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Typology and Interiority of Cohousing in Europe 1981–2021

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Abstract

This work aims to research the connection between cohousing architecture and interiority. For this purpose, the analyses are structured in two phases. The first consists of the characterisation and identification of underlying typologies of European cohousing projects in the last three decades, 1981–2022. The second phase consists of the connection between the interiority concepts (in terms of planimetry, typology, spatial syntax, and interior spaces) and the cohousing architecture in the case studies selected from the first phase, which made it possible to compare cohousing projects and propose future strategies. The research identifies a typology with two clusters of cohousing projects of greater/lesser age and scale. The comparative analysis of the two selected projects, Malta Cohousing (Helsinki) and Schönholzer Strasse (Berlin), provides architectural proposals for compacting the shared and distributed interior spaces on the second floor of the projects, thus making them more usable and finding the points of greatest visibility at the perimeters or in the centre of the interior floor layouts. These proposals could reveal various possibilities for the design of spaces in terms of dynamic forms of the body-space relationships that characterise them and contribute to their improvement and the understanding of the functioning of the occupation and use of the different spaces, whether individual, collective, public, or private. These results fill the existing gap in the literature in terms of a better understanding and analysis of the connection between cohousing architecture and the concept of interiority while also contributing to stakeholders and policymakers in future decision-making.

Keywords: interiority, cohousing, typology, scale, spatial syntax

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Introduction

The importance and impact of cohousing design and the proliferation of this literature have been particularly evident in the last decade. Authors such as Ledent (2022) mention the renewed interest in this field (Czischke, 2018; Fromm, 2012; Lang et al., 2018; Tummers, 2016; Vestbro 2010) in Western Europe. However, as previously mentioned by Vestbro and Horelli (2012), cohousing had its origin two thousand years ago, when Pythagoras founded Homakoeion, a vegetarian commune associated with intellectualism, mysticism, and gender equality (Meltzer, 2006).

Regarding the origin of cohousing, Vestbro (2000) mentioned more than two decades ago that collective housing, in relation to cohousing, had its development in northern Europe, specifically in Denmark, Sweden, and Germany, whose growth slowed down, with Canada continuing to promote this housing system. Vestbro (1992) supplied a detailed explanation of the evolution of cohousing. The different types of cohousing are related to the word *Kollektivhus*, whose meaning, as cited by Vestbro (2000), is related to a multi-family dwelling with private apartments and common interior spaces such as a central kitchen and dining room, where the residents do not constitute a special category (Palm-Lindén, 1992). Other countries such as Belgium, Holland, Luxembourg, Austria, and Switzerland developed projects in this type of habitat. However, Vestbro (2010) addressed the different definitions or types of cohousing—cohousing, collaborative cohousing, collective housing, communal housing, commune, and cooperative housing—whose emphasis focuses on shared spaces, collaboration of residents, collective organisation, and collective ownership, among others.

The approaches to housing construction, when it affects the commons, consider various collective interior aspects as mentioned by Ferreri and Vidal (2022) or those focusing on collaborative housing (Czischke, 2018; Czischke et al., 2020; Fromm, 2012; Lang et al., 2018). The notion of interiority has expanded beyond the confines of the interior in the urban realm as a conjunction of urban and interior conditions (Shah & Muro, 2023). The different forms of organisational relationship, participation, or funding among the members or users of housing in its construction process are related to the type and variety of collective housing (Czischke, 2018).

As mentioned in Bossuyt (2021), forms of collaborative housing may vary in their objectives, services provided, or spatial interior design features. Some prioritise solidarity and care work, while others pursue environmental goals or housing affordability. Depending on

the degree of collectivism, the cohousing may include shared spaces such as gardens, laundry rooms, bicycle sheds, or even kitchens (Czischke et al., 2020). Vidali (2020) mentions the demarcation of different spaces, where public, private, and community are mixed and revealed with different layers of interiority through which the community is delimited and connected. Young (2023) argues that interiority and exteriority are not dichotomous oppositions but a contiguous whole. The transition from interior to exterior is a non-linear fluid exchange; in other words, interior and exterior are not distinct zones defined by a line of separation with varying degrees of porosity. For Atmodiwirjo and Yatmo (2023), the idea of interiority manifests itself in various ways, emerging through subjective modes of engagement with space and place, personal experiences, and ways of seeing. At the same time, interiority also manifests itself in physical entities that function as traces of inhabitation.

Vestbro and Horelli (2012) identify the two fundamental areas to consider in cohousing: the social context and the physical or architectural design. Considering these two areas together or separately, authors such as Tummers (2016) mention, after a thorough review of the literature on a decade of studies and publications on cohousing, that although it is a system with a future, the number of cases analysed is small and the absence of quantitative evidence to support claims is scarce. Tummers (2016) even shows the 'fuzzy' border in relation to terminology and its comparison between countries (French, English, German, Dutch, and Spanish). The broad and confusing conceptualisation of cohousing creates the risk of 'comparing apples with oranges.' As mentioned by Ferreri and Vidal (2022), the comparative analysis of housing cases presents complex and sometimes irresolvable problems of translatability and historical exceptionality.

