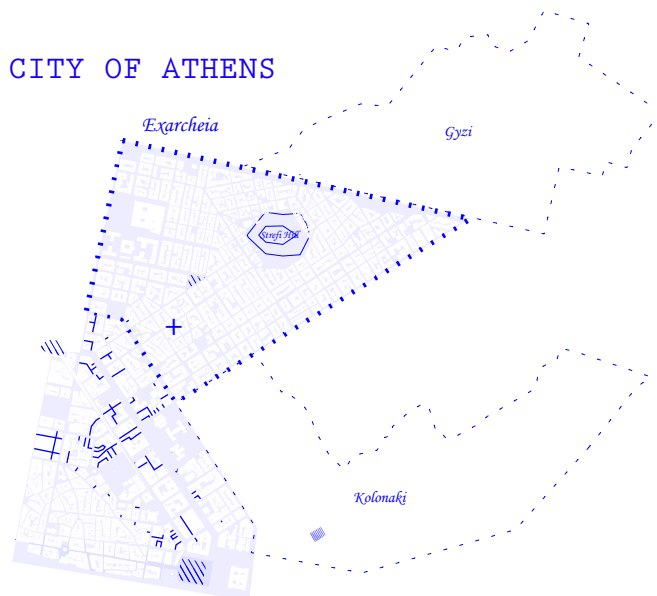
Thermal insulation, installation of renewable energy systems (photovoltaics). Green roofs: Planted roofs and vertical gardens to reduce heat load.

Creation of green spaces on roofs and yards.

4. Maintenance of commercial uses-pilotis on the ground floor.

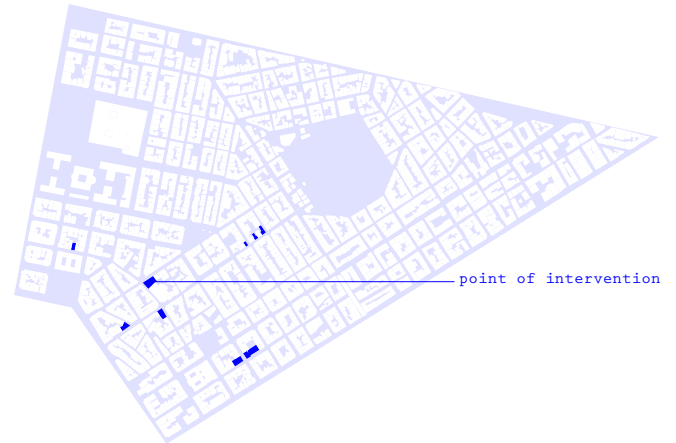
\*The Athenian Apartment Building as a model of residential development is characterized by a special spatial quality, as it combines urban density with human scale. Its modernization must preserve these characteristics while incorporating new technologies, sustainability principles and social sensibilities.

## CITY OF ATHENS



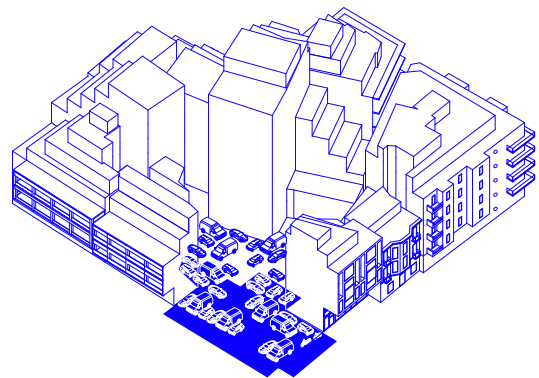
The arcades of Athens' Commercial Triangle, stand as timeless passages that bridge bustling streets, house shops and art spaces, and preserve the architectural charm of a bygone era. Extending this concept to the neighboring Exarchia district, one envisions a tapestry of interconnected spaces blending the area's bohemian spirit with the historical allure of these sheltered corridors.

I have identified several vacant lots in the Exarchia area, highlighting potential sites for exploration. However, the Cooperative Polykatoikia project is not bound to a specific location—it is a conceptual model rather than a single building, adaptable to any urban context.

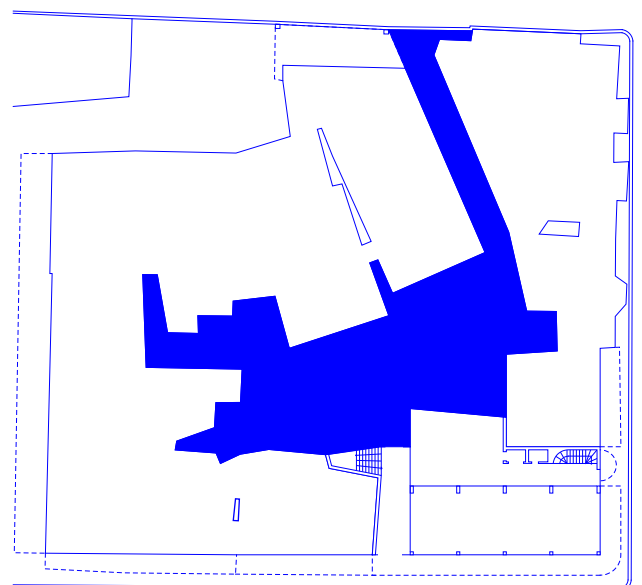


## BACK TO THE NEIGHBOURHOOD

From a parking plot to a cooperative multi housing model



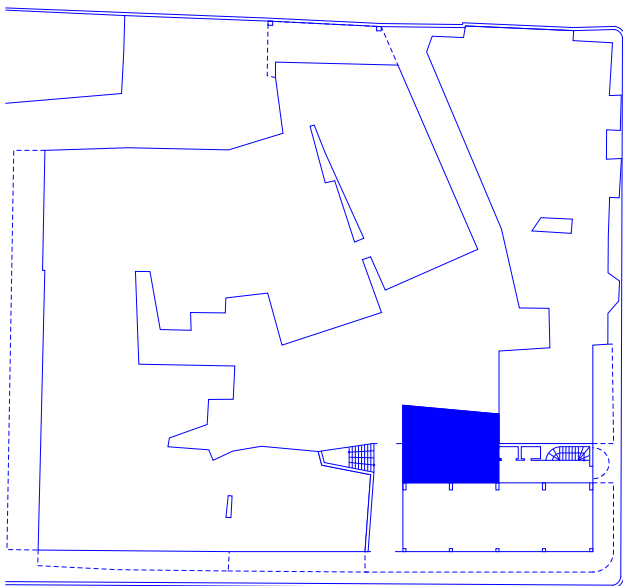
Activate and take advantage of the alley in the back yard.



