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COHOUSING AND COLIVING - COMPARATIVE ANALYSIS OF TWO ALTERNATIVE HOUSING TYPOLOGIES BY REVIEWING CONTEMPORARY TRENDS

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Abstract. *Throughout history, human interdependence has been manifested through various forms of housing typologies that imply some form of coexistence of unrelated persons. The two alternative housing typologies that are quite common in more developed countries today, cohousing and coliving, attract a lot of attention of both architects and scientists. Scholars are still actively dealing with determining the motives and the clear typological definition of these two typologies. Following a review of the basic characteristics through a historical overview and contemporary works of the two mentioned residential typologies, this paper presents a comparative analysis of their basic spatial and functional characteristics. The presented examples and characteristics can serve as a basis for further research, understanding and defining cohousing and coliving housing typologies.*

Key words: c*ohousing, coliving, alternative housing typologies, collective housing, motives, characteristics*

1. INTRODUCTION

Dramatic demographic and economic changes that are constantly occurring in society globally, affect all aspects of life, in many ways the housing and its general perception, and consequently the housing structures themselves. The new world order influenced the discrepancy between the conventional way of living and modern (alternative) housing typologies. The conventional way of living was based on single-family houses designed for typical families from the 1950s, with a "bread-providing father and a full-time housewife", while the modern way of living is characterised by smaller households, women working outside the house, and a growing number of single parents, older people, and single people living alone. Modern households often face a crisis of child care, social isolation and a chronic

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lack of time, in large part because people live in a community that no longer suits them, or can even be interpreted as unexciting. The increasingly mobile population has distanced many households from their extended families who have traditionally provided social and economic support. Things that people once took for granted, such as family, community and a sense of belonging must now be actively sought (McCamant & Durrett, 2011).

The demand for new housing typologies is increasing in the field of urban planning. In a way, this can be interpreted as a response to the modern paradox that in contrast to globalization and industrialization, there is a growing desire and need for security, social ties, and community (Castells, 1996).

Research has shown that in the Netherlands and the United Kingdom, young adults were found to be the most lonely generation, and around three-quarters of young adults consider this topic a taboo. This is a worrying fact, especially since research shows that loneliness and social isolation may represent a greater public health hazard than obesity. It can be concluded that the need for togetherness and belonging is closely related to mental health, a sense of security, and civic responsibility. By fostering social interaction and cultivating networks of support a 'sense of community' is enhanced and social capital is built (Chaskin & Joseph, 2010).

Most scholars agree that the built environment can play an important role in creating new ties between people and promoting social interaction. Certain characteristics of a neighbourhood or housing complexes are found to promote interactions and foster a sense of community. Thus, cities face the challenge of developing attractive, but compact urban housing areas that pay attention to a sense of community and human interaction (Hoppenbrouwer, 2019).

In this context, the re-development of an "alternative" housing typology - "collective housing" can be seen in many developed cities worldwide. This typology is quite general and can be further divided into cohousing, coliving, intentional communities, communes, etc. The main characteristic of this typology is that it focuses on sharing, togetherness, and collectivity (Tummers, 2016).

Traditional cohousing has high levels of user involvement in planning, construction, and management and is a resident-led scheme. More recently, another typology is in focus. Coliving has many similarities to cohousing but is developer-led. In part, coliving responds to the increasing demand for affordable, smaller urban dwellings (Hoppenbrouwer, 2019).

2. COHOUSING – CHARACTERISTICS AND RELEVANT EXAMPLES

2.1. Cohousing characteristics with historical review

Numerous definitions of the term cohousing (also referred to as co-housing) can be found in the literature, but all authors agree that cohousing implies the coexistence of a large number of households (15-40) in a community consisting of private homes and shared community space (McCamant & Durrett, 2011, Williams, 2005).

Defining characteristics of cohousing by most of the authors are:

- Co-developed, co-designed, and co-organized with the group. A genuine and authentic process of participation in creation and functioning;
- Extensive common facilities that supplement and facilitate everyday life. Common facilities are perceived as an extension of each household's own private house;

- Designed to facilitate interaction in the community (pedestrian-oriented and accessible for people with disabilities);
- Complete maintenance and guidance by tenants;
- No hierarchy in decision making;
- Balance between privacy and community;
- Safe environment for children with a high level of support;
- Mixed generation environment;
- Ecological design, with emphasized pedestrian communications and large open spaces.