This work aims to research the connection between cohousing architecture and interiority. For this purpose, the analyses are structured in two phases. The first one consists of the characterisation and identification of underlying typologies in cohousing projects in Europe. The analysis focuses on the last three decades, 1981–2022, and is based on project age and scale variables. The second phase consists of the connection of the interiority concept (in terms of planimetry, typology, spatial syntax, and interior spaces) and the cohousing architecture models in the case studies selected from the first phase. As mentioned in Ledent (2022), the size of a collaborative project can profoundly affect its interiority arrangements and social dynamics (Vestbro, 2010). However, this part has not received much scholarly attention. It is important to note that, in the second phase,

particular importance is given to the concept of interiority mentioned above. After rigorously selecting the case studies of the typology found in the first phase, a more detailed comparative analysis is performed on the selected projects. Findings from these analyses contribute to completing the empirical knowledge on cohousing architecture from the perspective of interiority.

Methods of Study

The first phase of analysis aims to identify the underlying typologies of cohousing projects in Europe. The data used in this analysis is extracted from several sources: De Jorge-Huertas (2018, 2019, 2020), Ledent (2022), Ring (2019), and Ruby et al. (2017), confirming a total of 63 projects found in Europe in the last three decades. Table 1 shows the main characteristics of the projects analysed. As can be seen, the projects range in age from 2 years (Zollhaus, Wambächli) to 41 years (Trudeslund, Tanthof).

Table 1
Characteristics of the 63 cohousing projects

	Age	Dwellings	Inhabitants	Collective surface	Private surface
Mean	12	47	109	504	3,613
Median	9	32	85	290	2,640
Min	2	5	10	0	40
Max	41	252	330	4,923	12,510

Source: De Jorge-Huertas (2019), Ledent (2022), Ring (2019), and Ruby et al. (2017)

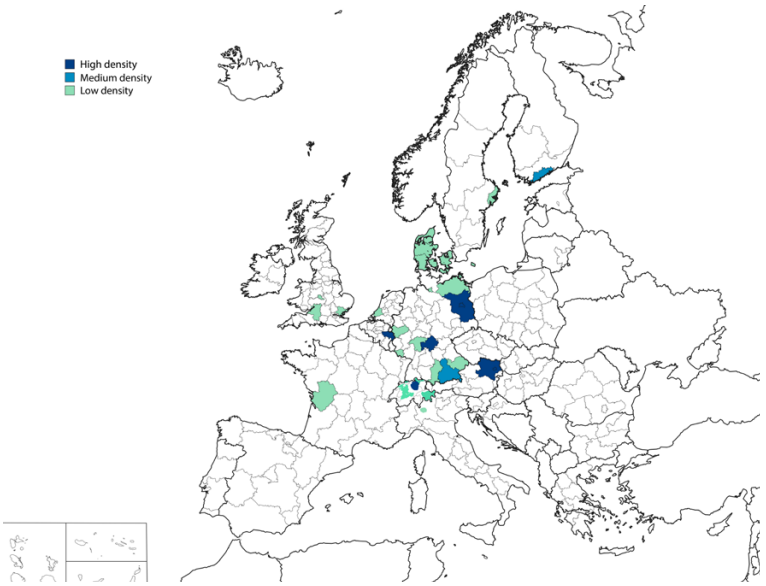

Figure 1
Location of cohousing projects (Image by authors, based on Ledent (2022), Ring (2019), and Ruby et al. (2017))

Figure 1 shows the spatial location of the projects according to their intensity and NUTS 2 (Nomenclature of Territorial Units for Statistics) disaggregation. As can be seen, the highest levels of project density are found in Germany, Switzerland, and Vienna. The medium and low-intensity projects are dispersed over a wider area, including the United Kingdom, Italy, France, and Finland.

A cluster analysis was performed to identify the typology of cohousing projects. As is known, cluster analysis forms internally homogeneous groups among its members (projects) but heterogeneous among themselves, finding each group according to the chosen/available variables. Subsequently, a discriminant analysis was used to control the reliability of the classification. The project grouping method used by Ward (1963) was the criterion chosen in the cluster analysis and Euclidean distance, given its wide use in a wide range of literature in different disciplines. The clustering of projects was done by finding the closest pair of groups (clusters) by combining them into a new larger cluster and then calculating the distance between it and the other remaining clusters. A dendrogram was generated to visualise the nesting process of all the projects.

The variables defining the projects were age, dwellings, inhabitants, collective surface, and private interior and exterior surface. These variables are considered to have the following interpretation: The age of the project could be associated with the design evolution according to the era, socio-economic conditions and their trends or legislative conditions, which could restrict or expand the architectural possibilities. Likewise, the scale and the proportion of the project offer opportunities for the configuration of space and its possibilities of habitability. Since there were measurement differences among the variables, standardisation of variables was performed using software Statgraphics 19 to mitigate this problem.