Activate the circulation through the alley and the STOA



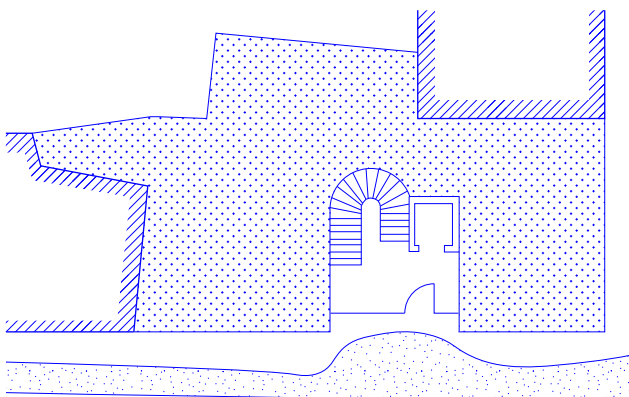
Space that can host various actions



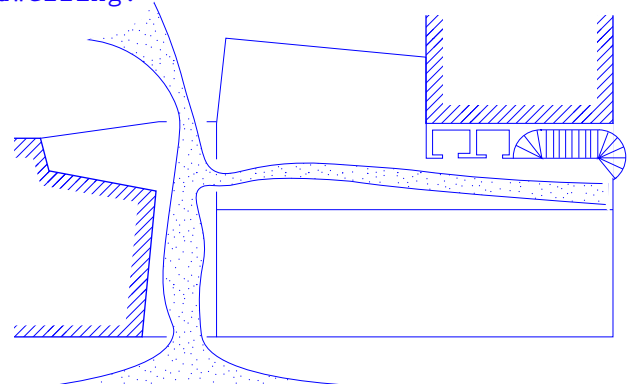
## ARCHITECTURE ANALYSIS

Not the conventional approach but another strategy.

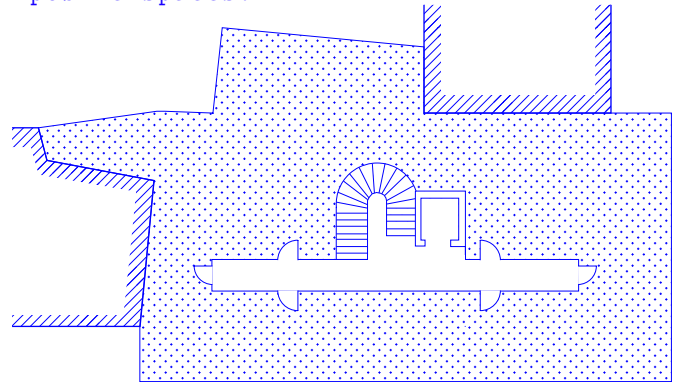
1. The entrance or the building separating the street from the dwellings.



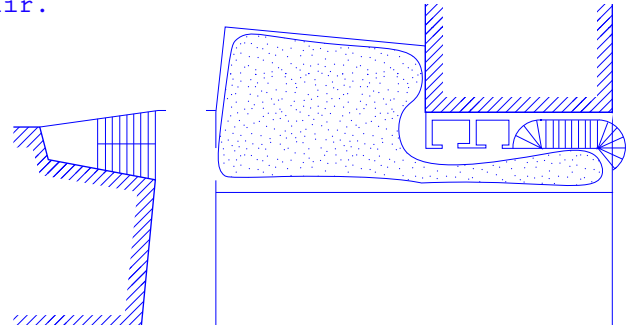
The entrance acting as an intermediate space which links the street and the dwelling.



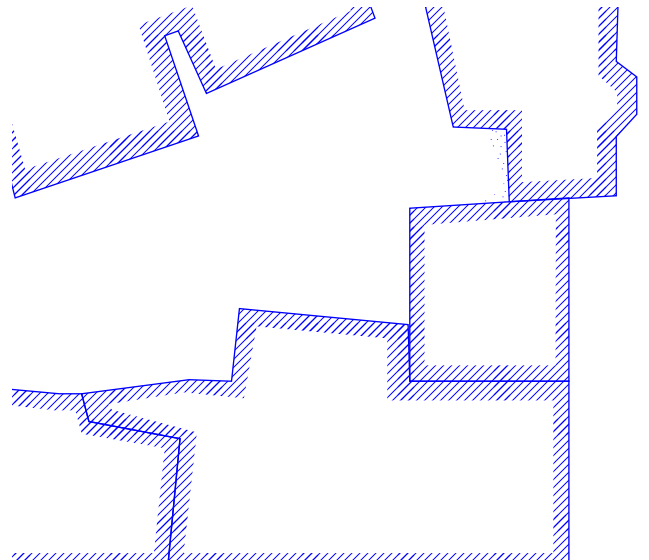
2. Not-Narrow, dark and repelling shared public spaces.



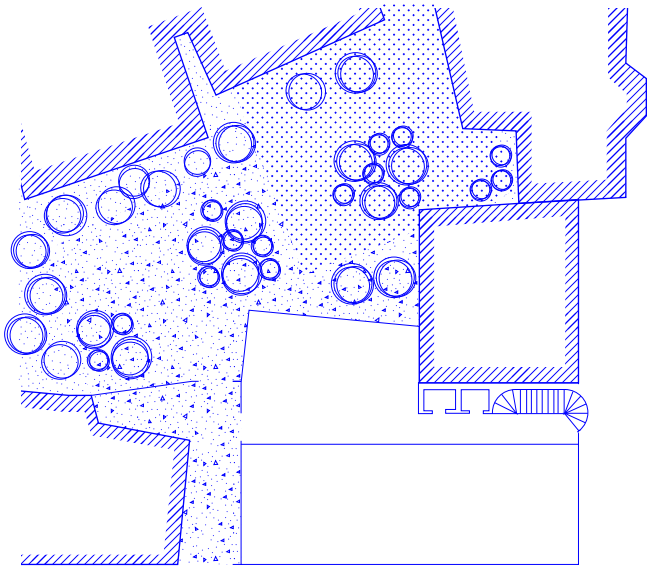
But-Common spaces which follow the entrance and are sunlit, inviting and open air.



