Living alone together

Negotiate the tension between private and public through the threshold

Ricky Lee

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Professeur d'énoncé théorique - Jeffrey Huang
Directeur pédagogique - Jeffrey Huang
Professeure - Florence Graezer Bideau
Maître EPFL - Christina Doumpioti

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Introduction

This work focuses on the topic of *living alone together* through the recent introduction of the so-called *cluster apartment* by Swiss cooperatives as an answer to new households and lifestyle of the 21st century. These rather unconventional floor plans, mix different types of rooms, ranging from the simple bedroom to the minimalist apartment, and linked together with a common space. Based on self-management, the cluster apartment brings people from different domains together and favors a multigenerational community, in which mutual help is emphasized. At the same time, Switzerland, but also in Europe, the society is experiencing individualization. In terms of housing, the effect is the disappearance of *a typical* household in favor of a multitude of different ones with various lifestyles. The countries are seeing an increase in single and two-person homes. This is also emphasized by the advent of the digital era. Indeed, people are having more and more freedom and choices regarding leisure and work. The proliferation of smartphones, computers and different devices completely changed our society. Living and working are combining again and at once disrupt the limit between private and public spheres. Apart from making our life easier, while making us addicted to it at the same time, the internet created numerous of new jobs. These,

often freelance jobs, can be done at home, even before the pandemic mandates working at home. It opposes the traditional vision of the function of the house and the definition of work. Therefore, with all these changes in our society, and to respond to the individualization of the household, the research on the cluster apartments will be studied through the agency of the threshold to negotiate the tension between private and public. We will see that the boundary between these two different universes is not so clear and rather complex. The aim is to understand the possibility of an architecture which respects and protects the private sphere of each individual, while favoring a more community-based lifestyle, hence the question of the threshold.

Individualization

The nuclear family, which was spread out as a political motivation to stabilize the society and establish security after the Second World War, is no longer the prevailing type of household anymore. In fact, it was already questioned before the first one. From women's perspective, the establishment of this type of household, which reaffirmed the patriarchy, is a huge problematic that is related not only to the society's social organization but also to the architecture of the home. By splitting the domestic life of the work life after the Industrial Revolution, it also defined at the same time the status of work as labor in exchange for a wage. Therefore, workers, mostly men, were the ones who detained the economic power, whereas the housewives were isolated from the society and imprisoned by the domestic duties. As Dolores Hayden stated, "'My wife doesn't work' became the male boast reflecting housewives' separation from the market economy and the resultant invisibility of their labor."[1] This is even accentuated by the fact that growing up, the kid would be at school during the day. Social revolution was imperative and works from socialists such as Engels and Lenin were considerable to provide new point of view about the problematic. They saw the socialized domestic work, such as childcare and the preparation of food as one solution to restore

[1] *Hayden, The Grand Domestic Revolution : A History of Feminist Designs for American Homes, Neighborhoods and Cities, 13.*

women's equality. Beyond the social point of view, the architecture as a physical representation of the family arrangement was tackled by the material feminists of the late 19th and early 20th century. Figures like Marie Stevens Case Howland and Alice Constance Austin, who questioned the design of the house as a contribution to the inequality. Both argued for a change and "proposed a complete transformation of the spatial design and material culture of American homes, neighborhoods, and cities."[2] Howland was a free love activist, who had the opportunity to experience alternative lifestyles such as living in the Unitary Household in New York by Stephen Pearl Andrews, and later in the famous Familistère in Guise by Jean-Baptiste André Godin. She also worked on the project of *Topolobampo in Mexico (1885)* along with Albert K. Owen and John J. Deery, in which she argued for constructing kitchenless houses. The unfortunately abandoned project was conceived as "a city of apartment hotels and cooperative domestic buildings created following Fourier's utopian principles."[3] Three types of buildings were proposed: the apartment hotels, the row houses, and the freestanding cottages with gardens, all without private kitchens. Austin, on her side, also designed cities with kitchenless houses, but relying much more on urban infrastructure and technologies. She imagined houses connected to a central kitchen with underground tunnels, where railway and electric cars would bring food and laundry directly to every home.

The nuclear family model was therefore already breaking apart, or at least has been challenged as a domestic organization. Feminists and socialists argued for a social revolution, but it is interesting to notice the importance of architecture both as a source and a solution to the problem, questioning the design of the home itself. Today, this specific family structure is challenged again, or rather

2 Hayden, 3.

3 Together! : The New Architecture of the Collective, 67.

continues to lose its dominance. The society is evolving toward individualization, where one- and two-person households are prevailing now. If in 1930, these types of households barely reached 12% of Switzerland's population, they are now part of 47% of it. In fact, it represents 69.2% of all the country's households.[4] The trend also applies to Europe in general, where this typical family structure represents only about ¼ of the entire households.[5] In 2017, the Swiss Federal Statistic Office stated that one-person households, which were at that time 1.3 million, will continue to grow and reach about 1.7 million in the next 30 years. Two-person household was predicted to increase from 1.2 million to 1.5 million in 2045. That means an increase of 26%.[6] These numbers pointed out in a study of the micro-apartments and cluster apartments conducted by ETH Wohnforum – ETH Case reveals the diminishing of influence of the nuclear family household as a model of social life. The authors also indicated that there is a link to the increase aging of the population, which is one of the reasons for the growth of two-persons households. However, they mention that the housing market didn't follow this social revolution, which causes a certain housing shortage for small households in city centers to which, these inhabitants (person living alone, single professionals, students, and so forth) are extremely dependent. Indeed, the real estate has continued to focus on the construction of three- or four-bedroom apartments, with an increase of 35% and 50% respectively during 1990 and 2017. Unfortunately, the production of one-bedroom apartment during the same period has only grown 19%, while the demand significantly augmented by 45%. People from 30 to 59 years old are the most affected, while people from 20 to 30 tend to go in apartment-sharing. The lack of small apartments pushes to develop them as a collective form and two types exist. The micro-

[4] *"Office fédéral de la statistique - Ménages."*

[5] *Schmid, Eberle, and Hugentobler, A History of Collective Living: Models of Shared Living.*

[6] *ETH Wohnforum-ETH CASE, Mikro-Wohnen/Cluster-Wohnen : Evaluation gemeinschaftlicher Wohnformen für Kleinsthaushalte.*

apartment, mostly directed to young professionals, is mostly developed in Germany but rarely exists in Switzerland. In our country, the cluster apartment is emphasized by cooperatives as a solution for social diversity in their housing. The greatest difference between these two resides in the community involvement. The cluster is much more socially oriented, while the micro-apartment is in search of efficiency.[7] Therefore, this é*noncé théorique* will study the thresholds of cluster apartments in Switzerland.

[7] *ETH Wohnforum-ETH CASE.*

Collective and cluster

"All of these developments are accompanied by a vague feeling that individualism, egoism, and speculation are driving us into a dead end - not just in the housing sector but in society as a whole."[8]

[8] *Together! : The New Architecture of the Collective, 35.*

Words from Mateo Kries in *Together! (2017)* concern the tragic end of the society due to the increasing individualism. However, a certain *renaissance of the collective*, as they call it, is on the move. M. Müller, D. Niggli, I. Ruby and A. Ruby, all authors of the passage "*On the renaissance of the collective in contemporary urban architecture*" from the same book is underlying a certain change. Right after the financial crisis, the generation Y was born with new ideologies based on the possibility of a shared economy. It raises questions of the old method of owning everything individually rather than thinking about share ability: "Why buy a car if you can share one? (…) Why get a bank loan to finance your project if you can just as well obtain the money interest-free through crowdfunding platforms such as *Kickstarter*?"[9] With the rise of the digital era, I personally want to add certain reflections of my own to illustrate new thinking. I remember when I was a child, that memory cards were using megabyte as a

[9] *Together! : The New Architecture of the Collective, 37.*

unite. 128, 256 and 512 MB were commonly used. Then, I discovered Gigabyte and later Terabyte appeared. During that time, buying a new hard disk with more capacity was a thing, but today we rely much more on cloud services. And I think the word *service* is key. Last semester, with Professor Huang, we used AI with Google's cloud compute engines to *borrow* a powerful graphics card for our architecture project. This already shows a certain aspect of the future, where data and services on the go will surpass hardware if not already the case. Being myself a hardware lover, I don't know how I'll change, but I want to clarify that my vision of borrowing, and services doesn't mean free of charge or even communism. I just think that it can replace the old habit of possessing an object for an eventuality. But let's go back to the architectural aspect. What the authors want to suggest by questioning our habits is to show a new mentality which is triggered by two elements. The "changing of demographics" and "the renaissance of the city as a hub for a new collectivity."[10] The first aspect was already discussed in our previous chapter, which is the change of household types. However, they mention a possible implication not less intriguing about the sense of belonging. This aspect is catered traditionally by the family but is lost in other types of households. Then, the second aspect concerns the city, which had lost against the suburb's development of the single-family houses in the past but has regained interests now. Another development was also underway, namely the growing desire of a collective form of urban life. This leads to three levels of developments. From the largest scale, apartment buildings try to revive the neighborhood by integrating different public programs. Then, the building itself has multiple programs for shared daily life activities. And finally, the development of more collective apartments which are the cluster.[11]

[10] *Together! : The New Architecture of the Collective, 37.*

[11] *Together! : The New Architecture of the Collective.*

The cluster apartment is a collective form of living with a similar experience of a shared apartment but with much more flexibility and independence. The apartment is a vast common space of about 250 and 400 square meters, in which multiple small studio apartments are organized together. The latter is generally between 20 and 35 square meters in size.[12] The private unit is composed of a bedroom, a bathroom, and a kitchenette. These associated private services are what essentially differentiate it from the shared apartment, where everything is common except the bedroom. It is also possible to find variations, such as an additional room in which case this second space is used as a private living room, and it is usually where the small kitchenette is located if it exists. Indeed, the small private kitchen is not always present, due to cooperative decision or sometimes according to the wish of the inhabitant. So, the very basic private unit of the cluster apartment is the bedroom with the private bathroom just like a hotel room. Then all units are connected spatially with the common space, as it is at the same the transitional space. This collective space has the role of gathering people together with different services such as a large and fully equipped kitchen. This organizational structure, which immersed the private units directly in the common space, creating an architecture of encounter is the differentiating character of the student residence.[13]

The cluster made its first appearance in Zurich through the cooperative Kraftwerk1, which introduced the cluster apartment – *Wohncluster* – in their second building *Heizenholz*. In fact, Zurich is experiencing a lot of typologies through its active communities of cooperatives.[14] In Geneva, it's the cooperative CODHA who decided to experiment with this type of dwelling. They wanted to innovate and to satisfy a group of elderly women who wanted to live differently

[12] Together! : The New Architecture of the Collective.

[13] Prytula et al., Cluster-Wohnungen für baulich und sozial anpassungsfähige Wohnkonzepte einer resilienten Stadtentwicklung.

