LIVING TOGETHER: AN EXPLORATION OF CO-LIVING FROM THE NEOLITHIC ERA TO THE 21ST CENTURY

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Abstract
The economic and social conditions of each era shape all aspects of life, including housing. Nowadays, there is an increasing desire for a sense of community, with many individuals choosing co-housing over traditional private residences. To create high-quality co-housing that meets evolving needs, studying the history of this practice is essential. By understanding the past, we can design better spaces for the future.

This research, part of my research thesis at the School of Architecture in Patras under the supervision of Professor Alcestis Rodi, explores how communities occupy space, focusing on the arrangement of houses and communal areas. It investigates the factors influencing the design and organization of these spaces and their impact on social interactions and community life. Adopting a historical approach, the study examines a variety of outstanding case studies from worldwide, spanning a period of 8,600 years (6700 BC - 1900 AD). The primary objective was to understand why communal living has been a consistent human need and how spatial design has addressed it over time. A parallel goal was to identify recurring types in spatial organization, categorizing settlements based on shared features, particularly the arrangement of dwellings and common spaces, enabling a comparative analysis.

The survey was conducted in two steps: first an extensive review of academic sources on vernacular Architecture and on contemporary collective housing theories and examples; second, the selection of case studies, the recreation of their masterplans along with diagrams and a comparison to reach conclusions.

The research results show that the design of both private and public spaces has always aimed to meet survival needs, shaped by local factors like climate, soil, and materials. Over time, social, religious, and economic influences have further shaped dwellings and settlements. Recurrent patterns in spatial organization reveal how architectural forms evolve while maintaining core principles. The traditional wisdom from these examples offers valuable insights for designing modern co-living spaces. By revisiting these principles, we can address contemporary challenges, meeting both practical and social needs.

Key words: *vernacular Architecture, community, public space, spatial development, traditional settlements, co-housing*

Introduction

Architecture, in its earliest form, emerged as an outcome of the effort to meet basic human needs, such as protection from weather phenomena and attacks by wild animals. The archetypal dwelling, a fundamental structure of simple construction, over time gave way to more complex buildings with more intricate functions. Therefore, we understand that the role of architecture evolved with human development.

Human progress in all areas has created new needs, many of which architecture once again responded to. Among these needs, which greatly influenced building activity, was the human

need for interaction and social coexistence. Architecture responds to this need, not only by addressing the form of the individual space, but now by defining the relationships between individual-family homes and the formation of collective spaces.

In this research paper, starting from the observations above, an attempt is made to answer questions related to individual and, more importantly, collective habitation. The key questions are two: first, why does this need arise, and second, how is it addressed? Within the framework of this study, historical examples from all over the world and from the distant to the more recent past were examined. In this way, observations were made regarding what drives people to coexist, what factors shape individual, family spaces and collective spaces, and how the relationships between individual and collective shells are determined. Furthermore, conclusions were drawn about how spaces affect people's lives.

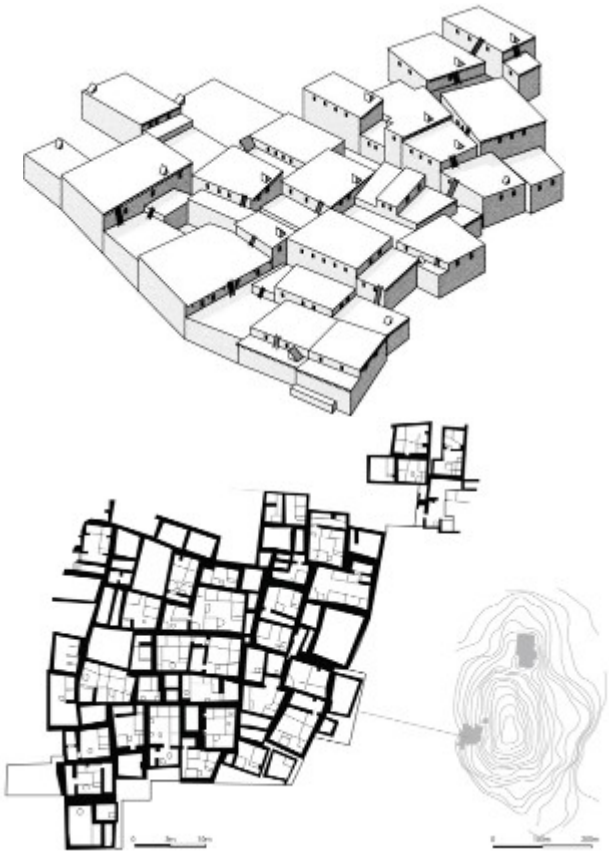
As in recent years there has been a 'return to the neighborhood' and significant changes in housing models, this research focuses on community, social organization, and the spatial forms of this need. Through the study of the past, an attempt is made to give answers for the future, as the need remains the same—the need to 'belong.' And architecture is once again called upon to resolve it.