Cohousing is a part of a common housing trend for which there is an increased interest. The physical layout of cohousing facilities consists of several private homes combined with shared spaces and facilities, which support togetherness and balance between privacy and community. "Danish cohousing remains the gold standard for cohousing communities around the world" (McCamant & Durrett, 2011). The “gold standard” qualifier can surely be debated, but it is inevitable that cohousing has developed (over the last five decades) into a widespread and well-established alternative to conventional housing in Denmark and that must be historically associated with this country.

The modern theory of cohousing originated in Denmark and is believed to have been fueled by the newspaper article "Children should have a hundred parents" by Bodil Graae. Guided by their needs and ideas, members of 50 families came together to create a suitable living environment for themselves. This group was divided into two groups that developed joint projects Sættedammen and Skraplanet, which are considered to be the oldest known modern cohousing communities (McCamant & Durrett, 2011).

The first modern cohousing creation is considered to be the community “Sættedammen”, built on the outskirts of Copenhagen, Denmark, in 1972. Members of 27 families hired architects Theo Bjerg and Palle Dyreborg to create a new type of housing that redefined the concept of neighbourhood, by combining the autonomy of private housing with the benefits of community living.

(a) (b)

Fig. 1 (a) Sættedammen ground floor plan and (b) Sættedammen central courtyard (source: https://www.arkitekturbilleder.dk/bygning/saettedammen)

The entire design process relied on the needs of pre-known tenants, which greatly influenced its appearance and functionality. The development comprises 27 individual units (4 different types of floor plans) that contain all the necessary facilities for the

complete and uninterrupted functioning of this residential household (Fig. 1 (a)). The housing units are arranged in two north-south oriented rows, with a common central courtyard in between. Housing units can be typologically classified as row houses. The houses themselves are built using a modular design, some one-storey and some two storey like stacked bricks (Fig. 1 (b)), allowing the interior walls to be moved around to suit the needs of the residents. All of them are accessed separately from the ground floor, and in addition to the entrance from the common central courtyard, each unit has access from the back, which increases the level of user privacy. Both rows have centrally inserted common areas (common houses).

Common areas consist of additional facilities (playrooms, workshop rooms, guest rooms, laundry, etc.), and facilities that are already located within the personal housing units (kitchen and dining room), larger and made for common use.

The parking area is located on the perimeter of the property. This allows for pedestrian areas around homes and incidental interactions between tenants. The common central yard is dominated by green areas, pedestrian paths, and other common use facilities.

2.2. Cohousing developments today

2.2.1. Marmelade Lane, 2018, Mole Architects, Cambridge, UK

Marmelade Lane is the Cambridge's first cohousing development, also referred to as K1. The project arose from City Councils' idea to directly support the emergence of alternative housing typologies and represents a viable approach nationally for solving the current lack of supply in the housing market.

Designing this cohousing community was a complex task, due to the large number of parties involved. City authorities, investors, designers, and future tenants actively participated in the creation of this cohousing complex. Homes are thus tailored to individual requirements without the risks or complexity of self-build, balancing personalization with the harmony of a visually cohesive architectural style.

This cohousing complex was planned for a mixed structure of tenants, families with small children, retired couples, and single households of different age groups, so the design requirements were wide. The development comprises 42 homes, a mix of two- to five-bedroom terraced houses and one- and two-bedroom apartments (Fig. 2(a)). Homes are arranged in terraces which front existing streets at the same time ensuring the development looks outwards as well as in. The terraces enclose the large shared garden with an open aspect to the south to maximize sunlight.

The residential buildings are set around a common green yard (Fig. 2(b)), and building with common facilities occupies one of the central places. Common facilities are designed to foster socialization, community spirit, and sustainable housing. They include large shared gardens with areas for growing food, playing, and socializing, as well as a flexible shared facility with a playroom, dining room, and kitchen for group dining, guest rooms, laundry room, etc. The communal facility is located on the peripheral part of the complex and consists of facilities needed for the maintenance of the entire neighbourhood.

(a) (b)

Fig. 2 (a) Marmelade lane ground floor plan and (b) Marmelade lane central courtyard (source: https://www.architecture.com/awards-and-competitions-landing-page/awards/riba-regional-awards/riba-east-award-winners/2019/marmalade-lane)

Parking is arranged on the perimeter of the complex, so the central space can be used for mutual activities of the tenants.