[14] Boudet, Nouveaux logements à Zurich : la renaissance des coopératives d'habitat.

because their children and husbands were gone, and they now live alone separately.[15] So, there is voluntary to live together that started the initiative. In fact, during an interview with the architect of *Eco-quartier Jonction (GE)*, Yves Dreier, affirms that the cluster needs to find a community who is willing to live together and have something in common to be manageable. But it is nevertheless a gathering of different people with a non-family-based relationship. This journey is not restricted to a small period as in the case of student residents. Therefore, the question lies on the problematic between private and public and the different thresholds in between all.

Threshold

Private and public

One's own room

"To understand living as a shared experience stands in direct contradiction to the notion of living being the highest form of privacy. This divergence means that, when it comes to housing, there is always the question of where to draw the line between what is private and what is public (or semi-public). Collective living is based on the idea of reducing privacy and placing greater emphasis on the community aspect."[16]

[16] *Schmid, Eberle, and Hugentobler, A History of Collective Living: Models of Shared Living, 5.*

What Prof. ETH DI Dietmar Eberle says at the very beginning of *A History of Collective Living (2019)* is extremely relevant in the case of the cluster apartment, where spaces and services of everyday life are shared with non-family related people. This means that the confrontation, or rather the transition between private and public spheres is permanent and that even if the community aspect is stronger than the individual, the need to have a space dedicated to oneself is essential. This necessity is even more understandable when we look at the work of Serge Chermayeff in *Community and Privacy (1964)* where he points out the chaos made by technology and demographic growth and whose main causes are traffic and noise. All

[17] Chermayeff and Alexander, *Intimité et vie communautaire : vers un nouvel humanisme architectural*, 23.

of these and their evolution are destroying the "precious element of life"[17] that is intimacy.

> " *Avant tous les autres, un élément précieux de la vie d'autrefois se trouve menacé d'extinction : l'intimité, ce merveilleux composé de retraite, de confiance en soi, de solitude, de calme, de contemplation et de concentration."*[18]

[18] Chermayeff and Alexander, 23.

Whether or not he's right about the chaos or the *harmful* infiltration of the outside world in the private, he nonetheless defines privacy as "the most urgently needed and essential commodity in the very place where people live."[19] He explains that, when it comes to urban and dwelling's anatomies, a hierarchy of domains according to every level of intimacy should be differentiated and protected, while at the same time allowing interactions between them. Although, his theory is applied in an urban scale with single-family houses, the different thresholds he suggests go from the *urban public space* to separating the *family private space* from the *individual private space. The room of one's own,* as he calls it, defines "an intimate sanctuary where individuals can isolate themselves from their own family."[20] According to him, age, sex, and center of interest within the home should be respected and therefore children and parents form their own domains, requiring separated accesses. In fact, the organization of the home itself should also prevent unavoidable promiscuity to allow voluntary community.[21]

[19] Chermayeff and Alexander, 23. (translated from French)

[20] Chermayeff and Alexander, 127–28. (translated from French)

[21] Chermayeff and Alexander.

Serge Chermayeff pointed out evident but relevant facts about privacy and it is interesting to see that even in the family environment, he advises organizing space in order to prevent unavoidable encounters. So, when it comes to shared living, one can imagine the complexity to preserve the integrity of each domain concerning privacy. In his

speech, the family house therefore needs to adopt airlocks or buffer zone in addition to the proper use of walls. As examples of their use, he refers to hospitals and radio stations, but the most relevant one is the hotel room with the bedroom separated by a door from the bathroom. He considers the small vestibule adjoining the bathroom as a buffer zone between the corridor and the bedroom and thus acts as a transition between two priority zones. But in his analysis of single-family houses, he lists 6 criteria that need to be fulfilled:[22]

[22] *Chermayeff and Alexander, 218.*

- The presence of an entrance hall for protection purposes.
- The presence of a direct access to the children domain from the exterior to avoid disturbance toward the common family and adults' domains.
- The presence of a buffer zone between the domains of the parents and the children.
- If the living space can be isolated to prevent any noise leaking.
- If the exterior spaces are private and differentiated.

Agreeing to the necessity to preserve the intimacy of each domain seems evident, but the application of his criteria is too rigid, in my opinion. Favorable plans, presented in his book, are overloaded with airlocks and inner patios. His position against Mies van der Rohe and Frank Llyod Wright's architecture becomes clear. Their architecture is not easily habitable for sure, but in pursuing to respect the privacy of everyone, Chermayeff's recommendations appear way too protective. Let alone the efficiency of space, which is arguable in relation to the quality and preferences of the residents, such a functional organization of space within the family home is excessive or too anchored to the era of the author. However, his theory consisting of the proper use of airlocks

and barriers with their appropriate forms at each level of the urban organization is totally conceivable. In this case, the term airlock and barrier are understood as general spatial mediums that provide separation when needed. In fact, the conclusive diagrams come with an interesting description:

[23] Chermayeff and Alexander, 245.

> *"Le sas apparaît comme un domaine et une zone d'activité."[23]*

Explained this way, the separations are not only corridors with or without doors, nor the small vestibules, but spaces or even rooms that can welcome activities. The house itself becomes much richer and could provide flexibility, especially in the collective housing such as the cluster apartment. But, to understand why his application appears to be too rigid, it requires further exploration of the notions of private and public.

Threshold

Private and public

Two worlds

> *"The act of dwelling is taken for granted, yet it is subject to consumption."[24]*

[24] *Schmid, Eberle, and Hugentobler, A History of Collective Living: Models of Shared Living, 11.*

The house has multiple functions and has been subject to many fascinations throughout history. Any architects must be familiar with the myth of the primitive hut of Marc-Antoine Laugier in *Essai sur l'architecture (1753).* Apart from telling the origin of the house with a strong relationship with nature, he particularly suggests that the house be first a shelter for humanity. It is thus a physical need for protection. But to make a *house* feels like a *home*, it also needs to fulfill nonphysical needs, such as emotional, psychological, and social ones. In that regard, sociologists Hartmut Häussermann and Walter Siebel explain four significations of living, which are considered as the basic characteristics of collective living by authors of *A History of Collective Living (2019)*. These are "The functional significance of the home, the social unity of housing, the socio-psychological importance of housing, and the legal and economic parameters of the home."[25] The latter reflects the functioning of our society, which is well stated in the beginning of the current sub-chapter. Of course, the legal form, which is all the different types of ownership for housing, represents a security for the individual

[25] *Schmid, Eberle, and Hugentobler, 11.*

and reflects his economic power within the capitalist system. The *social unity of housing* corresponds to the good understanding and social interactions between the inhabitants. This is essential for any types of living, whether it is shared, or family based. It reflects the social bond within the house or in larger environment such as the neighborhood. The social stability brings exactly the feeling of belonging to a group and the sense of home. But it is the last two characteristics that are the most interesting for our understanding of the private and public. As explained in the book, "the functional significance of homes encompasses production, reproduction, and regeneration, aspects which are reflected in the functional set up and use of living space."[26] If *production* and *regeneration* are relatively evident, *reproduction* may need explanations. It defines all the *work* that participates in maintaining life at home, which is commonly known as house*work*. The term should also be understood as *procreation* and therefore corresponds to maintaining the continuity of the family. However, with time and especially the Industrial Revolution, parts of production and reproduction tasks are being removed from the house.[27] Reproduction tasks such as taking care of children, parenting, or even cooking are being (partially) replaced by childcare centers, school, and restaurants. In fact, the Industrial Revolution is the phenomenon that separated work from life, and thus defined the very concepts of private and public. (This is also due to the social evolution of the house, with the *dissolution of the Whole House,* i.e., the separation of the distance relatives from the same household.) As explained before, this is the moment where the definition of work is set as labor in exchange for a wage and is now part of the public domain. Consequently, the house is an enclosure for the family and delimits the domain of the private. It is the physical place of retreat and therefore "shifts the primary significance of

[26] *Schmid, Eberle, and Hugentobler, 11.*

[27] *Schmid, Eberle, and Hugentobler, A History of Collective Living: Models of Shared Living.*

the home to regeneration."[28] This is in line with the words from Serge Chermayeff and his speech about intimacy. It is the territory of personal care and needs to be respected. From then on, the house emphasizes much more the necessity to retreat from the exterior world and put even more importance to the last characteristic: the *socio-psychological* aspect. It expresses the house as a protective unit that completes "the need for retreat and security, providing protection from external influences, and forming a contrast to public life."[29]

The outsourcing of different functions of the house through the Industrial Revolution created the demarcation of the concept of private and public. The house and the family represent the private affairs, while anything relating to the exterior world is public. To that first simple definition, it is worthwhile to cross-reference with two concepts of values defined by Irene Cieraad: *care* and *commerce*.[30] Based on her ethnographical study of Dutch households, Andrea Semprini explains them in the article *Espaces privés, espaces publics. Privé et public comme catégories pratiques* released in *Espace et Société (1994).*

This set of values reflects two opposite semantic worlds. *Care* is defined by three main principles. It is the universe that reflects *affective and emotional* aspects, whose example that people can relate on is the *loving care* of a mother. It is also the place of *conviviality and good understanding*. In that sense, any social filter is removed and gives way to *authenticity and sincerity*. Finally, *care* allows *freedom and informality* to individuals, by removing social norms or rather personalized them. Thus, a general relaxation takes place and multiple behaviors can be exposed without judgment nor shame from family and friends. The opposite of this world of relaxation, where leisure time is valued, *commerce* refers to a world of *competition*. Work

[28] Schmid, Eberle, and Hugentobler, 12.

[29] Schmid, Eberle, and Hugentobler, 12.

[30] Semprini, "Espaces privés, espaces publics. Privé et public comme catégories pratiques."

is emphasized. People are expecting *productivity and performance*, valorizing the utility aspect of a person. There's no place for personality; rather it's all about *conformity*. It then represents *formalism and inauthenticity*. *Commerce* is a cold environment, where the human dimension is lost. Attention is directed to machines, technology, and to the future. It expresses a difficult world, which *masculine* values are put in the foreground, whereas *care* is imprinted with *feminine* values. If other characteristics oppose each other that are not necessary here, there is still one more that contributes to our general understanding. Both worlds can be represented through their own dress code. The concept of *care* doesn't require specific clothing. In fact, it is where the cloth doesn't hide anything but rather reveals authenticity. Generally, people tend to wear relaxed clothing without any sex distinction (unisex). Holes, old, wrong size, and other characteristics are not important here. However, *commerce* is all about the opposite, making the dressing code a formality that expresses the social status of an individual. It is a form of message. Thus, at the end of the day, the transition back into *care* is a purification phase. The worker gets rid of his shell that he wore in *commerce*. This clothing change is oftentimes accompanied by a hygienic purification that is the shower.[31]

[31] *Semprini.*

This first approach demonstrates that the domains of private and public have a relationship with interior and exterior spaces. The Industrial Revolution has strongly contributed to the externalization of the functions of the house, restricting the notion of private to the home and the family domain. At the same time, the two sets of values that Irene Cieraad defines further complement the definitions that interest us. Thus, the concept of *care* and its set of values can be assigned to the concept of the private,

while that of *commerce* to the public. However, the anthropologist marks a strong opposition between the two worlds, which show a certain rigidity. The characteristics of *care* are rather convincing, but that of *commerce* contains a very cold and undesirable set of values. The negatives of commerce are repulsive and perhaps slightly excessive in a world that tends to be more open-minded. Even if the differentiation between men and women remains a contemporary issue, the attribution of so-called masculine and feminine values to these two sets manifests an outdated vision of the world. However, these notions are not entirely false and show an interesting point of view of the private and public domains. Competitiveness is indeed present in the professional domain and a certain formality and conformity to social norms characterize this universe. It is from here that we will blur the boundaries between private and public to reveal the complexity that these two terms refer to.