Traditional settlements from the Neolithic era to the 19th century

In his 1969 book *House Form and Culture*, Amos Rapoport writes: "The physical environment of man, especially the built environment, has not been, and still is not, controlled by the designer. This environment is the result of vernacular (or folk, or popular) architecture." Rapoport's observations highlight the importance of traditional architectural wisdom, which can offer valuable insights for designing modern co-living and public spaces. By revisiting and adapting these principles, we can address contemporary challenges and better meet both practical and social needs.

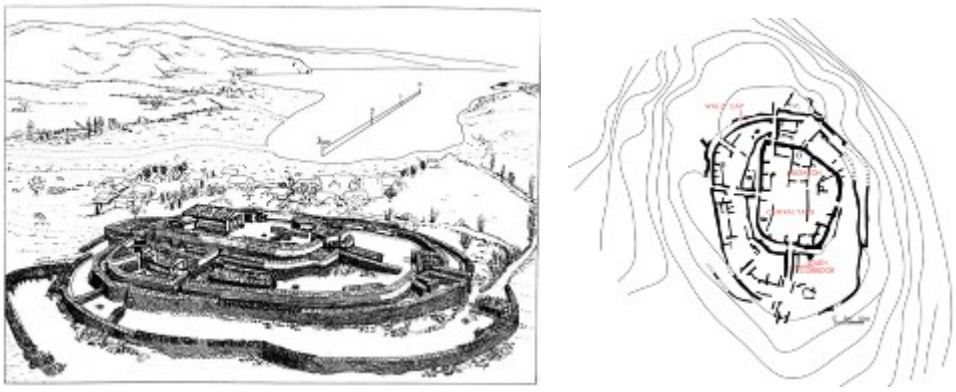
Below, we will analyze a variety of examples of settlements that developed between 6700 BC and 1900 AD in different regions of the world. We will examine how the community develops and how public and private spaces are shaped within it. What are the factors that influence the organization of these spaces, and who determines them? We will also explore the significance of these spaces for the community after their creation and the symbolic meanings they acquire. Finally, we will study how the spatial development and structure of the community affect life within it and how they often serve as a means of social education and social control for its members.

In the first case study, Çatalhöyük in Turkey, two seemingly contradictory spatial configurations emerge. At the lower level, there is a highly enclosed structure, while at the upper level, an open, communal space is prominently featured. The settlement consisted of clusters of rectangular family dwellings, interspersed with communal courtyards accessible from the surrounding homes. Entry to the houses was via a hole in the roof, with access provided by a ladder that led directly into the interior. Despite its compact form, which enhanced the settlement’s fortification, an unconventional circulation system and public space were created through the activation of the roofs—a level that typically lacked functional purpose.



1.Neolithic settlement Çatalhöyük, South Turkey, 6700 - 5650 B.C.

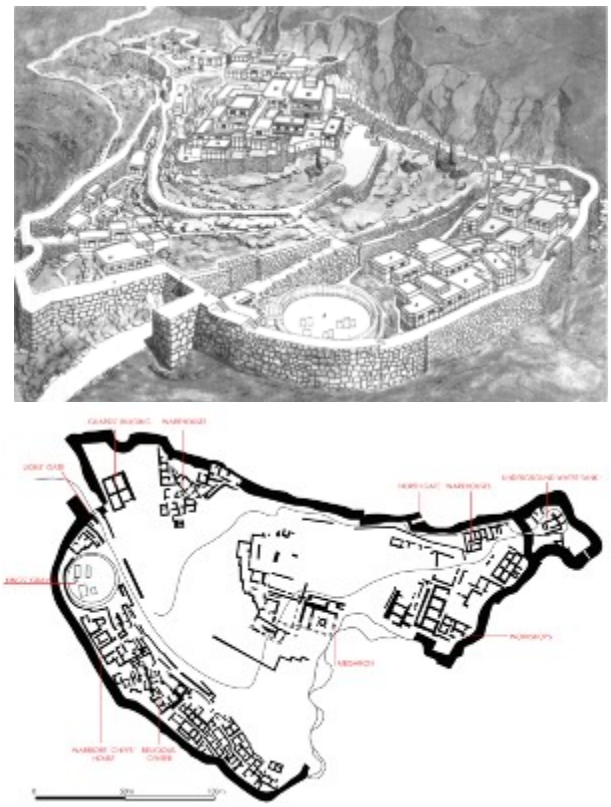
The Greek Neolithic settlement of Dimini offers a clear example of how spatial organization reflects social structure. A hill was surrounded by six protective walls, creating a highly fortified center that housed the main open communal space, known as the Central Yard, along with the *Megaron*, the house of the Lord. Within the walls, spaces were dedicated to economic and administrative functions, while private dwellings were located outside, practically unprotected. The archon-centric system of governance was reflected in the settlement's design, with administrative and authoritative spaces placed in central, prominent, and secure locations.