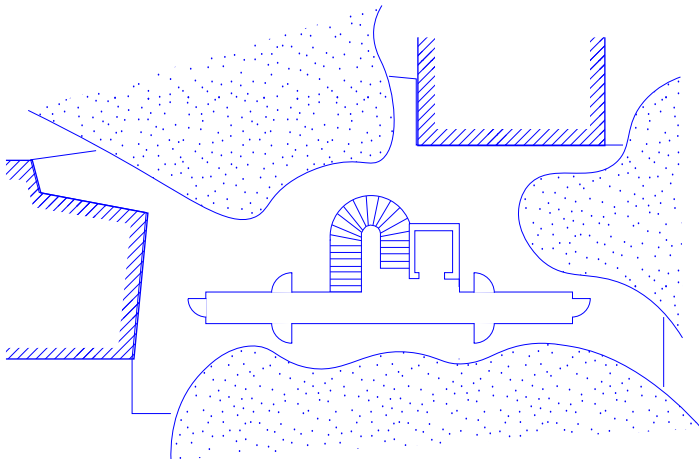
3. Not-Disused shared uncovered space, which belongs to nobody, is used by nobody and is cared of from nobody.



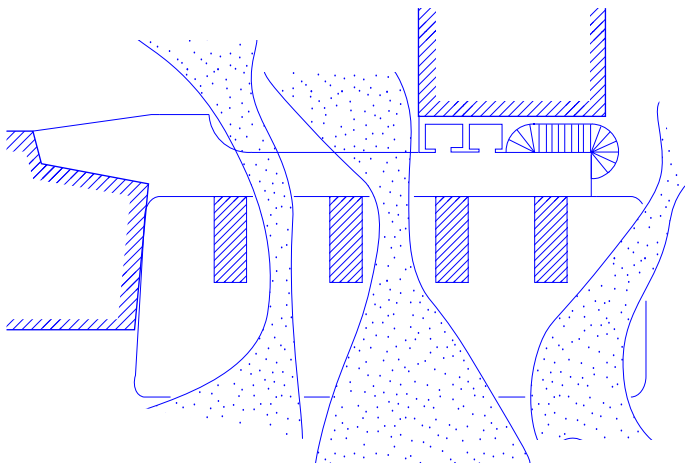
But-Outdoor space containing a yard on the ground floor which is planted with trees and flowers, cared for and used by private owners.



4. Not-Ventilated and lit only from one side with a dark intermediate zone of service spaces.



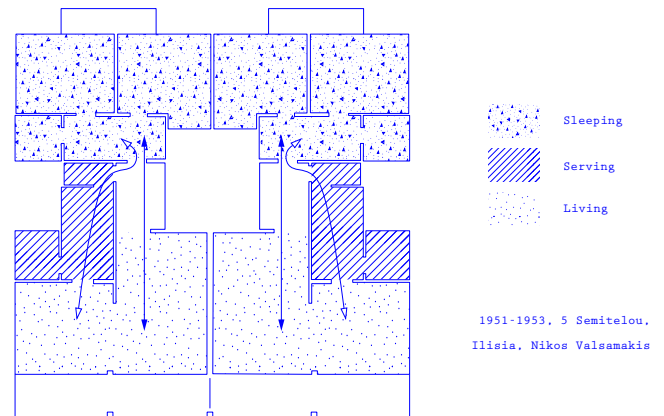
But-Spaces which are transparent and ventilated from all sides, allowing nature to penetrate in and including light service spaces.



## ATHENS APARTMENT STANDARDS

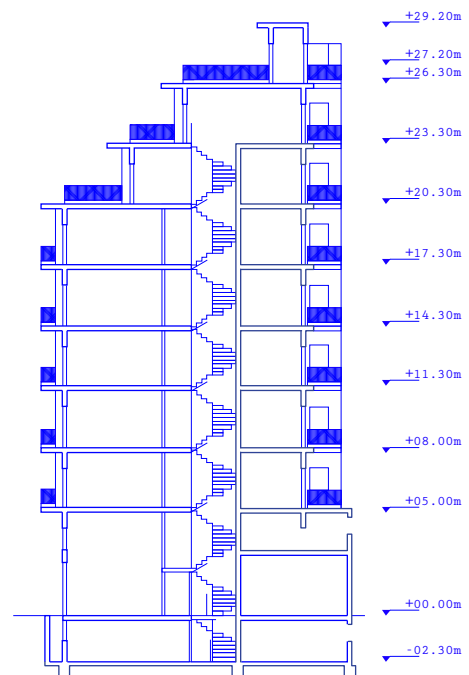
Since there is no standard model of the typical Polykatoikia I state specific terms for the selection of an example that will demonstrate the difference between the old and new model. Taking as an example the Polykatoikia building at 5 Semitelou Street, Ilisia, by Nikos Valsamakis, an apartment building of similar square meters and dividing it into zones and apartments. Taking the general layout logic and applying it to the project plot. The stairwell, shared areas and elevator are in the center.

Making sure that both apartments have contact with the street and the back yard. Thus, it seems that 2 comfortable apartments with two bedrooms are being created. The purpose of this model is to reduce individual space yet provide an experience of generosity and conviviality.