Threshold

Private and public

Tensions

[32] Schmid, Eberle, and Hugentobler, *A History of Collective Living: Models of Shared Living,* 15.

"The private arises from the public, because only by excluding the public from a living environment can the private prevail as a counter-world."[32]

As we have previously seen, the modern concept of private and public emerged in the 19th century when the house started to outsource some of its functions in addition to the breakdown of the *Whole House*. It provides a place for retreat and protection, where intimacy reigns. This creates an environment for emotionality and physicality. The house takes the form of a physical barrier protecting the interior from the exterior, so that emotions like shame and embarrassment are protected from the gaze of others. Thus, the private is born from the very public it wants to escape from.[33]

[33] Schmid, Eberle, and Hugentobler, *A History of Collective Living: Models of Shared Living.*

[34] Schmid, Eberle, and Hugentobler, 15.

"By definition, the duality of public and private requires both, creating two poles that, through their tension and mutual conditionality, form a basic principle of shared social life."[34]

This form an interesting duality that we could possibly describe this way: without the public there is no need for privacy, and conversely private only exists because of the public. Therefore, it does

not suppose two worlds with a clear separation between them. However, the changes that were happening at the time remain important. In fact, according to Christoph Asendorf, the isolation of the family as a small private unit is one of the biggest sociological developments of the 19th century. But he also mentions that it is precisely and curiously from that moment the exterior world started to infiltrate the house, making the last losing its isolation character.[35] So, the boundary between private and public has in fact never been clear since the Industrial Revolution. Disruptions were already present, and the boundary was blurred from the start.

A simplified model is to take only individual family houses and the public space as two parameters. In this way, the urban space – *world of commerce* – is the public domain, with which each family interacts but also wants to get away from. The private unit – *world of care* – can be interpreted as a shelter immersed in a vast environment. Thus, the cluster apartment is in a way reproducing at a smaller size the relationship of private and public. In fact, this – *childish* – interpretation could be applied to the whole society. Switzerland as a country form a nation with its set of values that is different from others. Then Cantons within the country protect their own specific ideology following the Swiss political and organizational system. The Communes within the Cantons is an even smaller system of relationship. This continues to the home, where the *room of one's own*, cherished by Serge Chermayeff, is in a relationship with the entire house. Just like a fractal, the cluster apartment is simply continuing a system, or rather adding another layer before the private family domain. It is a succession of coexistence and interactions between the two worlds at ever-smaller scales.

[35] *"Schwellenatlas : von Abfall-zerkleinerer bis Zeitmaschine."*

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Asendorf is the author of the section *telefon* from the magazine *Arch+ Schwellenatlas : von Abfallzerkleinerer bis Zeitmaschine (2009)*. In this article, he explains that the disruptions appeared with the arrival of new inventions in the society. The cities were developing multiple networks of all sorts of circulation, such as the railway, pipes, and ducts. These new infrastructures brought to the house electricity and gas, which completely changed the lifestyle at home. Interior spaces lit by electricity presented themselves differently and induced new decorations. These changes mostly benefited the bourgeois class, of course.[36] Besides this invention, it was also the democratization of the flushing toilet. This sanitary object was in fact invented back in the late 16th century in England but was only developed at this period thanks to the deployment of a general sewage system. It was an awakening about hygiene and thus architectural manuals started to explain the functioning and gave guidance about the installation of toilets.[37] Thus, all sorts of connection networks have penetrated the home, linking the private to the public. The toilet and the pipes in the bathroom connected a very intimate place, if not the most intimate one in the house, because of the nudity, directly to the city without realizing it.

Among all intrusions, the telephone is one of the most harassing. While other changes settled down slowly, the new means of communication has shaken the home according to Asendorf. The telephone is an invention allowing people to communicate with each other from home at any time. There is absolutely no threshold to prevent its entry. In fact, the ringing is a cold technical sound striking directly inside the home. It's not just an announcement of a person who wants to discuss with you. The disturbing sound forces you to react. You are not invited to respond but rather ordered to pick up the telephone, and

[36] *"Schwellenatlas : von Abfallzerkleinerer bis Zeitmaschine."*

[37] *"Schwellenatlas : von Abfallzerkleinerer bis Zeitmaschine."*

this even at unexpected time. Actually, in the instruction manual of 1881 published by the Imperial Post Office, the called person has to present his/her name to the caller first. Thus, a position of inferiority is established even before you know who you are talking to. The author refers it to the military world and its notion of order and obligation. Besides, the telephone's ringing had the power to interrupt any kind of private activities taken place. It captivated all the attention and disrupted the bourgeois conventions. The visual and gestures lost their relevance, because only the voice was transmitted. There was no dress code, and it was not possible to read facial or body languages. Therefore, new means of communication relativized the importance of the appearance of the person and of the interior space.[38]

[38] "Schwellenatlas : von Abfall-zerkleinerer bis Zeitmaschine."

Later, it was the turn of the radio to welcome the exterior world to the house. Unlike the telephone, the radio could gather the whole family around him. The radio would be placed in the middle of a table where it was purposely positioned for the radio broadcast. Fun fact, everybody used to wear headphones because speakers were expensive at that time, and so people needed to be close to the device for pragmatic purpose. The radio doesn't only have the gathering power, but it can also take people to another world. Asendolf gives an example of *Der Radionist (1927)* from Kurt Günther. The painting shows a man listening to the broadcast of an opera in formal wear and following the booklet with a cigar in his mouth. A change in the understanding of space was taking place. From that moment, one can experience multiple things from afar and get informed directly from his/her own bedroom. New media were removing any boundaries and thresholds. They completely changed the relationship with the exterior and broke isolation. Christoph Asendolf further

[39] "Schwellenatlas : von Abfall-zerkleinerer bis Zeitmaschine."

adds that although separation and intimacy still have high values, their status changes with each connection.[39]

This last comment is extremely relevant. Each time a new revolution occurs, the boundary between private and public is challenged. Industrial Revolution separated work and life, defining the family as a private unit. New inventions connected the house to the exterior. Public was brought home and conversely private was taken to the outside world, especially with the arrival of the telephone and the radio as we've just seen. If we think a little bit, a similar situation is happening in our time: the digital turn. This revolution is blurring the limit between private and public again.

[40] Schmid, Eberle, and Hugen-tobler, A History of Collective Living: Models of Shared Living, 12.

> *"Thanks to the internet, the world and thus the public can be brought straight into the bedroom, so to speak."[40]*

The description of a consequence of the internet in this quote is really similar to what Christoph Asendolf says in *telefon* about new media. The difference is that the internet allows active interactions in both directions and in broader fields. The radio broadcast has only the psychological power to carry people away. It is more like a passive communication, i.e., the subject is not able to interact in return. As for the internet, it is a network of communications and interactions. It completely changed how we live, learn and work. We could even say that our whole lifestyle depends on it or rather adapts to it. No need to mention that all companies are using computers to show the omnipresent of the internet. Just take out the little device in your pocket, and you will realize it. Curiously, the smartphone is *the object* that crosses the private and public spaces with us throughout the day. The device doesn't change form, unlike us who change our clothes according to the activity

and our social status. This refers to the worlds of *care* and *commerce*. Actually, the smartphone can also act as the threshold to connect both worlds. Think of every moment we look at our smartphone, sometimes it's about work and sometimes we get lost on the internet between one or two private messages. But the internet is better than that. It allowed me, as a college student, to present my final academic project of last semester directly from my bedroom. Isn't it surprising how one of the most intimate spaces from where I live was put in a relationship with such a formal audience that is the jury of professors?

Another way to approach the tension between private and public is to study the concept of visibility. It seems evident that *the gaze* is at the very basis of the opposition between the two. In fact, it has already been implicitly suggested during the speech. The house is the place of retreat exactly because it protects the family from the gaze of others. We could then foolishly state that the private is everything people cannot see and conversely the public is everything people can see. But the reality is that it goes beyond the simple combination of these two unique states. To continue with the topic, let's come back to Andrea Semprini.

> *"Qu'est-ce que le privé alors, sinon ce qui échappe au regard d'autrui, ce qui se protège ou se cache de ce regard ? Et, parallèlement, qu'est-ce-que le public, sinon cet espace partagé, où je suis obligé d'exposer au regard de l'autre mon propre monde individuel et privé ?"[41]*

[41] Semprini, "Espaces privés, espaces publics. Privé et public comme catégories pratiques," 146.

To introduce "the notion of the gaze as an operator of the articulation of a border between private and public domain", the author begins by presenting

[42] Semprini, 146.

[43] Semprini, "Espaces privés, espaces publics. Privé et public comme catégories pratiques."

[44] "Look at, See or Watch ? - English Grammar Today – Cambridge Dictionary."

a simplified model of the vision.[42] A minimum of three entities are necessary for the gaze to take place: *a viewer (un regardant), an act of seeing, and a watched (un regardé)*. The act of seeing connects the two roles, which are reversible because of their reflexivity. Thus, the model implies that a viewer, either explicit or not, is always present for an object or a person to be watched. As Semprini puts it, this model is too simple to describe the real complexity of the vision.[43] Actually, we might have already suspected this, especially if we thought about all the different verbs to explicit the act of seeing. According to the grammar section of Cambridge Dictionary, the following verbs have different meanings that are easily confused:[44]

To look at
   "When we look at something, we direct our eyes in its direction and pay attention to it."

To see
   "See means noticing something using our eyes."

To watch
   "Watch is similar to look at, but it usually means that we look at something for a period of time, especially something that is changing or moving."

In his interest to analyze the Dutch houses, which have a certain relationship between the interior and the public space on the ground floor, Semprini chooses the verb *to see* as a *neutral gaze*. In addition to that, the private previously defined as something *to hide* from others already adds a commitment to the act. It implies the *watched* has *a desire not to be seen* and at the same time the *viewer* has *a desire to see*. Thus, the vision requires modal verbs to clarify the positions and specifications of all the actors and their relationship. Semprini proposes four modal verbs to be combined with the verb *to see* as an example:

want (vouloir), must (devoir), can (pouvoir), know (savoir). These possible combinations can be specified with negations. Therefore, when someone is hiding, the following description can be assigned to him: *he doesn't want to be seen*. From this *hidden status*, more sophisticated formulations can happen. A celebrity trying to escape from paparazzi suits perfectly to the description, but in the case of a spy, it is more appropriate to say that *he wants to not be seen*. The subtle difference stands that the latter have a desire. But in the case of a timid girl who escapes from the gaze of her lover, one can say that *she cannot want to be seen*. The author finishes with a last practical example of a blind person who *wants to be able to see* (want + can + see). Thus, he suggests an infinity of modal syntaxes which are always intersubjective. It means that any modalization of the viewer leads inevitably to the modalization of the watched.[45]

[45] Semprini, "Espaces privés, espaces publics. Privé et public comme catégories pratiques."