2.Neolithic settlement Dimini, Volos, Greece 2400 B.C

The organization of Mycenae was also archon-centric, like that of Dimini. Within the Acropolis, surrounded by walls, stood the *Megaron*, temples, the king's graves, workshops, and warehouses where crops were stored. The residential areas, however, were located outside

the main settlement, indicating that the core of the community was reserved for what was deemed most important by each society.



3.Mycenae, The Acropolis, 1600 – 1100 B.C., perspective view and masterplan

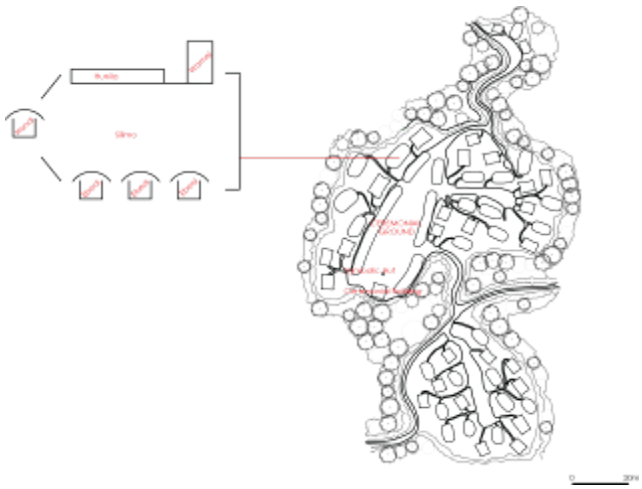
After the Mycenaean era, the form of settlements evolved with the shift in the administrative system. The first city-states of Ancient Greece emerged, and Democracy became the prevailing political system. As a result, communal spaces and public buildings became the focal points of the community, and houses were integrated into the urban fabric. The cities were organized on a grid layout, with public spaces and buildings positioned in prime locations, their placement determined by the function of each structure. Over time, residential areas developed around these central spaces. The democratic spirit of the era is also reflected in spatial organization. A notable example of this urban form is Ancient Olynthus.

4.Ancient Olynthus, 8th – 2nd century. B.C., Masterplan

Pile dwellings represent a very different type of settlement. In this case, there is no planned organization; the buildings are scattered randomly over the water. Despite the lack of urban planning, certain circulation and communal spaces are known among the inhabitants, whose survival in such a challenging natural environment relies on their cooperation.

5.El Cienega Grande, pile dwelling, Colombia

For the Papuans, religious beliefs play a central role in the development of villages. The heart of the village is the ceremonial ground, where religious buildings are located, and ceremonies are held. The houses are arranged in a circle around this central space. The structure of the settlement mirrors the design of the houses, with family life organized communally. Each residence consists of a cluster of buildings surrounding a central courtyard.

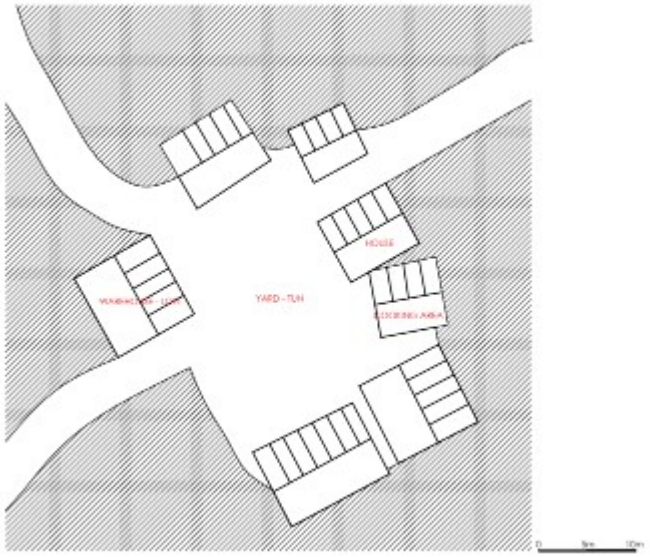


6. Maginpol, Papuan traditional village, New Guinea

In the settlements of the Iraqi moorlands, a distinctive feature emerges: hospitality was at the core of the community's value system. As a result, the most prominent structures were the *il mudhif* (guesthouses), which were built with exceptional care and luxury, standing above all other buildings. Over time, the function of the *mudhif* evolved, transforming into spaces for gatherings and ceremonies, further emphasizing their central role in the social and cultural life of the community.