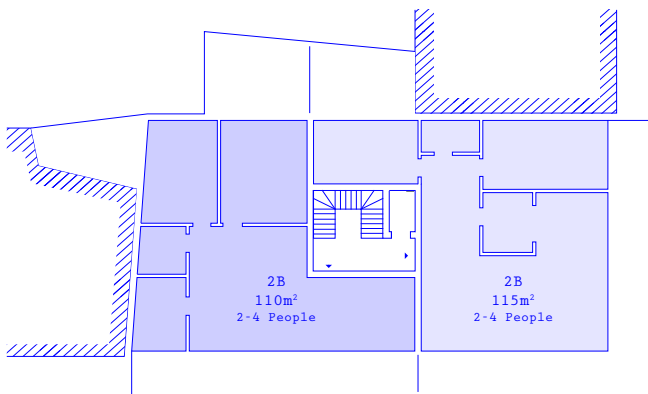
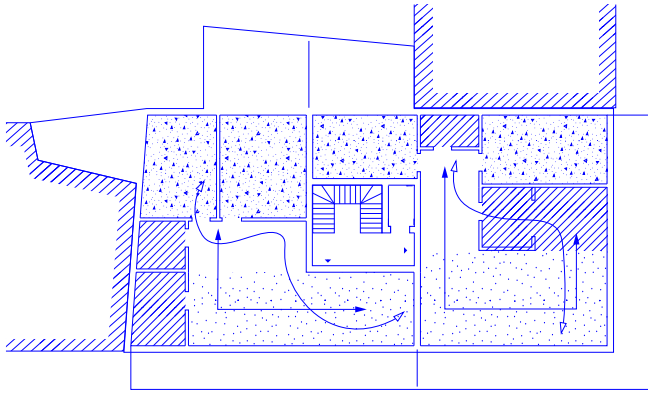
## HEIGHT OF CEILINGS

Most apartments have a ceiling height of 2.7-3.5 meters, while the ground floor is higher 3.5-5 meters.



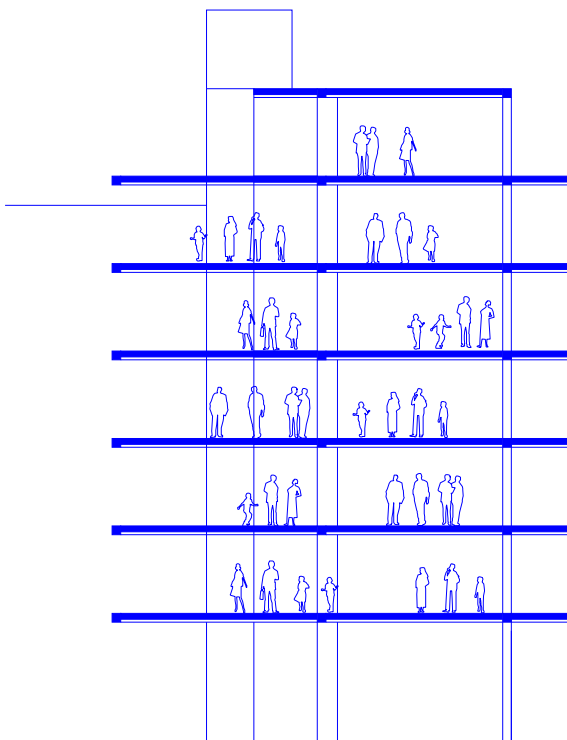
Polykatoikia Kaningos Section





### Standard Capacity

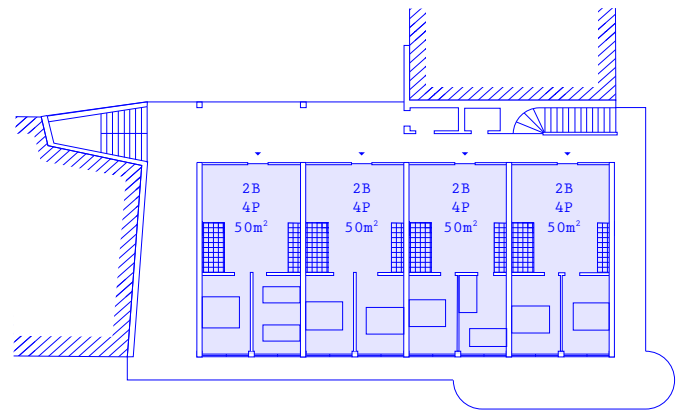
6 FLOOR 2 APARTMENTS PER FLOOR  
2 Apartments: 100-115m<sup>2</sup>-per floor  
2 Bedrooms-per apartment 100-115m<sup>2</sup>  
4-8 People-per floor  
Total 24-48 people  
Shared 18m<sup>2</sup> per floor



### ATHENS APARTMENT STANDARDS

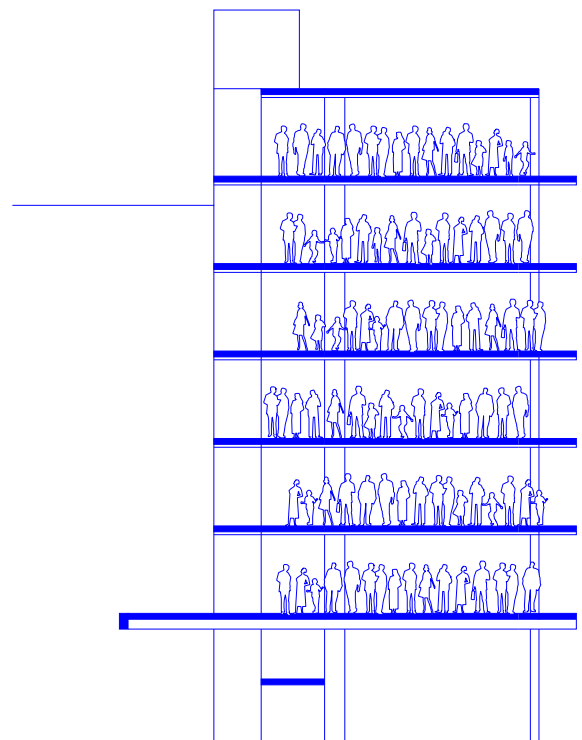
#### SIZE OF LAYOUT

Small apartments 50m<sup>2</sup>: Small family apartments with two bedrooms, kitchen, and bathroom.