These few examples of just the *hidden status* show how complex the establishment of a visual relationship between interactants can be. Thus, the concept of private and public cannot be simply defined by two states: be shown or hidden. It is a juxtaposition between the two worlds, which are both constantly interacting with each other. The technologies, we previously discussed, extend the two categories mostly by bringing the public to the private. The internet pursued this quest in both directions and became a ubiquitous interface of interactions. Besides, this interface has its own problems concerning privacy as well. But in the spatial environment, "Privacy can stretch to encompass not just an apartment or house, but even an entire neighborhood or community."[46] If the private arises from the public as we have just seen, then the public is an environment that allows a multitude of private activities to appear and disappear. Public space is characterized mostly by its accessibility to everyone but can either be

[46] Schmid, Eberle, and Hugentobler, *A History of Collective Living: Models of Shared Living*, 17.

[47] Schmid, Eberle, and Hugentobler, *A History of Collective Living: Models of Shared Living.*

an interior or exterior space. Intimacy is certainly lower, but the public space is not reduced solely to public activities.[47] This can be illustrated with simple activities of everyday life such as going out to the restaurant with the family. Students are used to spend hours, days, and even weeks with strangers in a library before exams. Speaking of work, don't we all have the cliché of that person working on his laptop in a café? And what about a picnic in the park as an outdoor example? In these circumstances, we can use Semprini's description of visibility and assign these examples to the category *don't want to not be seen* or in more simple terms *don't care to be seen.* To be clear, this sentence does not systematically apply to similar situations. There are certainly people who go out to the restaurant to show off, so the status becomes *want to be seen*. These different scenarios illustrate the possibility to carry out certain activities of private nature in public, even though the freedom is restrained by the characteristics of the domain of *commerce* (not to mention rules or laws). Furthermore, the public can also be a space to isolate oneself. This was the case during the pandemic with all the *zoom* meetings. The interior space, for the most part the bedroom, being invaded, the exterior space becomes a suitable environment for isolation probably due to its limitless. Therefore, with everything we've just discussed, assigning a specific character to a space seems meaningless. Hanna Arendt suggests that it is also the activity that defines the public character of a room. Thus, its nature is influenced by the character of the activity that takes place there.[48]

[48] Schmid, Eberle, and Hugentobler.

> *"This means that, essentially, the room itself is neutral; it is the activities that take place within a specific room that determine its degree of publicness."[49]*

[49] Schmid, Eberle, and Hugentobler, 16.

In fact, during my visit to one of the cluster apartments of *Ecoquartier Jonction (GE)*, I noticed the very changing states of the activities happening in the collective space. In the kitchen area, two young adults were discussing while doing their own activity. The man was cooking for himself while working on his computer and the woman was cooking some snacks and getting her things ready to go on vacation. After a while, the woman put her headphones on – *how simple is it today to isolate oneself?* – and continued with her stuff. A little further away, two young girls, a resident, and her friend, were discussion on the couch with some music. Curious to know what I was doing, they invited me to join them in the *living room*. We started to discuss in this living area barely separated from the kitchen with a claustra, but the layout of the furniture and incidentally the music created a cozy atmosphere. After finishing eating, the man from earlier also joined us. All these

Photo 1 - Inhabitants in the collective space | C0208, Ecoquartier Jonction (GE) | Ricky Lee
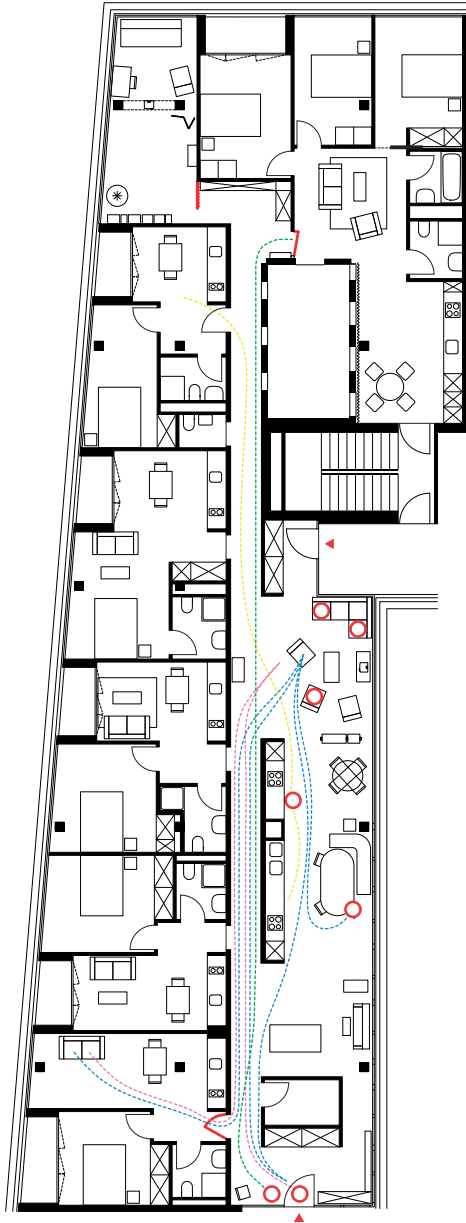
initial position ◯

man

his friend

woman

mother

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behaviors are interesting. Not only the visibility description *don't want to not be seen* – and perhaps consequently for the others *don't want to not see* – can be applied but the inhabitants are also open to welcome anyone to join their conversations or activities. Everything just happens without formality. At some point, the man received a friend and started a conversation with her next to us and when it was getting deeper, as they were talking about specific topics at work, they moved to his own living room. The interesting fact is that they left the door half open. Furthermore, this cluster has a complete apartment for a family with two children connected to it and even they didn't completely close their door. I found it surprising because the family apartment has its own entry from the staircase, but I saw the mother entering from the collective space presumably just coming back from work.

This raises then the question of the consequence of architecture in negotiating the ever-changing boundary between private and public in the cluster apartment since the "interaction between public and private has direct consequences for the daily coexistence of the residents of collective living spaces."[50] Shared spaces are either interior or exterior spaces, whose uses are restricted to a small community and in our case act as the element connecting the different private units. So, if a space can't decide upon the nature of an activity that take place within, it doesn't take away the importance of architecture. The space can be designed to suggest different kinds of activities and behaviors. It also influences the impression of the home. Architectural design has the possibility to regulate accessibility and the degree of publicness of space:

[50] *Schmid, Eberle, and Hugentobler, 15.*

51 Schmid, Eberle, and Hugento-bler, 16.

52 Semprini, "Espaces privés, espaces publics. Privé et public comme catégories pratiques."

"As the degree of public access within a space increases, the more accessible it becomes. A decrease in the degree of public access, however, results in increased intimacy and higher thresholds to access the space."[51]

The more an environment becomes accessible, and therefore public, the more it limits its field of freedom. Modal visibility has made us aware that there are many situations where the private and the public can intersect, but it is also possible to demonstrate the limits of each sphere. This comes back to the basic definition quoted a few lines above, which defined the private as hidden and the public as shown. It is obvious that conflict exists when the modal syntaxes are not in agreement. The meeting of a *want to be seen* and a *do not want to see* would correspond to a situation of an exhibitionist according to Semprini.[52] In the case of the cluster apartment, the collective space and the interaction between the inhabitants form a community halfway between *care* and *commerce*. It is therefore necessary to establish a limit between the private space *of* the inhabitant and the space *shared by* the inhabitants. On one side, the *room of one's own* should be isolated to protect the individual freedom and intimacy. It is the place where the visibility description *don't want to be seen* must be possible. The private sphere remains the freedom of the individual above all, where the decisions made concern only him. And on the other side, the collective space should protect the community from strangers while allowing all sorts of interaction between the inhabitants and their guests. The need for additional thresholds also depends on the size of the apartment. The larger the number of residents, the greater the need for additional intermediate thresholds. This vision is confirmed by Yves Dreier during our exchanges. One reason for this is an increase in relational

complexity and thus an intensification of modal syntaxes. Moreover, even though cooperatives offer participatory processes, which do not all have the same degree of freedom, many opt out. Thus, to accommodate this kind of situation and potentially the relocation of some residents in the future, it would be preferable to consider a more neutral design that would therefore involve multiple thresholds. This implies the use of architectural or object elements to define spaces and make their transition in such a way to create a boundary that is not rigid and abrupt, but flexible and gradual. Therefore, it is essential then to design spaces for interaction in a gradation from the most collective to the most private. In other words, emphasis must be placed on the threshold.

Threshold

Spatial medium

Threshold

> *« Le seuil est la clé de la transition et de la connexion entre des zones soumises à des prétentions territoriales différentes, et, en tant que lieu à part entière, il constitue la condition spatiale de la rencontre et du dialogue entre des espaces de nature différente. »*[53]

[53] Hertzberger, *Leçons d'architecture*, 45.

The words attributed to the threshold by Herman Hertzberger summarize its remarkable qualities. He identifies it as a functional transitional space while suggesting social and anthropomorphic aspects through encounter and dialogue. This brings up the possibility to stop and take a break in this place. However, the idea seems to deviate from the original meaning of the word. The threshold refers to the building. In fact, according to the *Schwellenatlas (2009)*, the origin of the German word *Schwelle* would even refer to the basic beam that supports a construction. In the architectural field, it is far more often identified with the door frame. This is the beginning of an ambiguity. While the threshold appears to be the base of a construction where a limit is fixed, separating two different universes, it is also the very place of the rupture by granting their access.[54] At the same time, Patrick Mestelan indicates that the etymology of the word *seuil* in French refers to the words

[54] "Schwellenatlas : von Abfall-zerkleinerer bis Zeitmaschine."

sandale and *semelle*, which would correspond to the board where the foot lands before crossing the door. The reference to the body limb and the door alludes to the act of crossing and thus a course. It reveals a path suggesting seeing the threshold as an opening with a certain *thickness*.[55] As we have already explained, the notion of the threshold applies to all scales. If at first the one for the door seems to have only room for a foot, the street as the threshold for the city or the district is enough to see the pragmatic meaning of *thickness*. For Mestelan, the threshold seeks above all to highlight spatial continuity. The questions of representation at different scales are only operational concepts responding to specific problems. This also makes it possible to give a logic of division for a better understanding of reality. He insists, however, on the correlations and the impacts of the work in different scales.[56] Thus, the threshold presents itself in various forms. *Schwellenatlas (2009)* denotes, moreover, a certain contradiction between the idea of an open house, which spread at the end of the 19th century, and the parallel development of all types of technologies and facilities. The new inventions acted like threshold through their aspects of organization, delimitation, and regulation of flows.[57]

Patrick Mestelan suggests that the notion of the threshold raises several questions, the first of which is related to the articulation of types of spaces. When it comes to linking two of them, three articulations are possible. The articulation between two exterior spaces forms the first. Then, the articulation between an exterior space and an interior space forms a second one. Finally, the third corresponds to the articulation of two interior spaces. Then, it is about the character of the limit. Indeed, the threshold can be expressed through a range going from the most material to immaterial. These extremes cover not only the impassable and