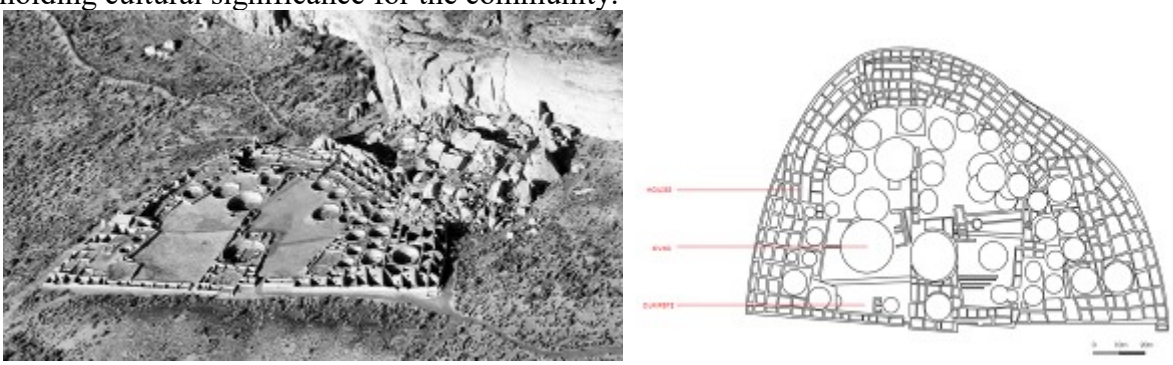
7.Il mudhif of an Iraqi moorland settlement

In Norway, the concept of community first emerged during the Medieval period, when multiple families came together to establish farms. Over time, the farms from the same region were consolidated to form villages. The farms themselves typically featured buildings arranged around a central yard, known as the *tun*, a layout that was preserved when the first villages were formed. The most important building within these communities was the cereal warehouse. As the largest and most prominent structure, it symbolized the agrarian nature of society at the time.



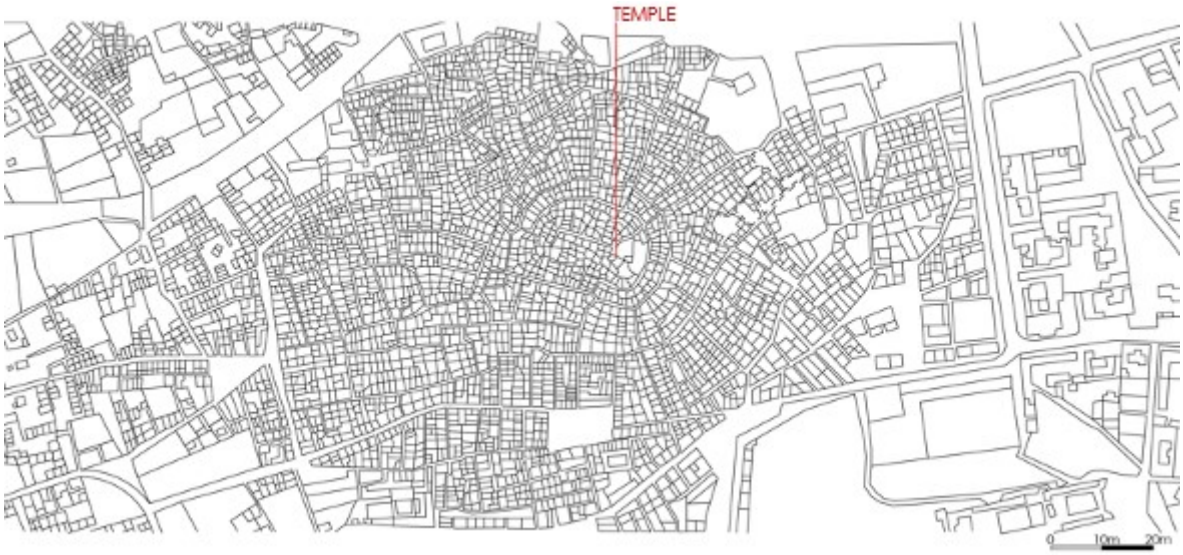
8. Norwegian farm, organization around the tun

A similar example can be found in Pueblo Bonito, an Anasazi village, where cereal warehouses held significant importance. Over time, these structures took on ceremonial roles, evolving into temples known as *kivas*. The kivas were centrally located within the settlement, and a square lay between them. Perhaps the most intriguing feature, however, was the creation of a dumpsite to the south of the square. Unlike the typical practice of removing waste from living areas, this dumpsite—a growing pile of garbage—became a landmark over time, holding cultural significance for the community.



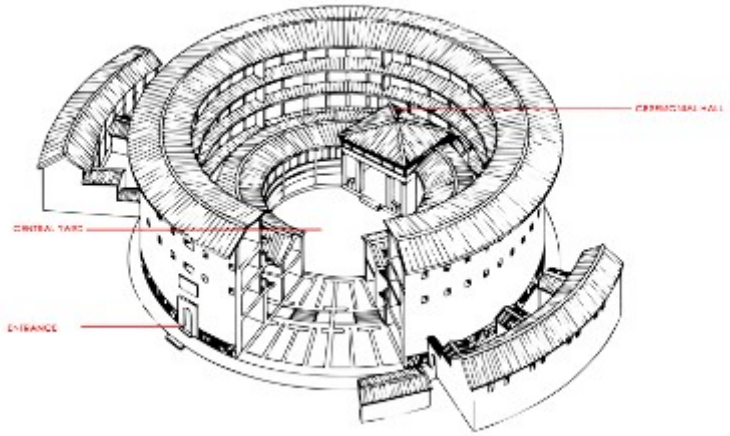
9.Pueblo Bonito, Southwestern America, view after the excavations and masterplan