Once the typology or group formation was defined, one project from each cluster was subjected to further analysis and comparison in the second phase of the analysis. The criteria for choosing the projects were conducted by means of Social Network Analysis (SNA). The projects were ranked within each group above/below the median of the five variables mentioned; for example, for the dwelling variable, the projects were categorised into Small_dwelling or Big_dwelling. The objective of the SNA is to identify the position and relevance of the projects (nodes) in the network, in relation to the variables and their ranking mentioned. We used the indicators of centrality and intermediation capacity, degree centrality, closeness centrality, and betweenness centrality. These are the common metrics referring to the

literature that indicate the network characteristics. The Gephi software was used due to its visual power, its ease of use, and its algorithms, specifically ForceAtlas 2 for the visualisation of the network.

The second phase of analysis employed several methodologies considered in relation to the concept of interiority, such as planimetry, typology, and spatial syntax. Following Palm-Lindén (1992), the research focuses on analysing the spatial interior and exterior distribution of the chosen projects, including the connection and location of common spaces, using descriptive methods and spatial syntax. As mentioned by Vestbro and Horelli (2012), Palm-Lindén's most important analysis tool was the analysis of the interior space via spatial syntax, a method used to measure the depth and integration of each interior room in the whole spatial system. The method can also be used to map the 'ringiness' of a spatial system, meaning the alternative ways of moving through the interior spaces of the building. Considering its architectural interior elements (Koolhaas et al., 2018) such as stairs, corridors, and elevators, among others. This work uses the tool UCL DepthmapX 10 (Version 10.08.00r), which has been previously used by Conroy-Dalton (2002) and Turner (2007), among others.

Identification of the Typology of Cohousing Projects in Europe 1981–2020

Figure 2 shows the network analysis of the projects' characteristics. It illustrates the relationship of the projects with time depending on the size of the node. As can be seen, for example in the years 2010 or 2013, there was the highest number of project construction, especially in 2013, where the node was bigger. In this node, we can observe the cohousing projects in Dresden, Brussels, Vienna, Hamburg, Augsburg, Winterthur, and Helsinki. The table in the Annex presents the data for each cohousing project in more detail. It can be seen that the range for the Dwellings variable is between 5 (Sandberghof, Villa van Vijven) and 252 (Poolhaus). For the Inhabitants variable, the range is between 10 (Sandberghof) and 330 (Giesserei). For the Collective surface variable, the range is between 0 (Villa van Vijven, Sredzkistrasse 44, L'espoir) and 4,923 (Giesserei). Finally, for the Private surface variable, the range is between 40.2 (New Ground) and 12,510 (Zwicky Süd (Krawerk3)).

The cluster analysis of the 63 cohousing projects resulted in two clusters, as illustrated in the dendrogram in Figure 3. Although the analysis also explored other groupings of three and four clusters, with reliability near to that of two clusters, the grouping of two clusters was determined for its greater simplicity and optimal partitioning. Validation by discriminant analysis with two clusters indicated a

classification reliability of 96.83% (Wilk's Lambda = .257, *p*-value = .000). Cluster composition indicates 44 projects (69.84%) and 19 projects (30.16%) belonging to Cluster #1 and Cluster #2, respectively.

Figure 2
Cohousing project characteristics (Image by authors, based on Ledent (2022), Ring (2019), and Ruby et al. (2017))

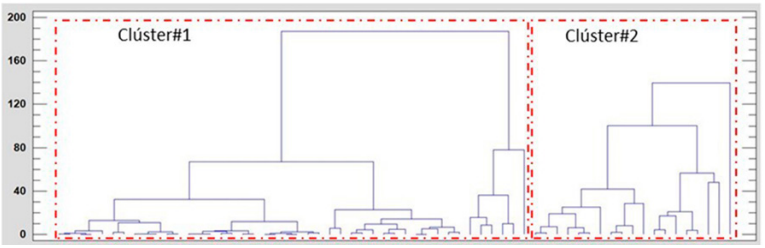

Figure 3
Dendrogram of 63 cohousing projects grouped into two clusters (Image by authors, based on Ledent (2022), Ring (2019), and Ruby et al. (2017))

The identification of the clusters was based on the mean values of the variables in relation to the two groups, and the result is presented in Figure 4. Cluster #1 comprises 44 cohousing projects, composed of the earlier projects but of a smaller scale in the four variables: dwellings, inhabitants, collective, and private spaces. Cluster #2, consisting of 19 projects, is related to more recent cohousing projects and a larger scale in the four variables mentioned.

Table 2 shows the presence of cohousing projects according to cluster membership and location. Berlin has a total of 13 projects or 20.6% of all the cohousing projects analysed. Ten of the projects, or 76.9%, belong to Cluster #1, which refers to the larger-scale projects

in all dimensions. This is followed by Zurich and Vienna, with an equal representation of nine projects in Cluster #1. Darmstadt is also less represented with two projects in Cluster #1 and one in Cluster #2. Brussels has only four projects in Cluster #1, while Helsinki has one project in each cluster. Munich and Winterthur only have projects in Cluster #2, representing the younger project and larger scale. The remaining 19 projects, not identified in the table, have one project included in Cluster #1 type, with the exceptions of Amsterdam, Albertslund, and Bern, which only have projects in Cluster #2. Further details of each project are illustrated in the Annex.