[55] *Mestelan, L'ordre et la règle : vers une théorie du projet d'architecture.*

[56] *Mestelan.*

[57] *"Schwellenatlas : von Abfallzerkleinerer bis Zeitmaschine."*

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permissive aspects, but also the degree and type of opening. The author then gives two pairs of examples to illustrate this. The wall and the airway both carry the impassable character. However, the first is materialized and the limit is spatialized, while the second is immaterial and the limit is a legal foundation. The portico has a material character, and the limit is spatialized like the wall, with the difference that it is very permissive. The highway is a pavement that is impassable only when used by cars. Another interesting question raised by Mestelan concerns the course. Indeed, the threshold can be crossed by humans in a physical or mental way. It is not limited to the passage of persons, but also opens up to light, gazes, sounds, smells and to many others. The journey can be mental and metaphysical. Moreover, the course can have different meanings. When an individual crosses the threshold to reach the outside, it is likely that he feels a desire to open himself to the world in front of him and to try to understand the environment through the eyes, or even to feel liberation. Conversely, the passage toward the interior pushes the individual to seek and protect an intimacy.[58]

All these questions are asked in order to harmonize the articulation of two spaces from different social hierarchy:

> *« Le seuil exprime une hiérarchie sociale, dont les rapports de « privacité » (privé/public) et d'intimité ne sont pas les moins essentiels. Il cherche à harmoniser les rapports d'espace aux appartenances opposées et contradictoires, par les caractères de sa limite, que sont sa matérialité et ses différents degrés et types d'ouvertures, ou par la spécificité du parcours qu'il engendre. »[59]*

[58] Mestelan, L'ordre et la règle : vers une théorie du projet d'architecture.

[59] Mestelan, 255.

To separate and to harmonize are essential to Patrick Mestelan. The purpose of the threshold is to create a spatial continuity and can therefore take forms as diverse as they are varied. This is very relevant in the case of the cluster apartment, which promotes the idea of a small chosen community, from which everyone has the possibility, and not the absolute will to retreat. It is about connecting the collective space with the private unit in a permeable way. The spatial articulations that interest us are then the interior-interior relationship, and maybe the interior-exterior one. For this reason, it is interesting to note that even in the case of the interior-interior relationship, the direction of the course has meanings. Indeed, some clusters assemble several types of private units. In the case of a suite, the exit toward the collective space reveals a desire for interaction, because technical reasons such as lack of equipment are not relevant. Whereas the single room, which does not have an individual kitchen (and sometimes not even a bathroom), force the inhabitant to leave his private sphere to fulfill some of his needs. It is possible to imagine that the dimension of *do not want to be seen* can be unfortunately broken from time to time. As far as the character of the threshold is concerned, it is quite relevant on the part of Mestelan not to count the number of states nor the forms but rather to indicate the extremes: materiality - immateriality. The threshold does not have to be materialized for humans to recognize it. On this subject, it is preferable to be interested in the work of Till Boettger about the *threshold space*, where he shares the importance of the human perception of space.

Based on Jürgen Joedicke's idea of the *between-ness*, i.e., the "interrelationship between space-defining elements and the space itself, which exists in relation to the sentient human being," he defines the notion of *threshold space*.[60] To understand it

[60] Boettger, *Threshold Spaces : Transitions in Architecture : Analysis and Design Tools,* 16.

properly, it is necessary to explain the different concepts involved with the general idea of space. In his argumentation, *space delimiters* refer to elements that define a *spatial body*. Depending on their character, the architectural space can be experienced either as a *closed* or *open body*. This means that, in some cases, the spatial body doesn't need a clear delimitation. He gives the Holocaust Memorial from Peter Eisenman as an example. The sculpture form itself the space while all sides are open.[61]

[61] Boettger, *Threshold Spaces : Transitions in Architecture : Analysis and Design Tools.*

The first notion to understand is that space can be sorted either as a *presented space* or an *experienced space*. The first relates to the old vision of architecture, where space is static and controlled by proportions, such as the human body, and geometry to manage aesthetics. This conception continued until the 19th century. Then the new vision of *experienced space* came out. The human being is put in the center of the space. It now makes the connection with the body and most importantly the human vision. According to the Boettger, "architectural space is created through the perception of the *space-delimiting elements*.[62]

[62] Boettger, 17.

This leads to the question of how human can perceive them, and the answer is the combination of the *sense organs* and a *basic orientation system*. In other words, the spatial perception described by Joedicke is based on the five senses - sight, hearing, smell, taste, and touch – with the addition of "a system of basic orientation, which includes the sense of above and below, in front and behind, or left and right."[63] The latter facilitates the comprehension of someone's position in space, while the senses add information to the idea of space. To that, Boettger adds the importance of movement, which contributes a lot when it comes to depicting a complex environment such as thwarting an optical illusion. Thus, the

[63] Boettger, 17.

immersion in space by strolling helps to perceive the atmosphere associated with it. And because motion is involved, the process also depends on the temporal dimension. Furthermore, the author refers to James J. Gibson who emphasizes the curiosity of the individual which implies many muscular motions to perceive. This means that the perceiver in search of understanding, interacts with the environment not only by strolling about, but also with constant adaptation of his *sense organs*. It could be little things such as adjusting the head for the eyes and the body for the hands. This attentive behavior forms a *system of orientation-investigatory* and combined with the *locomotive system*, which is important for counterbalancing movements with the environment, gather information about the space and its atmosphere while reaching a specific place.[64] The senses as a means of investigation clear up the words of Patrick Mestelan, who, we recall, talks about the pathway of lights, smell, sound and so forth. They contribute a lot to identify a space if we just think about that one can tell he's near a kitchen just by the smell of a pie.

Understanding spatial perception allows us to discuss about *movement spaces*. These are evidently spaces of transition and thus implies motion. It reveals the importance of the concept of *experienced space*, especially because they are often only partially delimited by *space-defining elements*. Its open *spatial body* is better, not to say exclusively, understood by immersion of oneself inside. The *movement space* fulfills tasks like distribution or redirection. This differentiates it from the "traditional" space which grants it the status of *passage space* rather than *place space*. This is the so-called *between-ness* that defines architectural space according to Joedicke. The concept of *movement space* exists thanks to the architects of the 20th century who envisioned their design by

[64] *Boettger, Threshold Spaces : Transitions in Architecture : Analysis and Design Tools.*

[65] Boettger, 19.

[66] Boettger, 32.

[67] Boettger, *Threshold Spaces : Transitions in Architecture : Analysis and Design Tools.*

putting the *percipient human* in the center. It led to the idea of the spatial continuity, "which means the series of spaces can be thought of and designed as an "enfilade"."[65] Indeed, lots of Modern architects pursued to design a *spatial continuum* by dissolving the floor plan rather than connecting defined spaces next to each other. These are for example Frank Lloyd Wright's Willits House, or the famous Barcelona Pavilion of Mies van der Rohe. They both designed their buildings by linking spaces with transitional zones. In the case of the Willits House, spaces are organized around a central unit with the chimney, staging the entrance and the exit of the rooms while having a continuous sequence. In Barcelona Pavilion, *space-defining elements* are disconnected from the structure which facilitate the spatial continuum. Thus, the architecture of the Moderns "is characterized by sequences of linked, interpenetrating spaces, by open spaces, spatial sequences that, on proceeding through them, open up ever new perspectives and that undergo constant changes."[66] Therefore, new types of thresholds were born.[67]

This finally leads to Boettger's vision of the *threshold space*. The term involves the notions of boundary and threshold, which were already introduced in the beginning of this sub-chapter. Therefore, we will just add information or remind elements to proceed. Just as Patrick Mestelan, Till Boettger notes that the limit can present itself in all sorts of forms and even becomes transparent or invisible (which are by the way different). But he mentions that the experience of the limit also depends on its context and dimensions. The drawing of a boundary always has repercussions in space or in the words of Joedicke: "The creation of space therefore always implies dividing off a smaller space from a larger one."[68] Then, Boettger also points out the double state of the threshold as being both a boundary and an opening but

[68] Boettger.

has surpassed the physical passage and involves any kind of space-linking/separating equipment. However, he makes us realize that the threshold is also a space-creating element.[69]

[69] Boettger.

> *"They [thresholds] are a preface to a space and create not only the transition but also the space itself."[70]*

[70] Boettger, 47.

Therefore, *threshold space* is the conjunction of all the aspects discussed in this sub-chapter and carried by the two terms *threshold* and *space*. While the first term implies the aspects of transition and demarcation, the second refers to all experiences felt by the individual inside the spatial environment. The *threshold space* refers to a spatial and temporal state. It's an experienced sequence that is not reduced to a linear lecture. And because the temporal dimension is involved, the individual can perceive the crossing at different speeds (accelerating or slowing down). This space can also ease social contacts. It's an interface that set forth to the next spatial experience.[71] In summary, Till Boettger's definition of *threshold space* can be stated as the following:[72]

[71] Boettger, *Threshold Spaces : Transitions in Architecture : Analysis and Design Tools.*

[72] Boettger, 49.

- "A threshold space defines the opening of spatial delimiters during the act of crossing them."
- "A threshold space is a transition that separates spaces from and connects them to one another."
- "Threshold spaces are transitional spaces that provide a spatial preface to the functional spaces that follow."

The threshold has therefore a complex signification and cannot be defined simply as an opening in a boundary. It has a complex ambiguity and was already not countable in the past and certainly even less with the development of new

technologies today. Indeed, the simple invention of the telephone has disturbed the entire bourgeois house but today the proliferation of any kind of devices that connect to the internet is unbelievable. Threshold is not limiting to the smartphone or the computer, but any types of facilities that can have control of the passage. Put aside the digital, the threshold through the definition of Peter Mestelan and Till Boettger presents an important spatial relationship. Any new delimitation implies a spatial change, which raises the question of the connection. The threshold therefore tries to harmonize the opposition of two different worlds, while being itself related to space and time, revealing a sequence of a course. The human perception is strongly entailed to this concept and implies the use of multiple senses. Regarding the cluster apartment, it is therefore important to understand that strictly delimiting specific areas could potentially be excessive. The human perception, through movement and *sense organs*, can surpass the need to specifically delimit a zone. Furthermore, the collective living needs visual connections and physical interactions with others. It is an expression of communal life. However, it must be mentioned that the possibility should not be rejected. Indeed, depending on the level of intimacy desired for a room, the threshold or even the room itself may require an enclosed spatial body. The threshold in this type of dwelling is therefore related to the negotiation between the private unit of an inhabitant and the living spaces shared by the small community. To pursue the topic, the following sub-chapters concern different domestic spaces and elements that are interesting to be mentioned separately from the analyses. It is not intended to be a list of thresholds, as one can refer to the *Schwellenatlas (2009)*, but instead to highlight some aspects that differentiate or correlate to a *normal* house, so to speak.