Ghardaïa is a typical example of a traditional West African settlement, where climate and religion played pivotal roles in shaping its spatial organization. The influence of Islam is evident in the settlement's design, particularly through its internally walled structure and the central placement of the mosque. The narrow covered streets and small public spaces reflect the strict social customs rooted in Islam, while houses were designed without windows facing the street. Another notable feature is the creation of a secondary circulation system on the roofs, reserved exclusively for women.



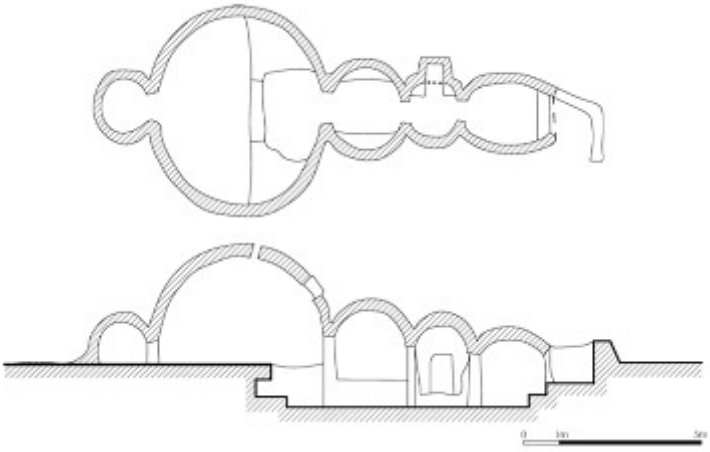
10. Ghardaia, Masterplan

To protect themselves, the Hakka people built the Tulou—large, circular structures that housed entire communities around a central courtyard. Within these buildings, all members of the community lived in shared rooms, creating a sense of equality by placing everyone on the same social level and challenging the traditional hierarchy. The courtyard itself served as the heart of communal life, accommodating spaces for schools, markets, and social gatherings.



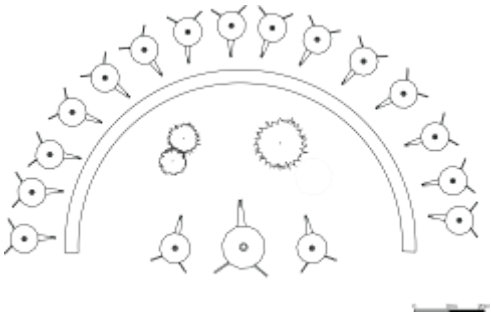
11.Hakka Tulou, House– communities, China, 1100 - 1900 A.D.

The winter dwellings of the Eskimos, the igloos, are an interesting case, not only because of their suitability to the climatic conditions of the area but also because they are homes for entire communities. They are not inhabited by individual families, but by larger groups, sometimes as many as 50 people. At the farthest point from the entrance, there is a "sofás" (a kind of sleeping area) that is used for both sleeping and social gatherings. It is a distinctive feature that, for such a private activity as sleeping and the most extroverted activity of the community, the gatherings, the same space is used. This fact can be linked to the size of the group living in the igloo.



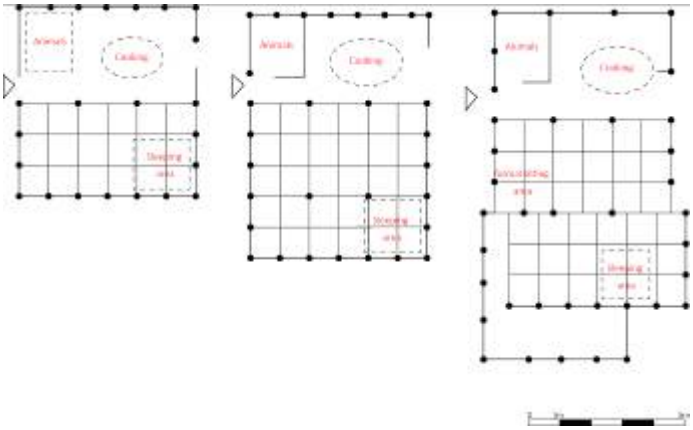
12.Typical floor plan and section of the igloo

The Sioux conical huts were arranged in a semi-circle, facing the larger, centrally located tent of the tribe's chief. For the Sioux, the design of the hut reflected their cosmic beliefs, with its circular shape symbolizing the idea that the universe itself is circular. Both the huts and the settlement served as an educational tool for the youngers, as the values of the community were imparted through daily life.