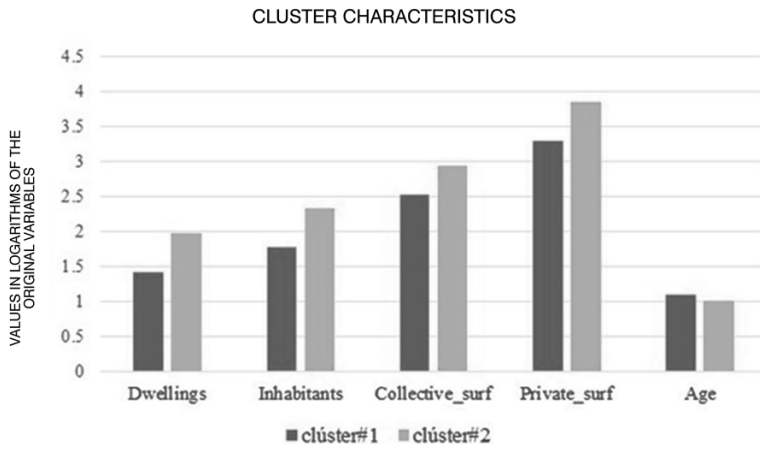

Figure 4
Identification of clusters according to mean values (Image by authors, based on Ledent (2022), Ring (2019), and Ruby et al. (2017))

Table 2
Location of cohousing projects by cluster

Location	Country	Number of projects		Total
		Cluster #1	Cluster #2	
Berlin	Germany	10 (76.9%)	3 (23.1%)	13 (20.6%)
Zúrich	Switzerland	6 (66.6%)	3 (33.3%)	9 (14.3%)
Vienna	Austria	5 (55.5%)	4 (44.4%)	9 (14.3%)
Brussels	Belgium	4 (100%)		4 (6.3%)
Darmstadt	Germany	2 (66.6%)	1 (33.3%)	3 (4.7%)
Helsinki	Finland	1 (50%)	1 (50%)	2 (3.1%)
Munich	Germany		2 (100%)	2 (3.1%)
Winterthur	Switzerland		2 (100%)	2 (3.1%)

Source: Ledent (2022), Ring (2019), Ruby et al. (2017), and further analysis by authors

Finally, Social Network Analysis (SNA) was performed to determine the projects to be further analysed in each cluster. According to the characteristics of the network of each cluster, Table 3 shows the differences in four characteristics: average degree of centrality, diameter, density, and degree of modularity. Therefore, the metric

that allows identifying each project within the network will be decided in each case.

Table 3
Characteristics of the networks according to cluster

	Cluster #1	Cluster #2
Degree of centrality	7.893	6.333
Graph diameter	4	5
Graph density	0.144	0.218
Degree of modularity	0.245	0.217

Source: Ledent (2022), Ring (2019), Ruby et al. (2017), and further analysis by authors

Figure 5 shows the network structure of Cluster #1 of projects. The purpose was to identify the project with the highest value in the centrality measures that indicate the network characteristics. The closeness centrality measure is related to nodes or projects with a shorter distance to other nodes that can propagate very productive information through the network. As the value of this measure is higher, the higher-value nodes have greater dominance since they allow the flow of the rest of the nodes. This measure at its maximum value equal to 5 is the same for six projects: Schönholzer Strasse, VinziRast-mittendrin, L'espoir, Baugruppe R50, Hunziker Areal, and House A*. The degree of centrality measure, at its maximum degree which is equal to 0.5, shows the number of relations of a node with the rest of the nodes by means of the number of edges it has. However, the measure of betweenness centrality is related to the capacity of a node or project to occupy an intermediate position in the links of the other nodes, which is higher in the case of the Schönholzer Strasse project with a value of 14.8, followed by VinziRast-mittendrin with 14.04, and the rest of the projects with lower values.

Figure 5 illustrates how the Schönholzer Strasse (indicated with a blue arrow) occupies a strategic position within the network. Therefore, this project will be further analysed for its interiority aspects in the second phase of the study. In addition to considering the network measurements, the choice of the case also considered the qualitative information available for further analysis, such as planimetry, location, and spatial elements relevant to space syntax analysis.

In the case of the Cluster #2 network, despite the structural differences with the Cluster #1 network mentioned above, the structure suggests similar criteria, as illustrated in Figure 6. The values of the degree of centrality and closeness centrality were 5 and 0.491, respectively, for the projects with the highest values such as: Sargfabrik, Wagnis3, Alltag Am Vollgut, and Malta Cohousing. The measure of the degree of betweenness centrality suggests the potential of the first two projects

for further analysis. However, Malta Cohousing was chosen for further analysis due to the information available for the qualitative analysis.