Entrance

In an apartment building, different intermediate spaces create the gradual transition from the public to the private. Christophe Joud points out that the real domestic threshold is the floor landing. Indeed, the landing is still common to the inhabitants of the same floor, but some expression of their individuality can already be found. The entrance isn't just about the spatiality or its agency in the plan. It is also about the atmosphere. How much of the interior privacy is reflected at the entrance when the door opens? Three entrances are then explained:[73]

[73] Joud, À l'intérieur : les espaces domestiques du logement collectif suisse.

- Hall -

The hall is a generic word that expresses the entrance of an apartment or of a building. Back in the English Middle Age, it corresponded to a great reception room. It was a multipurpose room where the social life of the lord takes place and acted as the entrance, the living and dining room, and the bedroom. Later with the specialization of rooms, the hall took the entrance as its main function.

- Antechamber -

While the hall is English, the antechamber is French. It is the first room of the bourgeois' house and presented itself as a showroom to welcome visitors and keep them waiting. The antechamber articulates the house and gives access to other rooms. It often appears in central form to properly function, but it can also the linear form, in which case it is called a gallery.

- Vestibule -

The vestibule is like the previous entrances, but it induces a more utilitarian dimension. The private threshold needs to be practical for the daily routine. It is convenient to have a place to undress, especially for wet cloths, to take off and put away

Photo 2 - Entrance | C0208, Ecoquartier Jonction (GE) | Ricky Lee

shoes and somewhere to drop off the keys. The quality of the vestibule does not reside in its size but really in how it helps the resident to perform basic need and still carry distribution function.

In the cluster apartment, the question of the entrance starts with its existence as a spatial body. Indeed, the particularity of this type of dwelling, to recall, is the use of the collective space as a transitional space as well. Depending on the spatial agency the entrance may not give the sensation of a proper entrance, by its lack of *space-delimiter element*. Another interesting aspect is to question whether the resident, or better, a guest can feel the host's home by entering inside the common space. Christophe Joud mentioned the unveiling of the inhabitant's privacy. Well, how much does it reveal? In the case of the CODHA, during my two visits, I feel like the sensation given is really about the community. Even in the case where the entrance directly opens onto the common space, I can feel the presence of multiple inhabitants already from the first step. The big spatiality of common space with the large furniture, such as the large dining table. Then, looking around the entrance, everything is confirmed just by the coat hanger and the countless shoes on the rack or on the floor. So, the first entrance still has the very utilitarian function. One would not want to cross the entire space to get to his private unit with his wet coat on. Then concerning the entrance of the private space, it is usually done by a vestibule which acts as a distributive system and threshold for privacy.

Photo 3 - Entrance | C0114, Ecoquartier Jonction (GE) | Ricky Lee

LEGALIZE GAY!

Door

The door is the embodiment of the threshold as we have seen. It is the physical element that creates the boundary and its opening. Therefore, it is quite normal that it carries a lot of meanings and presents itself in various forms. In fact, according to Christophe Joud, the development of the interior door in all sorts of manifestations goes hand in hand with the separation of usage and the specialization of the rooms since the 17th century. The door either open or closed can arouse a lot of different feelings, such as expectation, withdrawal, anxiety, and can trigger imagination. The function of the door is to protect the individual from the gaze of others to create intimacy. It also orders the house by creating relation with spaces. However, Christoph Joud indicates that doors carry different weight of expression regarding the status of the rooms and the importance of functions to which they give access. As an example, the bedroom's door has high protection value as it guards someone's most intimate desires. Closing is therefore essential in the house, but opening is just as important as it guarantees the good deployment of daily life according to the author. It ensures the physical and visual communication between domestic rooms. The various forms of the door inside the same house can create a hierarchy of space and enrich its spatiality. The structuring of spaces can be done by the size of the door. Doors that go to the ceiling can create a spatial fluidity and continuity. Transparent or translucent doors can create a soft separation. This is usually used to separate the kitchen and the living room, which are often communicating with each other. Doors can also create dynamic relation and routes inside the house. Depending on how the network of doors is positioned, it changes the status of communication. If they are aligned, then a static feeling appears, while a shift implies a diagonal crossing.

Photo 4 - Entrance door | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Christophe Joud doesn't fail to mention that the door articulates a route because it is both the exit of the previous room and the entrance of the new one. It structures the house with this principle too. By the way, he reminds us that the strong materiality of a door or just a marked framework influence the perception of a room. When it comes to entry doors, the materiality and the robustness are essential for protection, however, in some new building, the landing doors are partially glazed. It is the case in Kalkbreite, which wants to express the community aspect of the cooperative.[74]

[74] *Joud.*

This last comment is extremely relevant as it is not only the wish of Kalkbreite but to most of them. The cluster apartment being mostly promoted by cooperative, they all have this distinction. In fact, the entrance door is often completely gazed and part of the bay window. In opposite, the opaque door is dedicated to interior rooms and often without much of distinction from the cubbyhole to private units. In fact, an inhabitant of the cluster C0114 told me that the private unit's door does a poor job in terms of noise isolation. It has a little gap at the bottom for ventilation, and unfortunately it leads to noise leak. But they also told me they rarely lock their doors even if they go on vacation. In general they often leave their door half open.

Hallway

The hallway is the perfect example of the *threshold space*. As a threshold, it usually separates the family domain from the individual domain and as a space, it refers to motion and transitional states. This domestic space carries the function of distribution and thus exists to serve main rooms. But, if we remember, a space is created by *space-delimiting elements* according to Till Boettger. The hallway, as a *movement space* already, is delimited – *created* – by walls and doors of the served rooms, which are representing the two ambiguities of the threshold itself. Therefore, we can say that the hallway presents itself as a double intermediate state, a redundancy of the threshold aspect.

However, Lorraine Beaudoin points out that the hallway evokes a negative aspect, as individuals must often endure it rather than choose it. For her, it is difficult to attribute the status of *space*, because it is dedicated to motion, and one doesn't invite itself to stay. That is the reason why people tend to think of it as a waste of surfaces. It is therefore understandable why this has been a central topic for space optimization during the early 20th century when houses were mass-produced. Although removing it, like the German avant-garde did, and we face problems of intimacy. Later, in the 80-90s in Switzerland, the dimension of the hallway was questioned. It was in response to the disappearing *typical inhabitant* and the idea was to create rooms of equal size and without specific function. This was ensured by the hallway. But the idea is to not restrict it to transition only but make it as an extension of the other rooms and thus a place to stay with furniture. So, when it comes to distribution, the question of a hallway always appears and even though it has a bad connotation, it hasn't completely been rejected in history.[75]

75 *Joud.*

- Hallway and enfilade-

In the past, there wasn't a specific distribution system. According to Robin Evans, the distinction between circulation and living rooms appeared in the 17ᵗʰ century. It granted independence to the latter and thus avoided any unwanted visit. Although, the birth of the hallway didn't replace the enfilade all sudden. In fact, it was a secondary circulation device, usually parallel to the old system, and used by the domestics. It allows nevertheless the specification of the function of the rooms and the separation of the master/domestics, parents/child, collective space/intimate space. Therefore, distribution has a lot to do with the functions of the house and combining both the hallway and the enfilade is also a possible manner to distribute. Le Corbusier and Pierre Jeanneret juxtaposed day and night spaces in the *Weissenhof Siedlung (1927)* and had precisely given two solutions respectively. During the day, the enfilade was used, and the house was viewed as one unique space. At night, sliding walls partitioned the space and access was through the hallway.[76]

[76] *Joud.*

Other types of hallways exist too, such as the *route hallway* and *dynamic hallway*, which are both presented with a more poetic view of the Lorraine Beaudoin. However, the topic of the Hallway mixed with the enfilade is an interesting aspect. To some extent, the cluster C0114 of *Ecoquartier Jonction (GE)* uses this aspect. Instead of using the proper enfilade with connecting doors, the continuous space can be associated with the same idea. This succession of main spaces is paralleled with a hallway that distributes the private units in a more discreet way. Two different atmospheres can be felt especially with the lights on.

Photo 5 - Hallway | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Foyer

According to Alexandre Aviolat, the centrality has an important function in housing. The origin of the term in French refers to the place of fire. He points out that although fire domestication helped a lot for functions such as protection against animals or cooking, it created above all an area around which people gather. The centrality in the house is then expressed through the chimney. But the study of plans of any period shows the use of a unique or multiple foyers is, according to the author, an ancestral need for centrality. Without the chimney, it is now translated by a reference space. He also mentioned the analogy of the house as a city, where streets lead to a square by Josef Frank. The latter thinks the house needs a *Sitzplatz*. It's an additional space in the house that organizes the surround domestic space and is sometimes bigger than the living room. Therefore, he indicates different types of centralities in housing typologies with examples:[77]

⁷⁷ Joud.

- Centrality by usage -

The expression of the centrality doesn't need to be physically expressed. The repetition of usage, and thus with furniture in place, can be sufficient. It can also be suggested with the structure.

- Central place -

This corresponds to the *Sitzplatz* or, in other word, the square of the house.

- Introverted center -

In this typology, the central place is geometrically positioned in the middle of the house, and only receives light through other rooms or loggias. There's also the possibility to add layers of distribution around it to make it more independent and neutral. According to Alexandre Aviolat, this type can welcome a diversity of households, as each room can be exchangeable.

Photo 6 - Collective space and hallway | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 7 - Entrance of the family apartment in the cluster | C0208, Ecoquartier Jonction (GE) | Ricky Lee

- Place of the meal -

Today, the kitchen can take the role of the foyer, especially when it's habitable. A lot of projects are conceived with a central place for eating with the kitchen next to it. The author speaks of it as a gathering foyer but noticed that it is still rare to find a central kitchen in housing, because some tasks are still considered not appropriate to be shown. But in the project of Lütjens Padmanabhan (Zurich 2013-2017) they used the kitchen combined with the dining room to articulate the house. They called it the *Küchendiele*.

If the foyer is not by definition a transitional space, it is, however, a central element in the house. Depending on its size, position, and relation to other spaces, the foyer can become the articulating element of the surroundings and thus carrying the function of distribution. Furthermore, the foyer, or rather the central space(s) of the collective house, is the reason why people choose this lifestyle since it gathers the community together. It is also the motivation for the study of thresholds to negotiate private and collective spheres. In the case of the cluster apartment, Yves Dreier, architect of *Ecoquariter Jonction*, believes that the kitchen is the main element as it gathers the community together. Therefore, the whole process is to facilitate the pathway to this place. As we have seen, the creation of one space, has a consequence of others. And, because it is not necessary to have a physical delimitation, the *movement space* can be associated with this centrality.

Photo 8 - Living space | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 9 - Kitchen | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Threshold

Spatial medium

Spatial continuum

These days it is common to find typologies with multiple links between different rooms of the house. One of the most common is the connection between the living room and the dining room. The concept is to provide the feeling of a continuous and fluid living space. This perception of a unity of the day spaces contrasts with the closed intimate boxes that constitute the bedrooms or, in other words, the night spaces. It is, however, not a new thing. The continuous space was already aimed by the Modern Architects of the late 19th century. Frank Llyod Wright was actually one of the pioneers regarding new domestic dimension by introducing the open floor plan in houses. He disrupted the traditional house by interconnecting volumes and by breaking the box. This consists of removing angles to connect with other rooms. Mies van der Rohe introduced the flexibility of spaces by using metal columns and by grouping services in cores. It sure reveals a different perception of space compared to the traditional houses where walls defined every room.[78]

[78] Marchand and Aviolat, Logements en devenir : concours en Suisse 2005-2015.