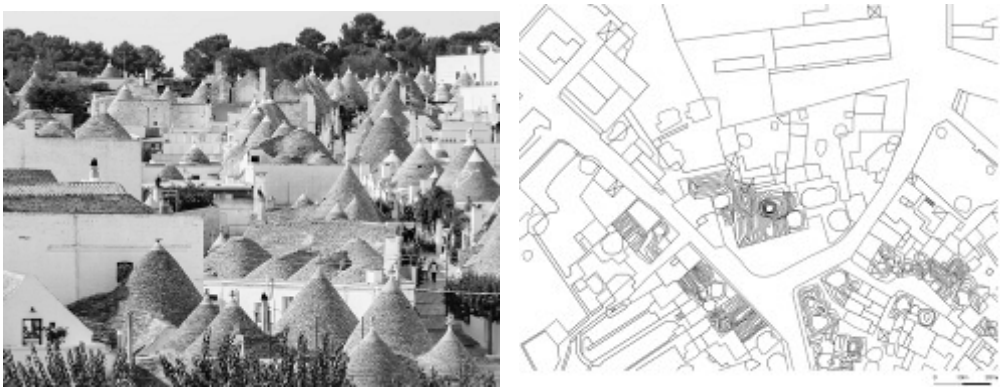
13.Wigwam Village of the Sioux, Native Indians of North America

An interesting feature of 16th-century Japanese farmhouses is that multiple families lived together in large, open-plan buildings that accommodated everyday life, work, and social activities, including religious ceremonies.



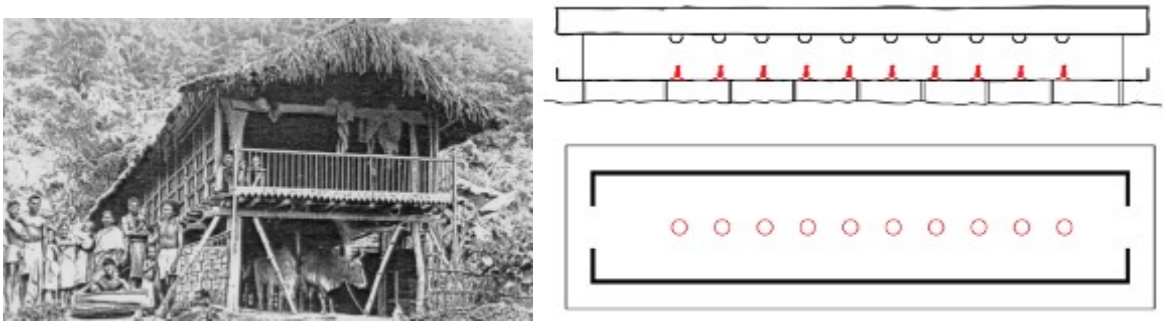
14.Japanese farmhouse “minka”, examples of floor plans

The domed buildings known as trulli in Alberobello are a unique case due to their perfect adaptation to the surrounding environment. Their use varies, from dwellings and living spaces to storage areas. The trulli were made from limestone, a material abundant in the region. They had few openings on the southern side, for climatic reasons and internally they were painted white to enhance the light. In the case where a trulli served as a residence, it consisted of a large central square room to which smaller rectangular rooms were attached. An increase in the size of the family led to an increase in the number of rooms, thus expanding the trulli, while maintaining its overall morphology and, consequently, the cohesive form of the settlement.



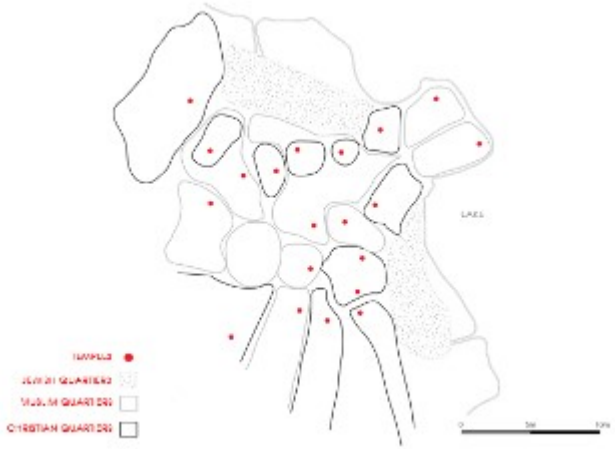
15.Alberobello

The Nishi, an Indigenous tribe, lived in longhouses—large wooden structures that housed the entire community. Privacy was nonexistent, and all activities, both daily and social, took place in the same open space around the twelve hearths at the center of the longhouse.



16. Longhouse of the Nishi tribe

In medieval Ottoman cities, the market occupied the center, while different ethnic groups lived in distinct, separate districts. Within each district, the spatial layout was consistent, with houses arranged around a religious center that also housed a square, a fountain, and small shops. Ioannina is a notable example of this urban design. Finally, the traditional villages of 18th-century Greek islands offer another fascinating example. The need for security led to tightly packed settlements, such as the Chora of Mykonos. New dwellings were often added within the existing layout of the village, typically over shared spaces like streets, and always with the consent of neighbors. As a result, the evolution of these settlements was deeply intertwined with social dynamics, with each influencing the other.