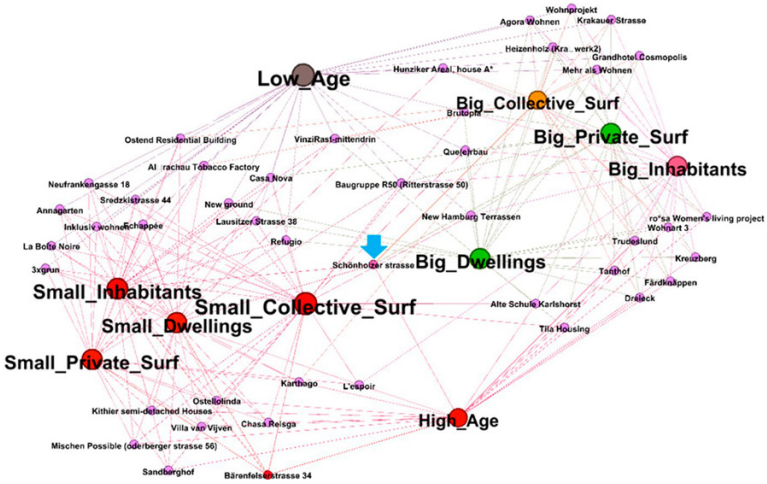

Figure 5
Network structure in Cluster #1 of cohousing projects (Image by authors, based on Ledent (2022), Ring (2019) and Ruby et al. (2017))

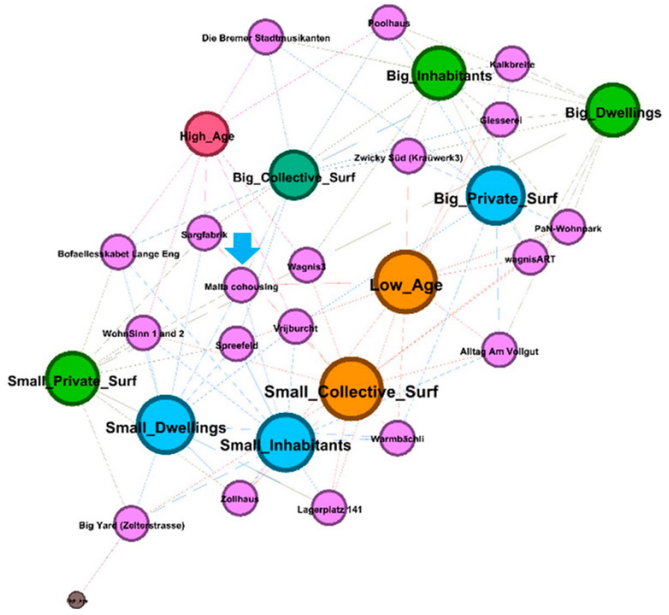

Figure 6
Network structure in Cluster #2 of cohousing projects (Image by authors, based on Ledent (2022), Ring (2019), and Ruby et al. (2017))

Interiority Analysis of Malta Cohousing and Schönholzer Strasse

Further qualitative analysis of interiority aspects was conducted by investigating the spatial interior layout of two projects, Malta Cohousing and Schönholzer Strasse. Interior design is important in cohousing due to its psychological impact in the short and long term (Fromm, 2000, 2012; Horelli, 2013). Studies have indicated that

various interior design elements, such as natural light, flexible layouts, and open views to natural elements outside, can encourage social interaction between the cohousing residents (Bell, 2022; Pereira et al., 2019). Other studies indicate the role of interior design and interior spaces in promoting well-being and mental health conditions, as well as reducing social isolation caused by certain designs (De Jorge-Huertas & De Jorge-Moreno, 2023; Glass & Plaats, 2013).

Malta Cohousing, located in Helsinki, completed its construction in 2013. It has 61 housing units with different interior layout designs and occupied by approximately 180 residents (De Jorge-Huertas, 2020; Korpela, 2012). It has an area of 690 m^2 dedicated to collective interior spaces and 5,000 m^2 of private spaces. Meanwhile, the Schönholzer Strasse Project was completed in 2009 in Berlin, consisting of 20 dwellings inhabited by around 52 residents (Ring, 2019). They house a collective space of 520 m^2 and the private interior spaces of 2,610 m^2. Both projects were built in the same decade, between 2005 and 2015, in similar climate conditions with cold winters. The project have a compact design with shared spaces distributed inside the building and mainly on the ground floor and both apply linear 'lozenge' typologies, as illustrated in Figure 7. Malta Cohousing is located in a newly built neighbourhood, while Schönholzer Strasse is located in a dense and compact neighbourhood.

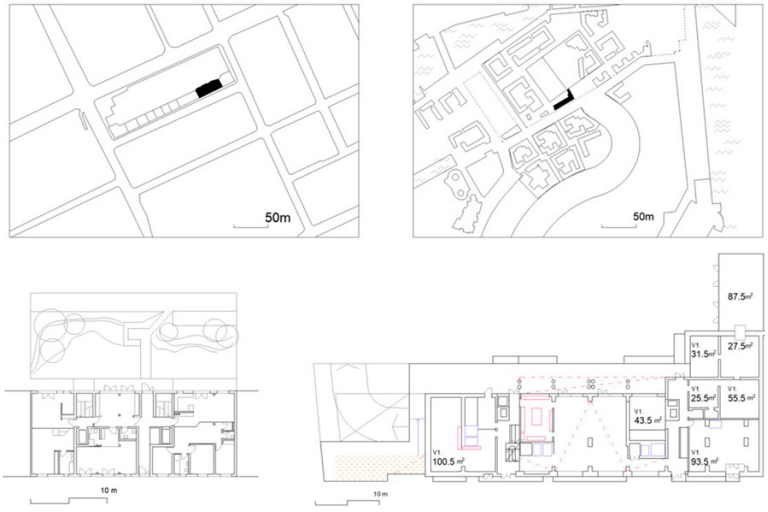

Figure 7
Interior layout, spatial geolocation, and floor plan distribution of the Malta Cohousing (left) and Schönholzer Strasse (right) (Image by authors, redrawn from Ring (2019))