### CO-HOUSING Capacity

6 FLOOR 4 APARTMENTS PER FLOOR  
4 Apartments: 50m<sup>2</sup>-per apartment  
1-3 Bedrooms-per apartment  
4-16 People-per floor  
Total 96 people  
COLLECTIVE OPEN SPACES 532m<sup>2</sup>



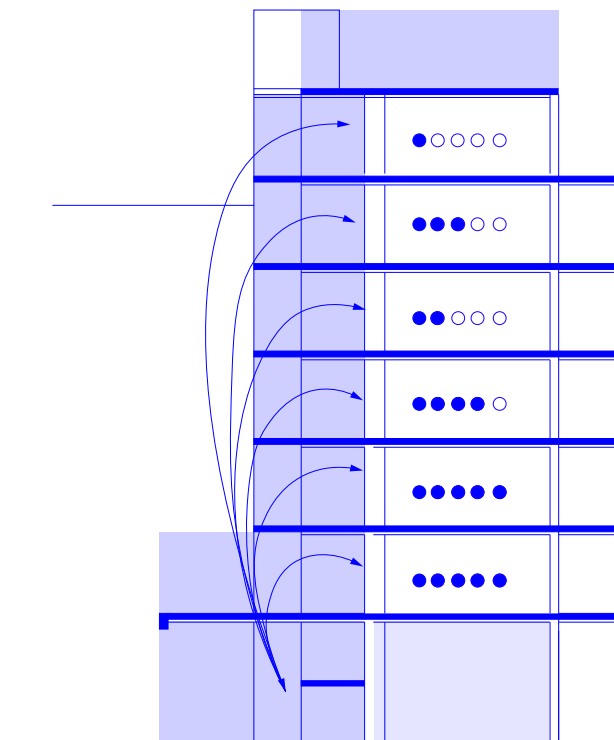
Comparing the two models of the standard apartment building and the collective, it seems that much more apartments are created in the minimum possible size, providing the necessary spaces (kitchen, bathroom, bedroom).

Hence, generous collective spaces are designed on the ground floor and mezzanine, as well as on the 6th floor and on the roof.

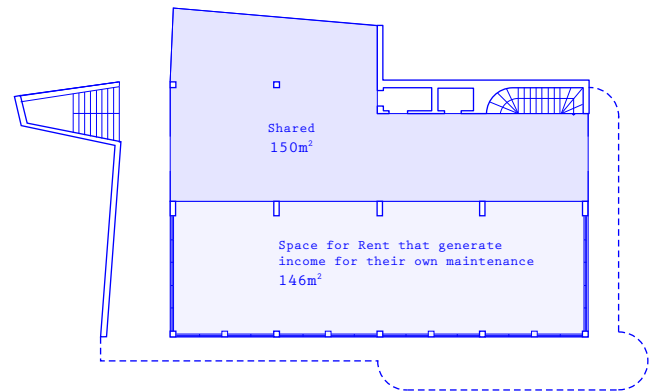
In addition, due to the two stairwells that are located outside, there is bright and positive lighting and ventilation in all apartments without exception.

#### COOPERATIVE living

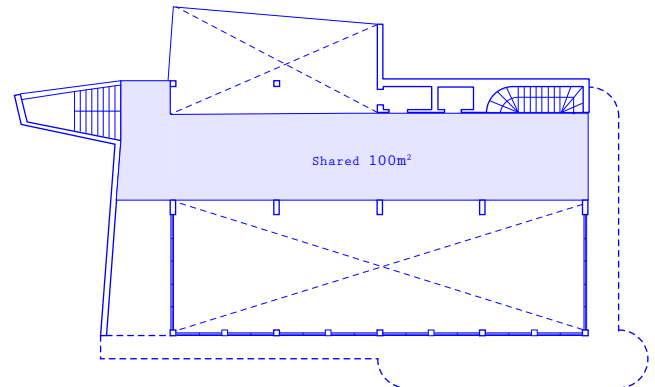
- Collective decisions
- Actively participate in the decision and management of common spaces and services.
- Tenants own shares in a cooperative that owns the building.
- Cohousing: Sharing common areas (eg, kitchens, function rooms), but with private residences.
- Collective responsibility for the maintenance and management of common areas.
- Collective financial management.