17. Ioannina, 1850, a Medieval Ottoman City

18. Mykonos, Chora , Masterplan

Identification of similar patterns in the case studies

The examples studied represent different temporal and spatial expressions of the human need for cohabitation. For the philosopher Henri Lefebvre (Lefebvre, 1968) "the settlement is the projection of society onto the land", while the sociologist Manuel Castells views settlements as products of the social activity of people (Castells, 1972).

In all the examples of Vernacular Architecture, the main factor shaping the space and forms was the fulfillment of the survival needs of people in relation to the specific conditions prevailing in each area (e.g., climate, topography, natural phenomena, wild animals, hostile invasions, etc.). Living together was one of those needs. The available local materials were also playing a primary role. The solutions resulting from the above were influenced by myths, local traditions, religion, economy, family and social organization, customs, traditions, and any other social imperatives. The outcome was a result of a combination of all the aforementioned factors, with some of them taking precedence over others in shaping private dwellings and their arrangement to create settlements.

By studying these cases, we can identify four distinct patterns in how public space is created and how it influences the whole settlement design. The first pattern involves settlements centered around an open space, which serves as the core of social and public life. Key public buildings typically surround this space, with houses forming an outer layer. Two

examples of this type are the Neolithic village of Dimini in Greece and the villages of Papua New Guinea.

The second pattern involves settlements organized around a central public building, which serves as the focal point of the community's culture and daily life. The function of this building varies depending on what each community considers important; in every case, however, the central building is the most important for it. This building may be the residence of the community leader and/or the administrative center, like the Mycenaean Palace. It could also be a religious building, such as the mosque in Ghardaia and other Muslim cities, or the religious buildings in Medieval Ottoman cities, as well as the kivas of the Anasazi.

The third pattern features settlements that develop more freely. The public buildings and the shared spaces are scattered among the dwellings and stand out as places of social interaction, mainly due to their location being known to the residents. This scattering usually results from the topography and the specific land conditions of the area. A characteristic example is Olynthus, where we saw public buildings and spaces being formed where the land could accommodate them, leading to their dispersion among the dwellings. In this category, we can also include the pile settlements of South America, where the circulation and gathering spaces are well known to the inhabitants and serve as reference points for them, despite being scattered among the dwellings within the marshland. Another notable example of this is Ancient Olynthus.

The fourth pattern involves settlements where the entire community lives in a single building, sharing both everyday and social activities within the same space. The everyday life space is the same with that of social activities, and all aspects of daily life have a strongly collective character. Within the community building, the same space may be used simultaneously for both the most private and the most social activities, as we saw happening with the sofá in igloos, which serves both as a sleeping area and a gathering space. Of course, there are also cases where within the building there is a separation of areas, with each area being used for specific activity. For example, in the Longhouses of the Native Americans, which house the entire community, there are ten to twelve hearths in the center, associated with the communal preparation of food, thus forming part of the dwelling where there is greater interaction among the inhabitants. These settlements can be seen as early examples of communal housing, which influenced the development of modern collective living spaces.

Communal living since the industrial revolution until present

During the Industrial Revolution, rapid population growth and urbanization brought large numbers of people into cities to work in factories. For the first time, living and working spaces were separated, coinciding with major economic shifts and social stratification. These changes gave rise to early socialist theories and the formation of workers' syndicates. In response, the first collective housing complexes were developed, both to accommodate workers and as utopian experiments.

In 1844, a group of workers established a shop to make essential goods accessible to everyone. This shop, named the Rochdale Equitable Pioneers Society, is considered the founding moment of the modern cooperative movement.

Later, the goal of bridging the gap between the rich and the poor—both physically and socially led to the Settlement Movement in England, which spanned from 1880 to 1920. This idea was physically embodied in Toynbee Hall, a charitable initiative where students and low-income families lived together in the East End of London, aiming to improve the living conditions of the latter.

19. Toynbee Hall, 1902

The development of cooperative relationships to improve everyday life led to a preference of collective life. Between 1918 and 1923, poor residents of Vienna established self-sufficient settlements on the outskirts of the city after World War I. The residents cooperated with the municipality to create settlements based on the principles of the Garden Cities, residential complexes surrounded by gardens. This movement was called the Viennese Settlers' Movement. Among the first such residential complexes were those in Rosenhügel, Flotzersteig, Heuberg, and Hoffingergasse. Although the construction of these settlements was initially started by the residents, several well-known architects, including Adolf Loos and Josef Frank, involved in this movement.