Photo 10 - Kitchen | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 11 - Kitchen | C0208, Ecoquartier Jonction (GE) | Ricky Lee

In contemporary architecture, it becomes ordinary to find an open kitchen in the living room, which is also the place to eat. This surely is due to space constraints and thus an economical aspect. Having a kitchen in a separate room to avoid any

inconvenience concerning smell or noise. In this regard, one resident of the cluster C0114 from *Ecoquartier Jonction (GE)* did say that when people cook fish or other strong-smelling food, they will naturally go to close doors of any private units around and open the windows as courtesy. It is actually not a big deal for them. Fun fact, during my visit, two residents were cooking fish, but a third inhabitant joined the kitchen to cook her own food without any complaint. Although it didn't smell at all. Furthermore, it is interesting to establish the similarity between the traditional house and the cluster apartment. In both situations, the spatial continuity concerns evidently only the common spaces, on one hand from the family domain and on the other from the small community domain. In the plans, the suites of the cluster have just a little bit more complexity regarding partitioning.

As a last input ont this topic, I think the Rolex Learning Center is a relevant example to illustrate the spatial continuum of a building. It welcomes different activities without too much disturbance. When we think about it, the continuous space welcomes a restaurant, a library, a bookshop, a forum, and so forth inside the space. Of course, the huge size and the topography of the building help a lot, but it is nonetheless a pleasant interrelationship. Students would sit on beanbags close to a window without paying attention to the passer-by.

Threshold

Spatial medium

Significance of objects

In the sub-chapter *tension*, we mentioned the neutral aspect of a room which was implicitly suggested by Hannah Arendt. To recall, the philosopher affirmed the public or private character of the room is influenced by the activity taking place in it. By overlapping the theory of Till Boettger, we can say that the *space-delimiting elements* define a *between-ness*, or simply the volume, to welcome a range of physical or psychological activities with different degrees of publicness. However, in the continuous space, which is the interpenetration of different rooms of a traditional house, a multitude of activities can take place at the same time and even with external persons who could be unknown to some. My visits to the cluster apartments are examples of that. Each time, it was only one inhabitant who agreed to give me a tour of his home. When I arrived, they presented me to their roommates we meet during the visit, but none of them were aware of my coming. Apart from the boundary of space, Till Boettger affirmed that a space is understood through the immersion of oneself. The gathering of all the information about the environment and the atmosphere that I feel with my so-called *sense-organs*, allows me to identify the multiple characters of the space. The question is what they are relying on? The activities, of course, but most importantly the presence of specific objects.

To this topic, we will rely on Andrea Semprini again. Indeed, his presentation of the Dutch houses was supported by an interesting object-oriented analysis. He criticizes the simple vision of a space as taken for granted. This also applies to the furniture. People don't question it, rather only take it as given. They only focus on their functions and signification, but rarely question their existence nor their position. Therefore, Semprini suggests that a space can be studied through two different problematics. The first one is to analyze the object *through its position in space* and the second is to analyze the space *through the presence and position of the objects*. The presence of a visible object in a specific place rather than in others can change its signification. Even its relocation is meaningful. In this case, the initial and final location should be studied with the type of movement involved. This is relevant to his study as he analyzes the evolution of houses over several decades. Then the visibility of an object in a specific period and location is absolutely not futile, because the very same object might not have been present. It could also be there but at another position, which may change its signification. Thus, the presence or the absence are both important in analyses. He suggests analyzing with comparisons in order to *see the absence of an object*. All of this, that is the positioning, moving and so forth, are related to humans' actions which means that are part of a social, historical, and cultural aspects. The author likes to think that humans talk about themselves through objects.[79]

> *"Les objets sont plutôt des opérateurs,*
> *ils créent les situations et les modifient,*
> *ils manipulent les acteurs et les*
> *constituent en tant que sujets engagés*
> *dans des pratiques, ils définissent le*
> *cadre de leur manifestation autant*
> *qu'ils sont définis par celui-ci."[80]*

[79] Semprini, "Espaces privés, espaces publics. Privé et public comme catégories pratiques."

[80] Semprini, 139.

In his study of the Dutch houses, he compares their evolution from 1930 to 1990. He notices that the houses become more and more open, and spaces are less delimited. Panels and corridors disappeared with time, among other changes, but resulted in an accumulation of objects that acted as a filter to protect the privacy on the ground floor. However, his theory about the existence, visibility, and position of the objects and furniture is relevant to us in order to understand the demarcation and usage of the space. The flexibility and the character can be seen through it. A basic example is the position of the kitchen in the apartment. As we have seen it is the most important element, because of its gathering effect in the collective living. Moreover, in a continuous space, the kitchen is usually just a block of furniture completely open. Thus, its position determines the foyer which is not insignificant. Another example would be the installation of a curtain under the initiative of the inhabitants of the cluster C0208 in *Ecoquartier Jonction (GE).* Their apartment has a small room connected to the common space without a door. It was in the beginning conceived as a workroom according to Yves Dreier. But the usage is actually flexible. During covid, around three persons used it for teleworking, but it is also used as a projection room. Thus, the residents decided to install a curtain to have the possibility to close the room. Speaking of the significance of objects, it is curious to see a Christmas tree there with a fake chimney. They created another foyer.

Photo 12

Analysis

In this final chapter, we will analyze four cluster apartments with different spatial organization in order to see their benefits. These are:

Stadterle, Basel 2017
Buchner Bründler Architekten
Cooperative Zimmerfrei

Ecoquartier Jonction, Geneva 2018
Cluster 0208 & Cluster 0114
Dreier Frenzel Architecture
Cooperative CODHA

Mehr als Wohnen, Haus A, Zurich 2014
Duplex Architekten
Cooperative Mehr als Wohnen

This graphical analysis is composed of three types of drawings. First the identification of the private and the collective spaces. These are measured in the surface to understand how much is reduced and how much is shared. Then the second type of drawing consists of identifying the threshold spaces, and thus the mediation between private and public. And finally, the visibility map allows us to have a global understanding of the vision. What can a person see when standing in different positions in the collective space. The green hatches show the visibility of the red circle combined or alone and with only the first door of the private unit open. The brown hatches show an example when all the doors of the private units are open and the viewer is positioned to get a better look inside while not leaving the collective space.

Photo 13

Stadterle, Basel 2017
Buchner Bründler Architekten

a

b

c

i

d

e

f

g

h

Common space

i - 90m²   3 connected spaces

Private units without kitchen: 8

a - 34m²   2 rooms
b - 33m²   2 rooms
c - 20m²   1 room
d - 37m²   2 rooms
e - 39m²   2 rooms
f - 38m²   2 rooms
g - 24m²   1 room
h - 39m²   2 rooms

Average

Private unit 33m²
Common space/unit 11.25m²
Equivalent 44.25m²
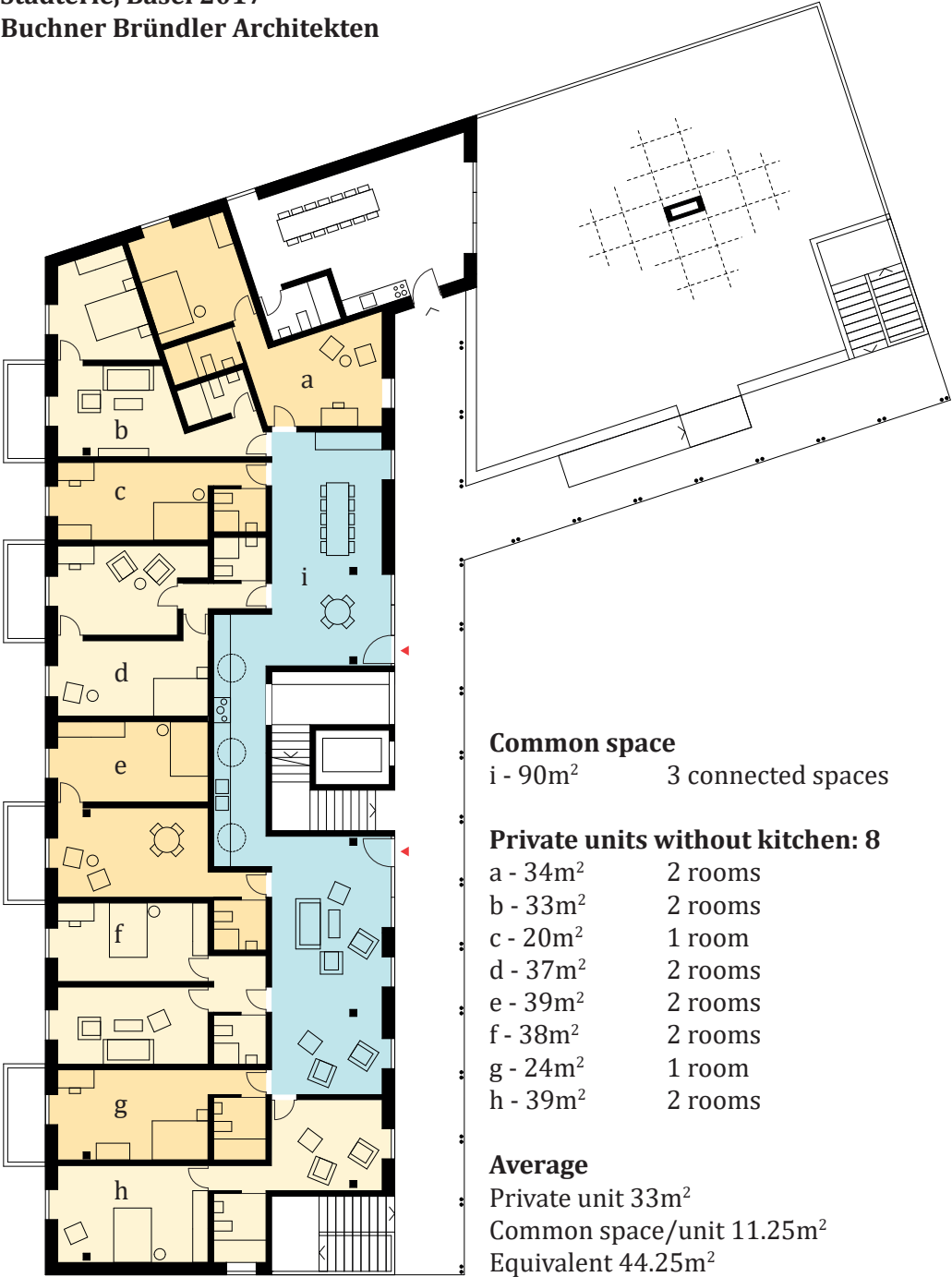
Threshold space

Private
a - living room / vestibule behind
b - 3.6m^2 vestibule l=1.7m
c - 1.7m^2 vestibule l=0.9m
d - 2.9m^2 vestibule l=0.9m
e - 1.9m^2 vestibule l=0.9m
f - 3.8m^2 vestibule l=2m
g - 1.9m^2 vestibule l=0.9m
h - living room / vestibule behind

Both (a) and (h) located at the extremities don't have a private threshold space. However, the position of the door in the corner protects the living room. Cf. the visibility map.