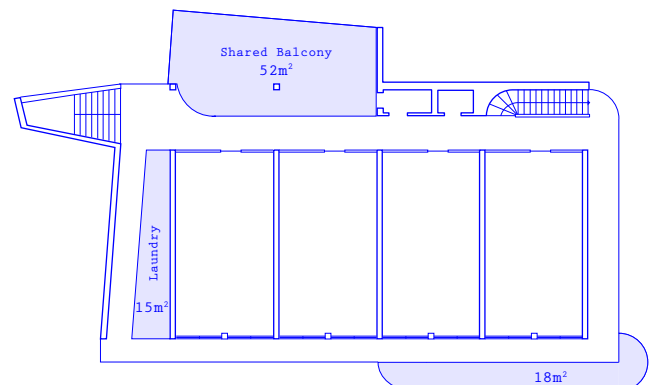
#### GENEROUS COLLECTIVE SPACES



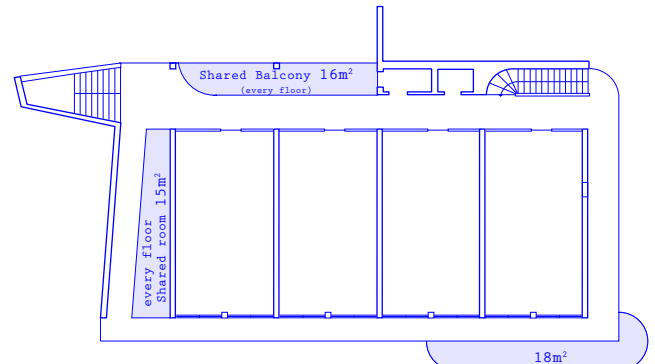
1. COLLECTIVE GROUND FLOOR SPACE



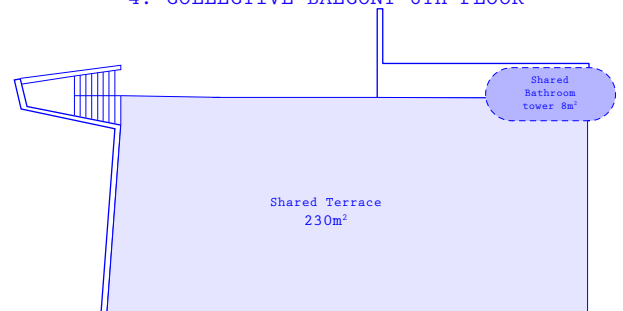
2. COLLECTIVE MEZZANINE BALCONY



3. COLLECTIVE MEZZANINE BALCONY

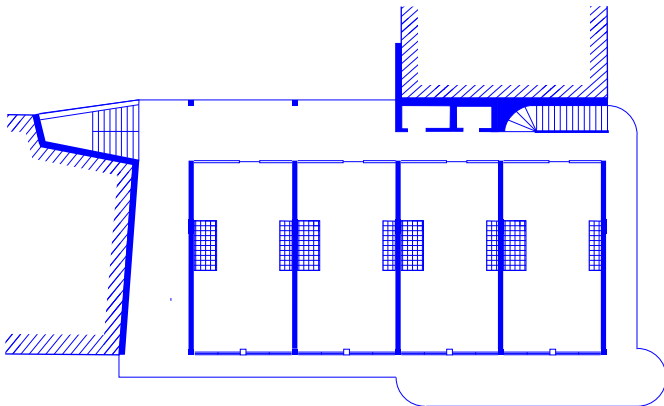


4. COLLECTIVE BALCONY 6TH FLOOR

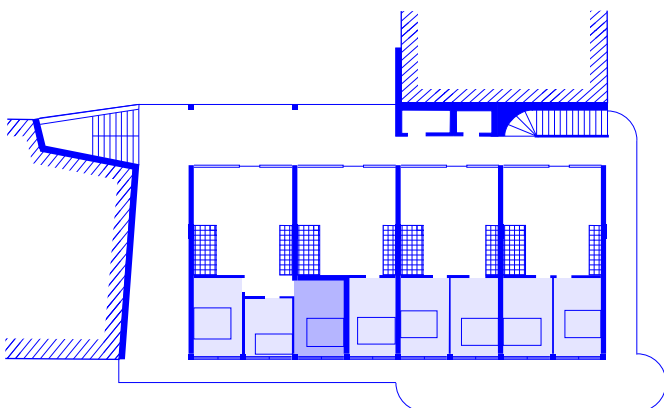


5. COLLECTIVE ROOFTOP

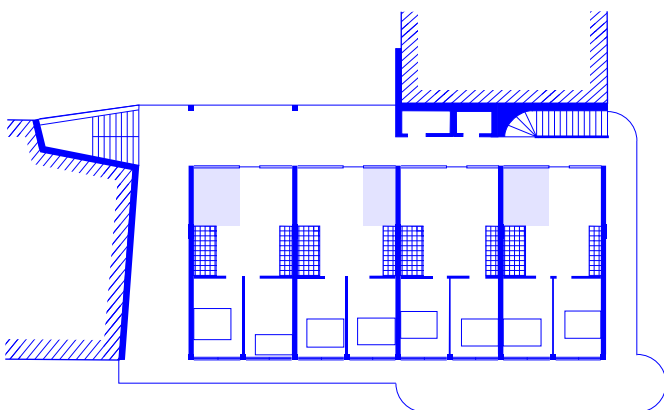
## LAYOUT ADAPTABILITY



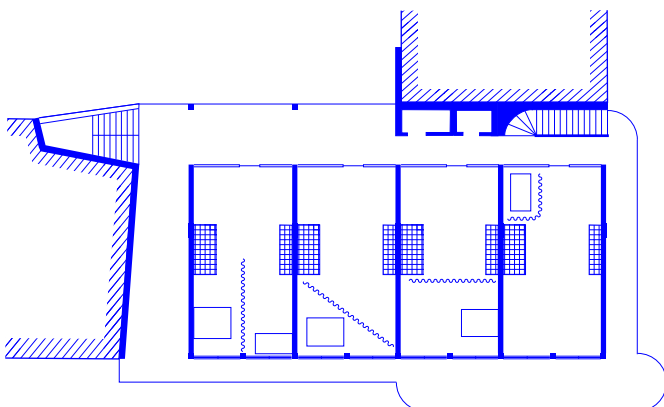
Standard layout



Connect a switch room to a neighbour

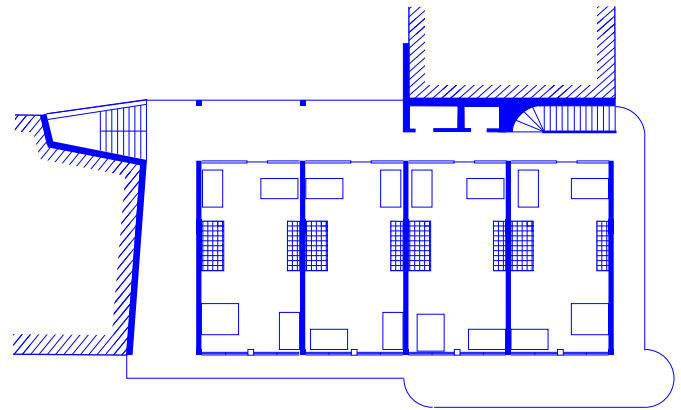


Add rooms if needed

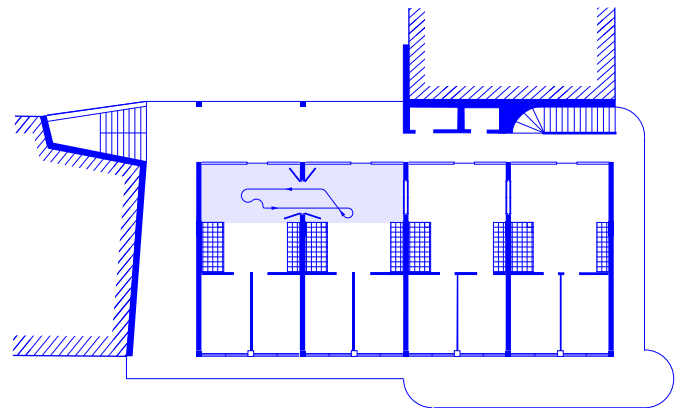


Open plan with curtains

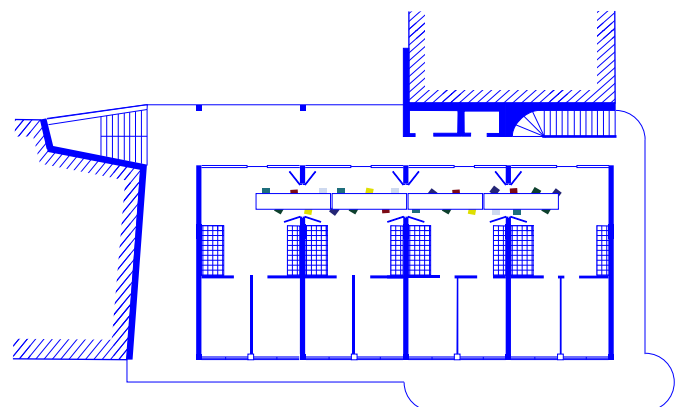
## CO-HOUSING SCENARIOS



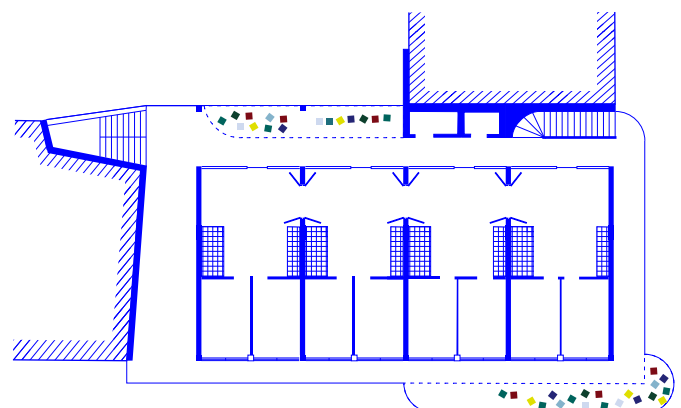