The entire project was done according to the highest standards of energy efficiency, passive systems were implemented using appropriate materials, and thus significantly reduced maintenance costs and increased quality of life.

2.2.2. Nanterre Co-Housing, 2015, MaO Architectes + Tectone, Nanterre, France

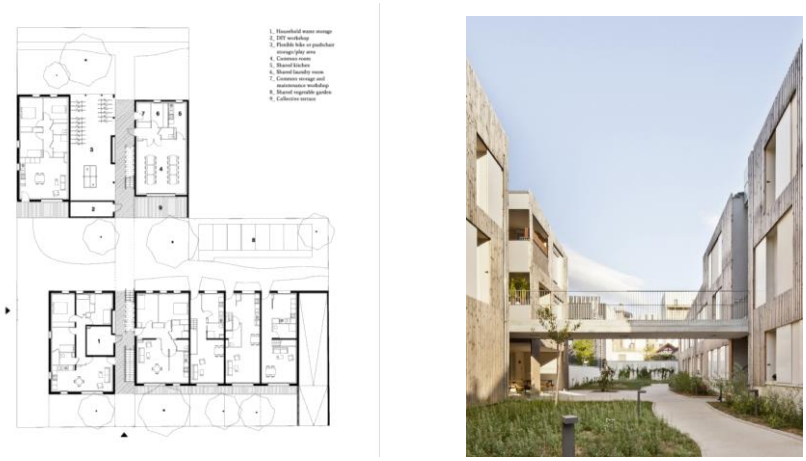
This cohousing community was created as a part of an experimental project for buyers of the first property in Nanterre, Paris, France. The site is located in the Paris suburban area, in a mixed use zone.

The project suggests a building height envelope from 2 storeys to 4 storeys to provide a soft transition between the two types of urbanization, imitating dynamic, but still harmonious environment.

The complex comprises two buildings connected by a footbridge for upper floor housing. Open shared space is placed between two main buildings. Nanterre Co-Housing open shared spaces include extensive shared gardens as the focal space of the community, with areas for growing food, socialising, and play. Common house consists of shared kitchen, a DIY workshop, and a large bike storage room.

The project comprises 15 housing units, with different floor plans (Fig. 3(a)), as the future tenants actively participated in the design process, as in the previous examples. All of them are accessed separately from the ground floor, or the footbridge floor. All the housing units are cross-through and benefit from considerable glazing. The location of the buildings facing mainly south, west, and east optimizes the passive solar gain.

The footbridge (Fig. 3(b)) is a place symbolizing the connection between the two buildings and residents. This footbridge is one of the strong features of the project since it overhangs the garden and the common room, enabling residents to interact in a very natural fashion.



(a) (b)

Fig. 3 (a) Nanterre Co-Housing ground floor plan and (b) Nanterre footbridge (source: https://www.archdaily.com/779035/nanterre-co-housing-mao-architectes-plus-tectone)

3. COLIVING – CHARACTERISTICS AND RELEVANT EXAMPLES

3.1. Coliving characteristics with historical review

Numerous definitions of the term coliving can be found in the literature. This term often overlaps with other forms of collective housing, primarily cohousing. Osborne defines coliving as a new housing typology, which is increasingly used and popularized, and whose main feature is housing in a rented space with spacious common areas and mostly smaller private spaces, fully equipped and managed by an independent administration (Osborne, 2018).

The term coliving refers to a form of coexistence in a living space, where the users are not members of the same family and voluntarily share the same living space, having the same or similar interests, intentions and the value system (Alfirević & Simonović Alfirević, 2020).

Coliving can be described as a group of smaller private units around shared space, in the same building. The equipment of private spaces is generally more modest since in most cases they are intended only for the function of sleeping, while other daily activities are planned in common space.

However, in comparison to other forms of collective housing, the motives influencing the formation of coliving communities are different. (Steding, 2019) Main motives can be described as following:

- Achieving affordable living by sharing the living space and the expenses;
- The possibility for users to socialise;
- Achieving more spacious living space and better content at a cheaper price;
- As a form of motivation for the elderly to contribute to the community, thus enjoying a long physical and mental activity;
- The possibility for users to participate and contribute to the community in accordance with their wishes or financial status, etc.