Figure 8
Typologies and interior layout of the Schönholzer Strasse (above) and Malta Cohousing (below) (Images by authors, based on Korpela (2012) and Ring (2019))

Typologies and interiority of shared spaces

Regarding the characteristics of housing typologies and the interior relationship between spaces, the Malta Cohousing project has duplexes and several types of housing units ranging from 50 to 90 m^2, while Schönholzer Strasse houses office spaces and artist's studio apartments with at least three types of housing units between 100 and 140 m^2. The apartments are oriented on both facades as the building is found between party walls. Both projects have in-between balconies. The percentage of collective spaces per person is 10.17 in Malta Cohousing and 3.83 in Schönholzer Strasse. The shared spaces in Schönholzer Strasse are found on the ground floor and feature a laundry room, a bike rack, a collective interior space, a 350 m^2 shared garden, and a roof terrace. On the ground floor of the Malta

Cohousing is the collective kitchen, a laundry, and a large dining room, while the top floor has collective saunas, a greenhouse, a lounge, and a linear u-shaped terrace that embraces the top floor program package (Figure 8). To understand the interiority of the projects, they are graphically compared at the same scale, illustrating the ground floor and the typical floor, and some of the existing housing units, eight in Malta Cohousing, and three in Schönholzer Strasse. Figure 8 illustrates the typologies of both projects and the interior layout of individual units in relation to the users' needs.

Spatial syntax of cohousing interior spaces

Spatial syntax is the theory of space that, by a set of analytical tools, allows the study of spatial configurations in different forms: buildings, cities, interior spaces (Dursun, 2007; Hanson, 2003), or landscapes (Hillier, 1996; Hillier & Hanson, 1984; Hillier et al., 1984). The association between people and their inhabited spaces is the main interest of spatial syntax. This methodology allows the development of analytical strategies for configuring and comparing inhabited interior spaces. This approach is related to the idea of trying to understand the relationship between spatial configuration, considering social or cultural variables.

Figure 9 and figure 10 shows the depth map from the spatial syntax analysis performed on the floor plans of the two projects. They illustrate the inter-visibility graphs of the ground floor plans and the typical floor plans. Note that although the analysis points are symbolised as squares, the depth map analyses the inter-visibility of the centre of the squares. The connections representing the inter-visibility of the points are not shown because there are too many of them. Instead, the points are coloured according to the points at other locations visible from it, ranging from blue (indicating low visibility), to green and yellow, to red (indicating higher visibility) (Pinelo & Turner, 2010). The ground floor plans house the shared interior spaces. Malta Cohousing (Figure 9, above) has two focal points of visibility, one in its peripheral area and the other quite intense in the central area. The latter has the shared living and dining room as the focal point of visibility and, therefore, greater shared activity on the ground floor. Meanwhile, Schönholzer Strasse (Figure 10, above) shows greater intensity (without being maximum) along the entire floor. It has a clearly defined focus of visibility in the centre of the housing in the middle of the floor plan (Figure 10, above).

In the case of the typical floor layouts (Figure 9, below; Figure 10, below), although both interior layouts have clearly identified focal points of visibility in the central area, it is the Schönholzer Strasse

project that clearly shows an important focal point. On the ground floors, it can be seen how the focal points are in the interior design distribution of the servant spaces and in the point where some served spaces, such as the living room or the multipurpose space, are connected with other spaces (Figure 10).

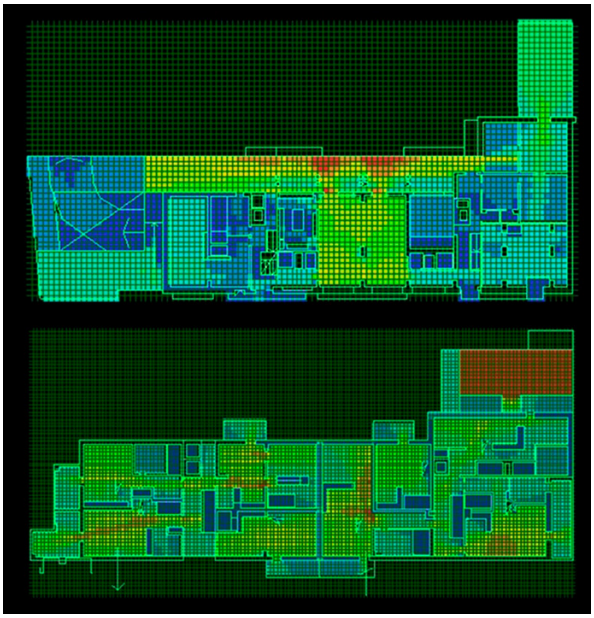

Figure 9
Spatial syntax analysis illustrating the interiority of Malta Cohousing: ground floor (above) and typical floor (below) (Image by authors, based on floor plans in Korpela (2012))