Remove walls if not needed



Interior circulation through sliding doors



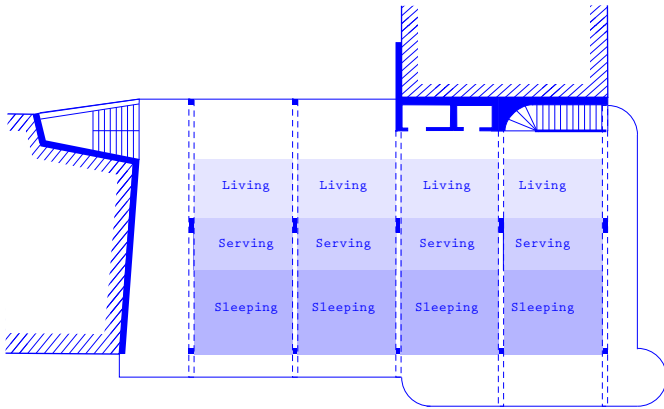
Doors can open for big shared dinner party



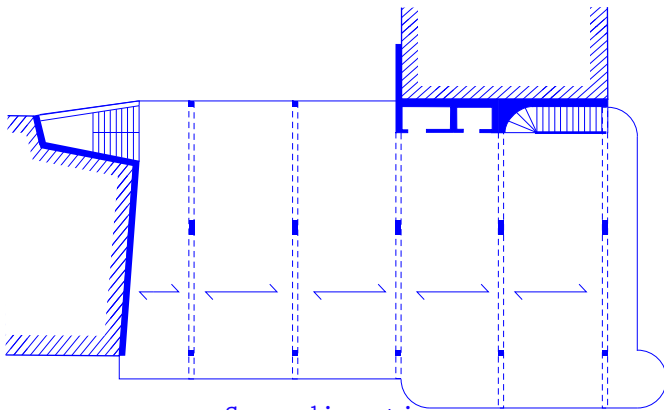
Balcony facing the street small gathering spots Everyone brings their own chair



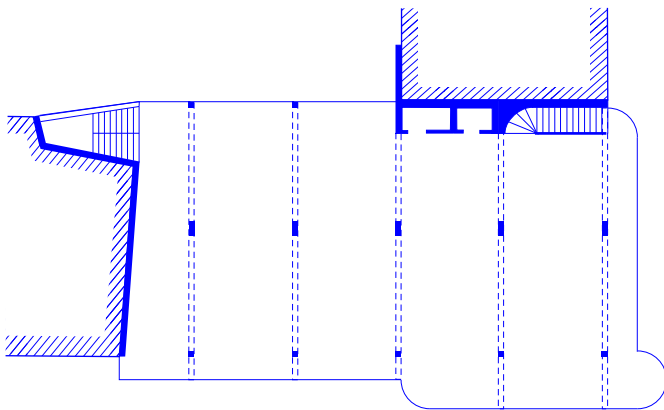
## CONSTRUCTION



Concrete floor system  
One way solid slab

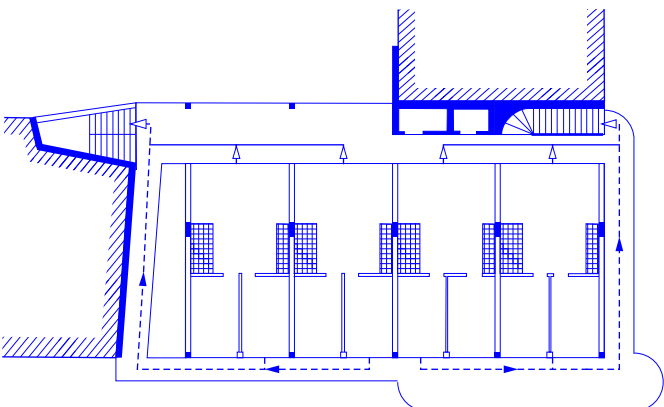


Span direction

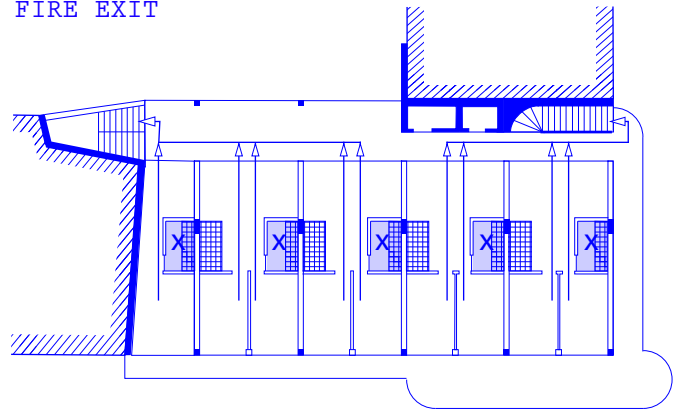


The one-way solid slab system can be continued, creating a series of extending slabs that rest on beams or walls

## FIRE EXIT



## FIRE EXIT

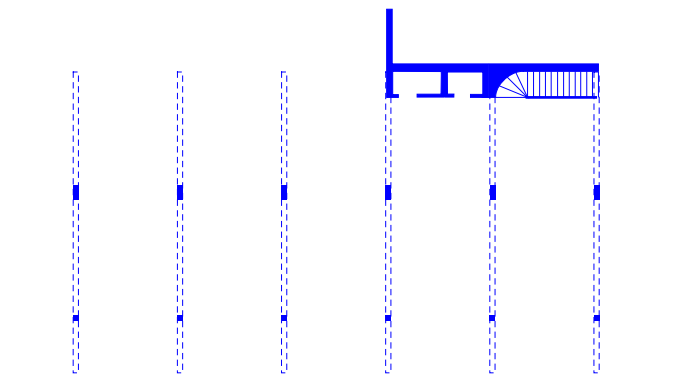


What should have been foreseen if there was no second escape exit from the galleries.