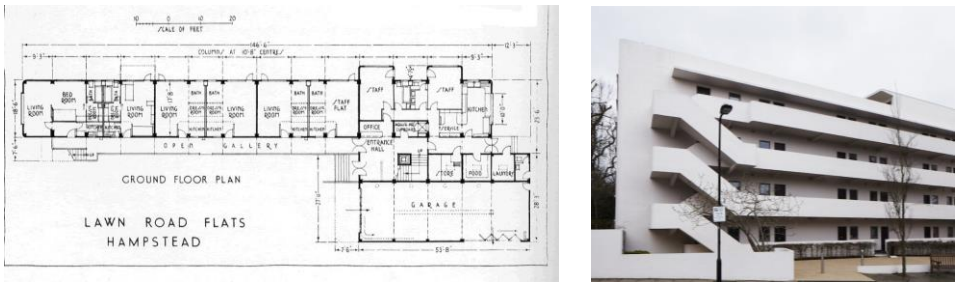
Coliving housing mostly attracts individuals with similar interests, often young professionals. This implies, among other things, shorter length of stay periods for residents in this type of housing facilities, which is a consequence of changes in people's interests and needs, which occur through different life cycles.

The authors agree that this modern form of housing is mainly related to areas with high degree of urbanization, as a response to the crisis of the housing market in large cities. (Osborne, 2018, Hoppenbrouwer, 2019)

Given the fact that the terms that define the forms of cohabitation are intertwined and often interpreted differently, the same happens with the interpretation of the first forms of coliving communities. Majority of the authors agree that the first coliving community is Isokon building (also referred to as "Lawn Road Flats"). Isokon was built between 1933-1934 in London and was designed by Canadian architect Wells Coates.

Isokon was designed as a form of shared living that moved beyond the nuclear family, heavily indebted to Le Corbusier's 'Vers une Architecture'. The development comprises 36 affordable apartments for young professionals that came fully furnished to encourage a minimalist lifestyle with a range of services available. Coates designed this as four storey block with two roof-top penthouses. The main elevation facing Lawn Road featured a cantilevered stairwell to the left (Fig. 4(b)), giving access to cantilevered balconies that are carried the full extent of the elevation. (Buss, 2012)

The main idea was to move all additional activities from the personal space and make them available to the tenants in the immediate vicinity. The building comprises distribution kitchen, restaurant, laundry, roof terrace, and spacious workrooms (Fig. 4(a)). The modernity of this project is also reflected in used materials, such as still and reinforced concrete, while the interior is mostly made of plywood.



(a) (b)

Fig. 4 (a) Isokon ground floor plan and (b) Isokon original staircases
(source: https://en.wikiarquitectura.com/building/the-lawn-road-flats-isokon-building)

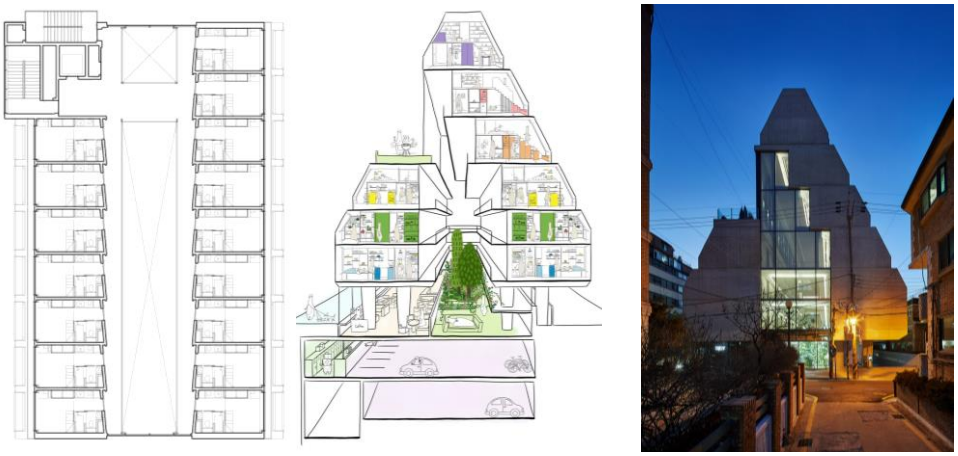
One cannot fail to mention the paradoxical nature of the functional concept of this facility, which is that the concept conceived as "affordable" at the same time implies that all life activities except sleeping and working are performed by a specialized service. Nevertheless, it was intended for the middle class, the working population, and was once home to great minds such as Walter Gropius, Marcel Breuer, and László Moholy-Nagy, architects and members of the Bauhaus movement, which further speaks to the architectural value of this work.