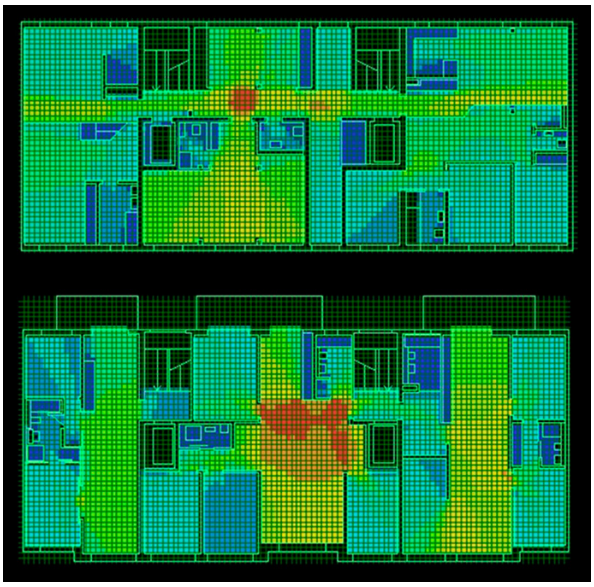

Figure 10
Spatial syntax analysis illustrating the interiority of Schönholzer Strasse: ground floor (above) and typical floor (below) (Image by authors, based on floor plans in Ring (2019))

The interiority is graphically represented via a collage of interior shared spaces (Figure 11), indicating the *elements* (Bachelard, 1957) written in italics and the *elements of architecture* (Koolhaas et al., 2018) written in bold. The collage shows Schönholzer Strasse and Malta Cohousing interior shared spaces on the ground floor and the floor, ranging from the music and saloon shared room, collective kitchen, collective DIY room to the shared sauna and relaxing space. Despite the differences in scale of both projects defined by their belonging to different clusters, their characteristics, together with the social spaces allow sharing actions in the collective spaces.

Figure 11
Interior spaces of Schönholzer Strasse (above) and Malta Cohousing (below) (Collage by authors)

It is important to mention that the boundaries and thresholds between public and private and between individual and collective space are mixed and widely interpretative. The concept of interiority, understood as layers of interiority through which the community delimits and connects spaces, offers interesting possibilities for interpretation, especially in the case of cohousing architecture, where collaborative design is relevant. As mentioned by Atmodiwirjo and Yatmo (2022), referring to interior occupancy, human beings inhabit spaces, and the dimension of understanding how habitability occurs in an interior is complex (Daniel & Chalmers, 2021). It is not only about human behaviours and interaction without more, as for example, uses or needs; it also encompasses the intangible and inherent cognitive processes.

Conclusion

The study reveals various interiority conditions of cohousing projects arising from how to provide a habitable dimension through the distribution of space, light, and the possibilities of user interaction that incorporates the different dimensions of the human body. The first phase of the study captures the typology of cohousing in two clusters that classify the 63 cohousing projects in Europe in three decades, 1981–2021. The comparative analysis in the second phase of the study on two selected cohousing projects suggests that by considering the interiority aspects of the cohousing (typological study and the spatial syntax of the interior spaces), it is possible to synthesise, analyse, and extract strategies from the case studies. For example, architectural proposals to compact the interior spaces shared and distributed on the second floor, thus giving them a greater use and finding the points of greatest visibility on the perimeters or in the centre of the interior distributions of the layouts. These proposals could reveal various possibilities for interior spatial design in terms of dynamic forms of the body-space relationships that characterise them and contribute to their improvement and to the understanding of the functioning of the occupation and use of different spaces, whether individual, collective, public, or private.

The results obtained in this work could help to fill the existing gap in the literature in terms of a better understanding and analysis of cohousing architecture from the perspective of interiority. A better understanding of space, the layout of interior elements, their spatial distribution, and the interaction of users is a subject of inquiry in continuous evolution. This inquiry becomes increasingly important as we encounter phenomena such as the recent pandemic or social changes, such as population ageing, and family structure, among others, where the conditions of habitability and the interior spatial design are especially relevant.

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Annex: 63 Cohousing Projects