20. Hoffingergasse Housing Estate Erich Faber, Josef Frank, 1921-1924

Co-living complexes were also created to improve sanitary conditions for the poor. For example, in Copenhagen, a group of doctors established Brumleby, a settlement that included not only housing, but also a shop, a kindergarten, and public baths. Similarly, Jean Baptiste André Godin, an industrialist inspired by Charles Fourier's manifesto on the Phalanstères—utopian communities where 500 to 2,000 people live and work together in one building—

constructed a building near his factory in 1864. This facility, called the Familistère, provided housing for his workers and included amenities such as a school, laundry rooms, a shop, and baths.

21.Brumleby Housing Complex, 1854-1856

22. Life in the Familistére , 1864

Identification of collective housing typologies

As in the first part, we can also identify distinct typologies of collective housing here. The primary distinction lies between buildings and settlements. Settlements are typically designed as garden cities, while buildings can be categorized into three different typologies.

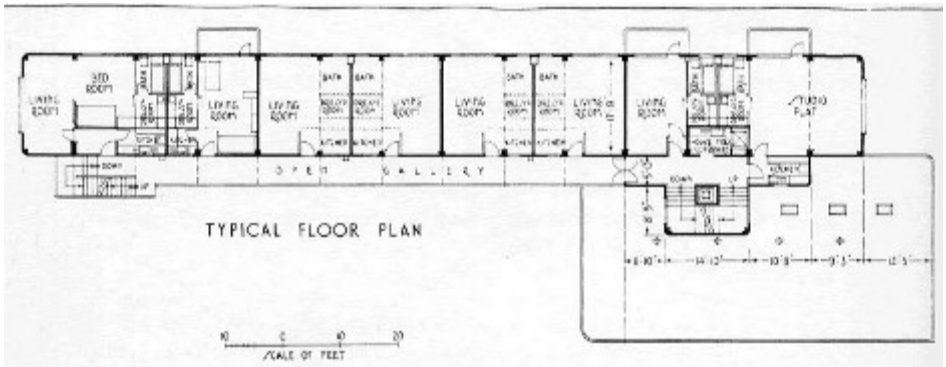
In the first typology belong the complexes where multiple families live around a central yard. These are multi-story, enclosed buildings with apartments on each floor. The families' apartments open onto corridors with balconies facing a covered internal courtyard, which serves as a space for social interaction. However, no other shared spaces are included. An example of this is the *Familistère* we saw earlier.

23. Celebration in the central yard of Familistére, 1909

The second typology can be named “city within urban housing estates”. These buildings follow chronologically. They were built in the first half of the 20th century and incorporate into a large complex residences, schools, shops, medical and sports facilities, cultural spaces, and shared public courtyards and squares. Essentially, they aim to include all the functions of a city within a single building or architectural complex in an effort to make it self-sufficient. The Unité *d'Habitation* by Le Corbusier is the most iconic example of this model. There, the element of the city's streets is introduced through public corridors on every third floor, while public programs are integrated into the roof. The rooftop is transformed into a garden and includes sports facilities (a running track and swimming pool), a gym, and a kindergarten. Also, the Barbican in London, designed by Peter Chamberlin, Geoffrey Powell, and Christof Bon, and built between 1965-1976, is such an example. In addition to residential spaces, the complex includes underground parking, which frees up space for gardens and squares. It also integrates a theater, library, museum, schools, and shops—essentially, all the functions one might encounter in an entire city. Finally, Oscar Niemeyer designed the Edificio Copan building in São Paulo between 1952-1966. In this building, different housing typologies and shops are integrated into a single volume. There is a strong diversity of spaces and functions, as is the case in Brazilian cities. Such complexes, adapted to modern needs, are still being built today.

24. Unité d' Habitatión, Le Corbusier, 1947-1952

In the third typology belong the housing estates with communal living spaces. In these buildings, each resident has their own private space, while communal areas are available for use at their discretion. Shared spaces like kitchens, living rooms, and laundry allow residents to connect and share aspects of their daily lives. One example of such a complex is the Isokon Building in London, designed by Wells Coates. It included 36 apartments with the minimum required living spaces and a small kitchen. The goal was for the residents to use the large, shared kitchen in the building, which was connected to the apartments via an elevator for transporting goods. Another example of such a complex is the Narkomfin Building by Moisei Ginzburg and Ignaty Milinis in Moscow. In this complex, apartment buildings are connected to smaller ones that house spaces for communal activities. These include a library, gym, shared kitchen, kindergarten, and laundry.



25. Isokon Building, Typical floor plan

Conclusions

In conclusion, the evolution of communal living reflects society's changing needs—from the quest for security and social cohesion to the drive for improved living conditions and shared resources. Whether through self-contained settlements, multi-functional buildings, or integrated communal spaces, each typology addresses the economic and social challenges of its time. These models of collective living have played a pivotal role in shaping both communal and urban life. As we now face the question of how to proceed in the field of co-housing, the principles behind these early experiments remain highly relevant, offering valuable insights into the potential for more sustainable and inclusive urban development.

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