3.2. Coliving developments today

3.2.1. Treehouse Coliving Apartments, 2017, Bo-DAA, Gangnam-Gu, South Korea

This coliving complex is located in one of the central districts of Seoul, Gangnam, characterised by a high level of urbanization. Designed for single professionals and their animal companions, it is composed of micro-studios and micro-lofts.

In order to create spacious shared space for Treehouse, authors split the triangular concrete prism (Fig. 5 (c)), cutting through its centre with an atrium planted with large trees on the ground floor (Fig. 5 (b)).



(a) (b) (c)

Fig. 5 (a) TH 5th floor plan, (b) Perspective section, and (c) TH triangular concrete prism (source: https://www.dezeen.com/2019/08/12/treehouse-co-living-bo-daa-seoul-concrete)

The building comprises 72 units located on six floors. Treehouse's micro-apartments have different layouts on each floor, and housing units come in three different sizes. All units are designed with minimum dimensions, in the form of an open plan, and the areas of these three micro-apartments are: 16.5, 23, and 33m2.

Each residential unit is designed with a private bathroom, kitchenette, and small sleeping area, while all other facilities are shared and located in a common central atrium. Parking is arranged in the underground parking garage, as well as facilities for building maintenance. The green atrium takes on multiple functions, represents a gathering space, and allows access to all housing units. The ground floor of the central atrium consists of common kitchens, a laundry room, areas for pets, pantries, etc., while the first floor serves as coworking space. Stone flooring and benches in shared atrium aim to create a feeling of outdoor space. Details such as built-in modular storage and magnetic wall-paint have been designed to make personalisation of the spaces quick and easy, whilst door numbers are discreetly hidden to underline the impression of communal space.

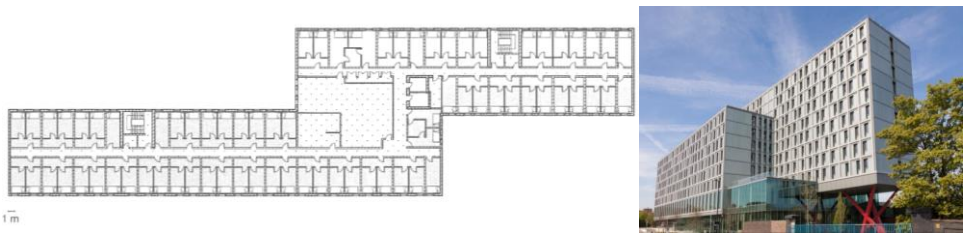
3.2.2. The Collective Old Oaks, 2016, PLP Architecture, London, UK

Young adults in London are faced with housing that is either expensive or inadequate. They are constantly being pushed out of urban centres, isolated, and marginalised. The designers, in cooperation with the start-up Collective, worked on developing a strategy for new and affordable ways of living for young professionals, based on high density, socialization, and togetherness.

The Collective Old Oaks is one of the most recognizable coliving typology project in Europe and currently the world's largest coliving building. The facility is located in the west part of London, in the Old Oaks neighbourhood, where significant measures of urban regeneration have been implemented in recent years. This hybrid facility connects residential and social spaces, where minimized living space is replaced by spacious and diverse shared facilities. It must be mentioned that the authors emphasize that this project is conceived as a "vertical" neighbourhood, and not as an isolated object.

The building consists of two slim tracts sliding across one another (Fig. 6(b)). Where the two volumes overlap, a central shared space was formed, which aims to enhance the possibilities for interaction between residents.

This 11-storey scheme comprises 323 residential units with 551 bedrooms, ground floor retail units, first floor co-working commercial space and common facilities for residents. All residents have access to these shared spaces, as supplementary to private space which includes only necessary amenities such as bedroom, bathroom and kitchenette.



(a) (b)

Fig. 6 (a) Old Oaks typical floor plan and (b) Old oaks sliding tracts
(source: http://www.plparchitecture.com/the-collective-old-oak.html)

Typical housing units are designed for one or two people. Most of the residential units are designed for two people and consist of a shared kitchenette and dining area in the entrance, and two bedrooms with private bathrooms. The units are designed with a great level of functionality and can easily be divided or merged with minimal interventions (Fig. 6(a)).