ID	Project	Location	Country	Year	Dwellings	Inhabitants	Collective surface	Private surface	Cluster no
29	Trudeslund	Copenhagen	Denmark	1981	33	100	450	2,950	1
56	Tanthof	Delft	Netherlands	1981	171	130	1,860	3,535	1
19	Bärenfelserstrasse 34	Basel	Switzerland	1984	17	34	26	1,209	1
34	Färdknäppen	Stockholm	Sweden	1993	43	55	650	2,490	1
41	Dreieck	Zurich	Switzerland	1996	58	142	850	2,965	1
45	Sargfabrik	Vienna	Austria	1996	73	210	350	5,510	2
7	Karthago	Zurich	Switzerland	1997	10	54	1,360	1,005	1
46	WohnSinn 1 and 2	Darmstadt	Germany	2003	73	150	500	6,200	2
18	Ostellolinda	Milano	Italy	2004	15	35	220	480	1
1	Sandberghof	Darmstadt	Germany	2007	5	10	108	447	1
4	Kithier Semi-Detached Houses	Diessen	Germany	2007	6	24	77	1,323	1
39	Kreuzberg	Berlin	Germany	2007	53	56	325	2,735	1
57	Poolhaus	Vienna	Austria	2007	252	302.4	930	9,630	2
2	Villa van Vijven	Almere	Netherlands	2008	5	20	0	1,300	1
22	Alte Schule Karlshorst	Berlin	Germany	2008	21	60	80	1,902	1
38	Vrijburcht	Amsterdam	Netherlands	2008	52	151	375	7,650	2
40	Bofaellesskabet Lange Eng	Albertslund	Denmark	2008	54	200	955	5,740	2
31	Tila Housing	Helsinki	Finland	2009	39	136	128	3,048	1
33	Ro*sa Women's Living Project	Vienna	Austria	2009	41	100	699	2,627	1
50	Wagnis3	Munich	Germany	2009	97	228	245	7,165	2
63	Schönholzer Strasse	Berlin	Germany	2009	20	52	529	2,610	1
6	Mischen Possible (Oderberger Strasse 56)	Berlin	Germany	2010	9	17	155	566	1
14	Chasa Reisga	Ftan	Switzerland	2010	13	40	184	1,120	1
16	L'espoir	Brussels	Belgium	2010	14	80	0	1,711	1
35	Wohnart 3	Darmstadt	Germany	2010	44	86	300	3,500	1
36	Big Yard (Zelterstrasse)	Berlin	Germany	2010	45	135	275	6,624	2
51	Die Bremer Stadtmusikanten	Vienna	Austria	2010	100	271	1,058	9,413	2
8	Ostend Residential Building	Frankfurt am Main	Germany	2011	10	27	560	1,202	1
15	3xgrun	Berlin	Germany	2011	13	43	60	1,830	1
24	Heizenholz (Kra-werk2)	Zurich	Switzerland	2011	26	85	935	2,485	1
62	Lausitzer Strasse 38	Berlin	Germany	2011	23	43	227	1,600	1
13	Alrachau Tobacco Factory	Dresden	Germany	2013	12	30	270	1,134	1
25	Brutopia	Brussels	Belgium	2013	29	80	80	3,237	1
26	VinziRast-mittendrin	Vienna	Austria	2013	30	27	540	375	1
28	New Hamburg Terrassen	Hamburg	Germany	2013	32	96	62	3,500	1
32	Krakauer Strasse	Vienna	Austria	2013	39	92	660	3,300	1
43	Grandhotel Cosmopolis	Augsburg	Germany	2013	66	95	620	2,640	1
48	PaN-Wohnpark	Vienna	Austria	2013	93	279	252	7,946	2
55	Giesserei	Winterthur	Switzerland	2013	155	330	4,923	11,460	2
58	Wohnprojekt	Vienna	Austria	2013	39	100	660	4,640	1

ID	Project	Location	Country	Year	Dwellings	Inhabitants	Collective surface	Private surface	Cluster no
60	Malta cohousing	Helsinki	Finland	2013	61	180	690	5,000	2
3	La Boîte Noire	Nantes	France	2014	6	17	114	506	1
21	Baugruppe R50 (Ritterstrasse 50)	Berlin	Germany	2014	19	62	136	2,037	1
44	Spreefeld	Berlin	Germany	2014	67	150	920	5,265	2
49	Kalkbreite	Zurich	Switzerland	2014	97	260	1,224	7,785	2
59	Mehr als Wohnen	Zurich	Switzerland	2014	22	70	386	2,646	1
10	Hunziker Areal, House A*	Zurich	Switzerland	2015	11	154	286	4,372	1
11	Neufrankengasse 18	Zurich	Switzerland	2015	11	30	105	1,146	1
17	Casa Nova	Brussels	Belgium	2015	14	50	231	1,892	1
27	Refugio	Berlin	Germany	2015	30	40	200	950	1
53	Zwicky Süd (Krawerk3)	Zurich	Switzerland	2015	129	300	2,280	12,510	2
23	New Ground	High Barnet	UK	2016	25	42	0	40.02	1
54	wagnisART	Munich	Germany	2016	138	320	379	9,565	2
9	Inklusiv Wohnen	Köln	Germany	2017	11	54	140	1,387	1
12	Sredzkistrasse 44	Berlin	Germany	2017	11	21	0	860	1
20	Echappée	Brussels	Belgium	2017	18	47	123	1,740	1
30	Que(e)rbau	Vienna	Austria	2017	33	67	200	2,115	1
52	Alltag Am Vollgut	Berlin	Germany	2017	121	150	300	1,900	2
47	Lagerplatz 141	Winterthur	Switzerland	2018	80	120	365	6,150	2
5	Annagarten	Orianenburg	Germany	2019	8	35	118	1,093	1
61	Agora Wohnen	Berlin	Germany	2019	22	85	290	4,430	1
37	Zollhaus	Zurich	Switzerland	2020	52	190	500	6,100	2
42	Warmbächli	Bern	Switzerland	2020	60	190	240	7,300	2

Source: De Jorge-Huertas (2019), Ledent (2022), Ring (2019), Ruby et al. (2017), and further analysis by authors