## INTERNAL INSULATION

Athens has a Mediterranean climate with mild winters (between 4°C and 7°C, with January being the coldest month) and warm summers, where extreme temperature fluctuations are rare. Internal insulation provides quick and efficient temperature regulation, reducing energy consumption.

In summer, it prevents heat from entering, keeping spaces cooler without heavy reliance on air conditioning. This approach is cost-effective, energy-efficient, and environmentally sustainable.



## THERMAL BRIDGE

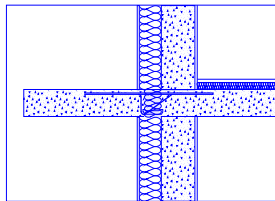
Climate of Athens: Athens has a Mediterranean climate with mild winters and moderate energy demands for heating. Thermal bridges have a minimal impact on overall energy consumption in this context.

The building is designed to be adaptable and long-lasting. Avoiding extra measures for thermal bridges saves resources and aligns with the sustainable and cost-effective approach.

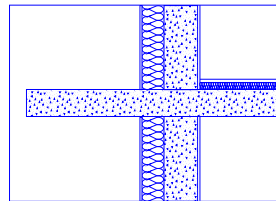
## THERMAL BRIDGE

**Affordability:** Addressing thermal bridges can increase costs without significant energy benefits in a mild climate like Athens, making it unnecessary for an affordable housing project.

**Future Adaptability:** The building's design allows for future upgrades if needed, maintaining flexibility and adaptability over time.

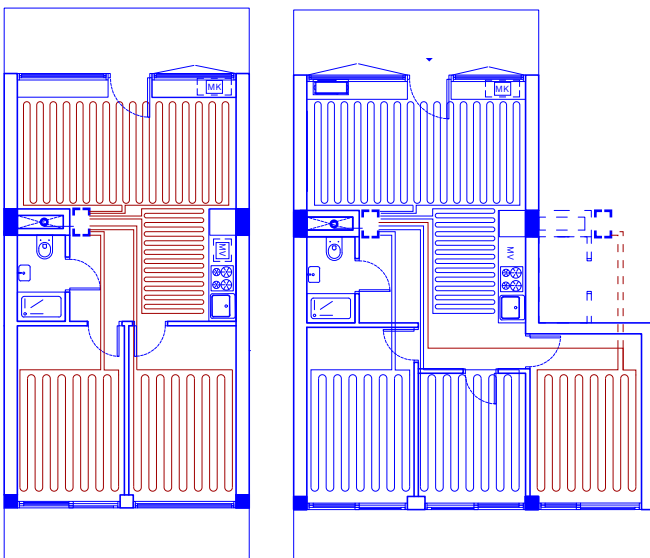


Thermal break



Thermal bridge

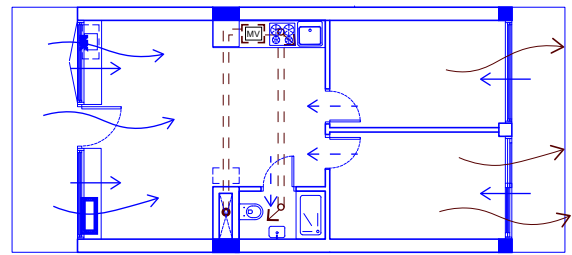
## HEATING SYSTEM



floor heating diagram

- wiring center and manifold connected to central boiler through shaft
- zones for pipe circuits
- connect a switch room to a neighbor

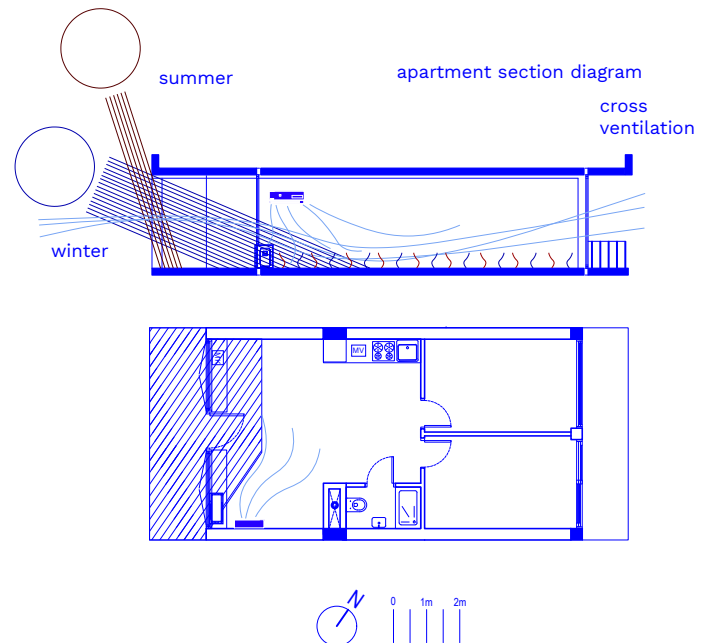
## CLIMATE



- cross ventilation cool air
- cross ventilation warm air
- natural fresh air supply through ventilation grills over windows and doors
- mechanical air extraction in bath-room and kitchen

ventilation diagram

Section diagram with natural light and ventilation and floor heating in section. The heat pump system efficiently provides both heating and cooling throughout the year. For added comfort during peak summer months, supplementary air conditioning units can be installed if necessary, designed to operate exclusively during those high-demand periods.



shading for natural lighting for the summer months due to the cantilever.

Date \_\_/\_\_/\_\_

Signature \_\_\_\_\_