4. COHOUSING AND COLIVING - SIMILARITIES AND DIFFERENCES

As already mentioned in the paper, these two typologies of collective housing are often mixed and intertwined. Some authors interpret the term coliving as a modern substitute for cohousing, which can be justified by the fact that the coliving typology is more prevalent in the current circumstances, especially in more developed countries.

By reviewing relevant projects in the fields of cohousing and coliving, a comparative analysis of these two alternative housing typologies can be done.

To understand cohousing and coliving and their characteristics, similarities, and differences, one must primarily compare their initial motives.

The main motive for people seeking life in a cohousing community is socialization and a supportive community. Other relevant motives are mutual maintenance of complex, mutual child care, group performance of many regular daily activities such as dining, carpooling, free activities, etc.

The driving motive for people to enter a coliving community is usually the need for affordable urban dwelling, while socialization and strong neighbourhood comes second.

The physical appearance, location, functioning, etc. of the buildings of these two typologies are consequently different (following different motives behind them). This paper compares main characteristics of these two collective housing typologies (Table 1).

Table 1 Spreadsheet view of characteristics of cohousing and coliving

Categories	Cohousing	Coliving
1. Location	Suburban area	Urban area
2. Number of storeys	Low rise buildings	Multi-storey buildings
3. System of units grouping	Horizontal system of units grouping	Vertical system of units grouping
4. Connection to the ground	Direct connection	No connection
5. Green areas	Large, shared green areas	Usually no green areas
6. Involvement in design	Future tenants participate in the designing process	No involvement
7. Housing unit floor plan	By tenants needs	Typical unit
8. Housing unit equipment	By tenants	Already equipped
9. Private space	Single-family house features	Apartment features
10. Tenants structure	Usually diverse (different types of families, retired couples, single family households etc.)	Usually young adults (young professionals, millennials etc.)
11. Common facilities	Small number	Large number
12. Length of stay	Long-term	Temporary home
13. Management	By tenants	By specialized service

The comparative analyses of cohousing and coliving characteristics reveals the main distinctions between the two alternative housing typologies, which are sometimes mistaken in the literature.

5. CONCLUSION

Research into cohousing and coliving concepts can be described as a novel branch of researching housing architecture, and the number of scientific papers written on this topic in the past few decades is large (Alfirević & Simonović Alfirević, 2020).

There are many definitions of collective housing and its typologies. Since this topic is extremely interesting and according to many authors represents the future of housing, one

of the first steps must be understanding terminology and typology. The best way to do that is to observe both history and contemporary architecture worldwide.

By reviewing origins and representative contemporary works of cohousing typology one must conclude that this term implies living in an intentional community, driven by tenants' desire for socialization and supportive community in order of fulfilling basic individual needs.

By reviewing origins and representative contemporary works of coliving typology, it can be concluded that coliving implies a collective of young professionals, searching for affordable living in the city in troubled housing market.

By observing the characteristics of these two typologies, as given in Table 1., large differences between cohousing and coliving are determined.

Numerous examples of projects of these two categories designed worldwide, their names and architects thinking, shows that terminology is almost clear in practice work and that cohousing and coliving found their place in contemporary architecture practice.

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COHOUSING I *COLIVING* - KOMPARATIVNA ANALIZA DVEJU ALTERNATIVNIH STAMBENIH TIPOLOGIJA KROZ PREGLED SAVREMENIH TENDENCIJA

Međusobna zavisnost i benefiti koje donosi udruživanje su se kroz istoriju stalno ispoljavali kroz različite oblike stambenih tipologija koje podrazumevaju neki oblik suživota osoba koje nisu u srodstvu. Dve alternativne stambene tipologije koje su danas prilično zastupljene u razvijenijim zemljama, cohousing i coliving, privlače veliku pažnju kako arhitekata tako i naučnika. Teoretičari se još uvek aktivno bave motivima koji iza njih stoje i jasnim tipološkim određivanjem ovih dveju

tipologija. U radu je dat pregled osnovnih karakteristika kroz pregled prvih tvorevina i savremenih dela dveju navedenih stambenih tipologija i potom izvršena uporedna analiza njihovih osnovnih prostornih i funkcionalnih karakteristika. Prikazani primeri i izvedene karakteristike mogu da posluže kao osnov za dalje istraživanje, razumevanje i definisanje programa cohousing i coliving stambenih tipologija.

Ključne reči: *cohousing, coliving, alternativne stambene tipologije, motivi, karakteristike*