The bathroom and its sliding door help to create the private threshold.

Common
There is no threshold in the common space at all. The typology is organized from left to right: the most private to the most public with bathroom axis as the unique threshold to cross from the private to the collective.

exterior walkway l=2.5, L=35m
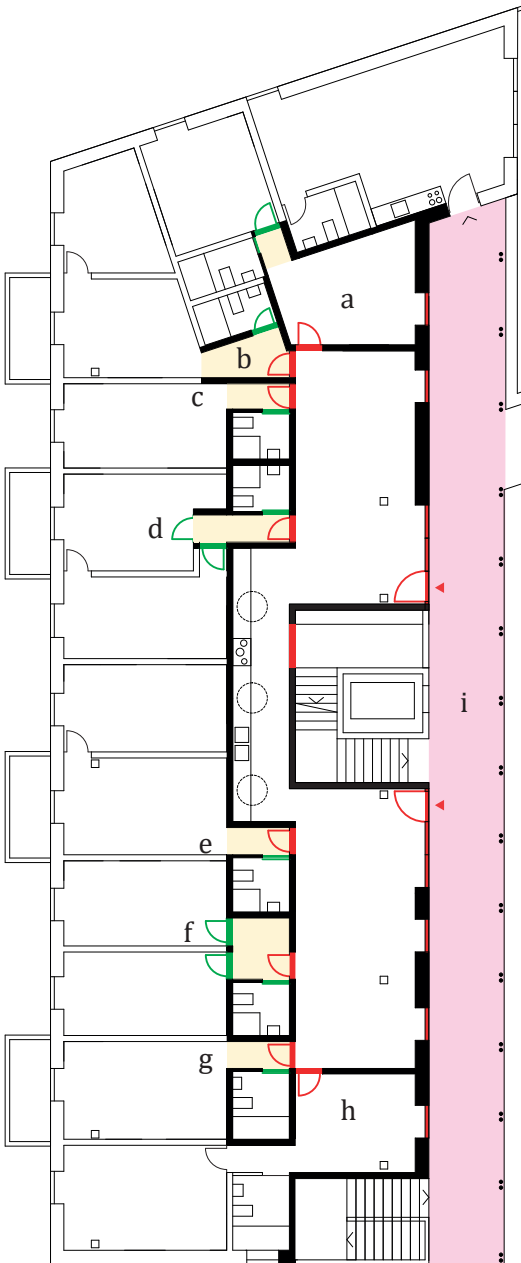
Red = primary threshold
Green = secondary threshold
Black = space-delimiting elements
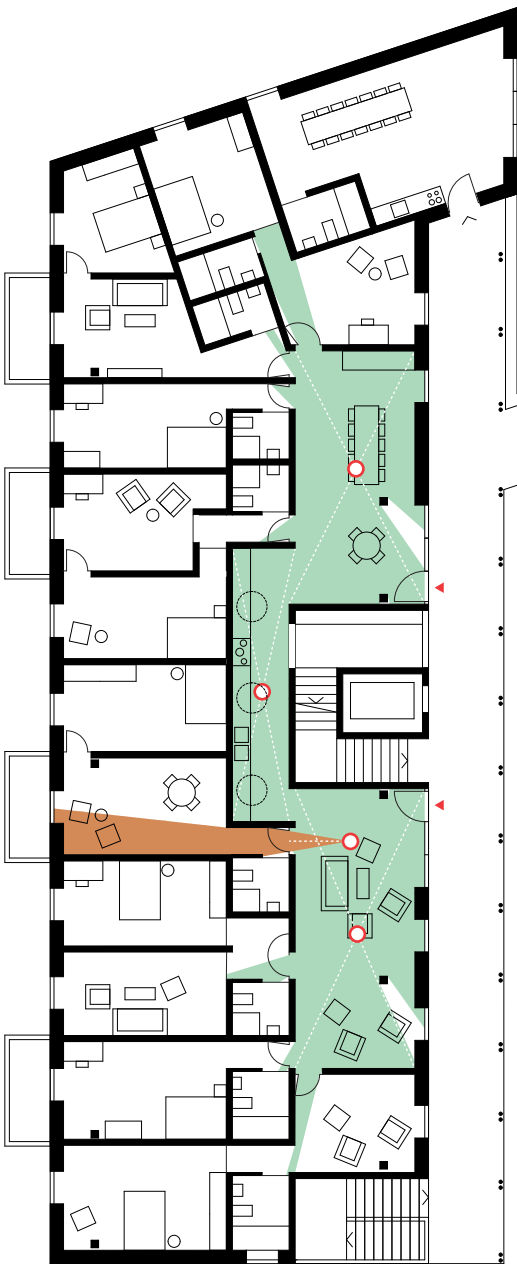
Visibility map

This visibility map shows the 360° vision from the center point of each room of the common space. Stadterle uses the collective space without any additional common threshold. This typology uses directly the foyers, centers of the house, to distribute other rooms. It is exactly the definition of the cluster apartment typology, but here the relationship created is extremely strong and maybe too intrusive. Every room is dependent on the foyer and it makes discrete exist difficult, if not impossible. Morever, there is no proper entrance space and thus from the exterior walkway to the front of one's own apartment door, the vision of him is total.

The brown hatch shows the vision of a person standing in the center axis of the living room and looking directly inside the private unit which doesn't have a second door to close the vestibule.

The kitchen in Stadterle is isolated behind the staircase and connected to the other spaces with its angles. Thus, in the center of this space, the person has low vision on others. This is a little bit contradicting with the idea of gathering together in the kitchen.
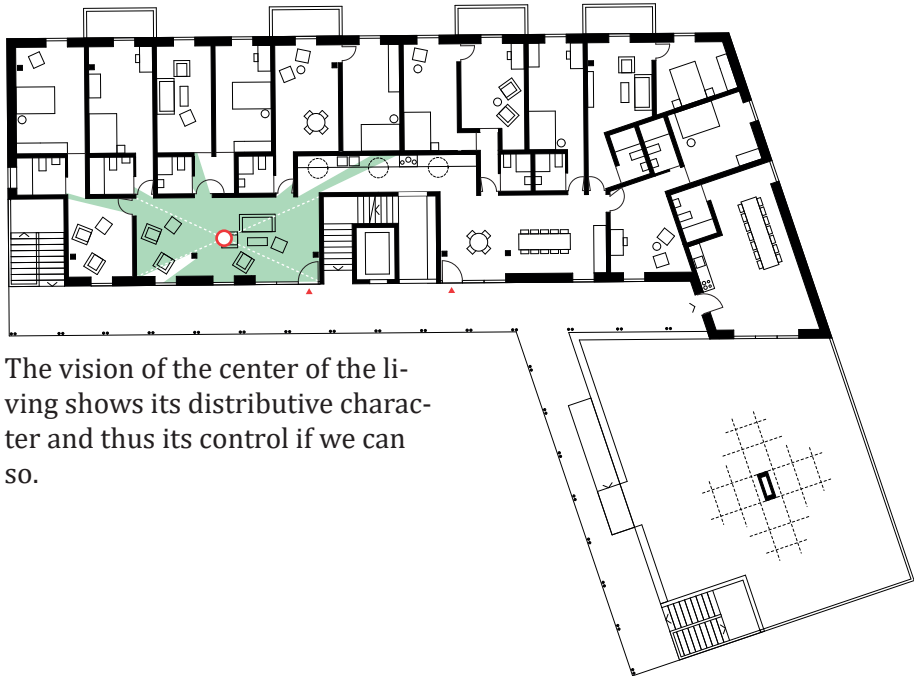
The vision of the center of the living shows its distributive character and thus its control if we can so.

Photo 14

Photo 15

Ecoquartier Jonction, Geneva 2018 - Cluster 0208
Dreier Frenzel Architecture
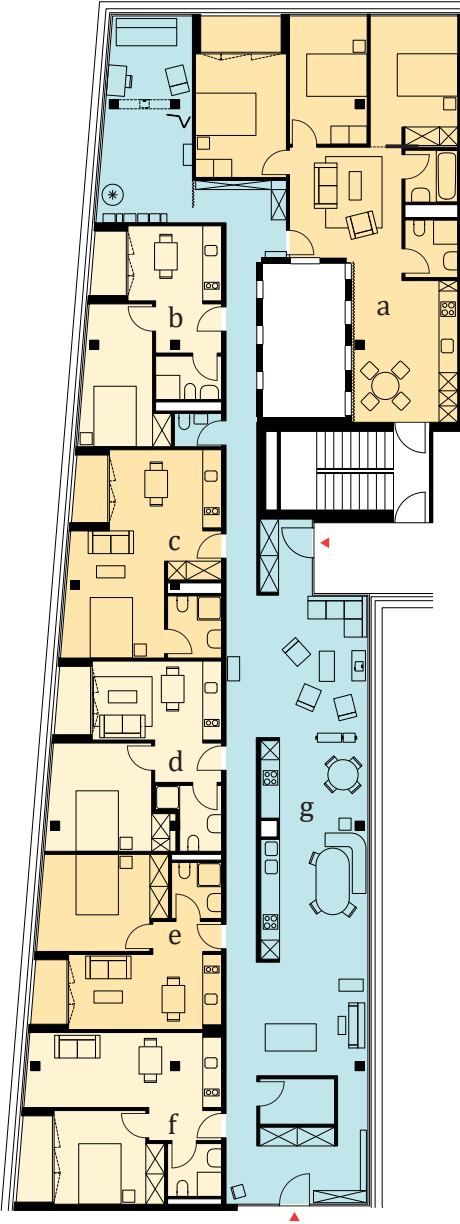
Common space

g - 136m²   continuous space

Private units with kitchen: 6

a - 77m²   5 rooms
b - 29m²   2 rooms
c - 33m²   2 rooms
d - 34m²   2 rooms
e - 34m²   2 rooms
f - 35m²   2 rooms

Average

Private unit 34.6 m²*

If (a) is counted as 2 units, thus 7 units.

Common space/unit 19.4 m²

Equivalent 54 m²
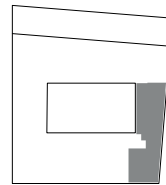
Threshold space

Private

a -	/	living room
b - 3.5m²	vestibule l=1.6m	
c - 0.6m²	alcove l=1m	
d - 2.9m²	vestibule l=1.3m	
e - 2.3m²	vestibule l=1m	
f - 2.4m²	vestibule l=1m	

All have a private threshold space except (a), which is also compromised by the courtyard. Curtain is used as a solution.

Common

g - 38.5m²   hallway l=1, L=34m

Temporary privatization

h - 20m²
multipurpose room
teleworking and film projection

i - 1.7m²
common bathroom

j - 2.8m²
entrance l=1.2, L=2.5m

k - 7m²
entrance l=1.9, L=3.7

This long corridor guides the inhabitant or visitor to every room and leads to the privatizable common space at the end.
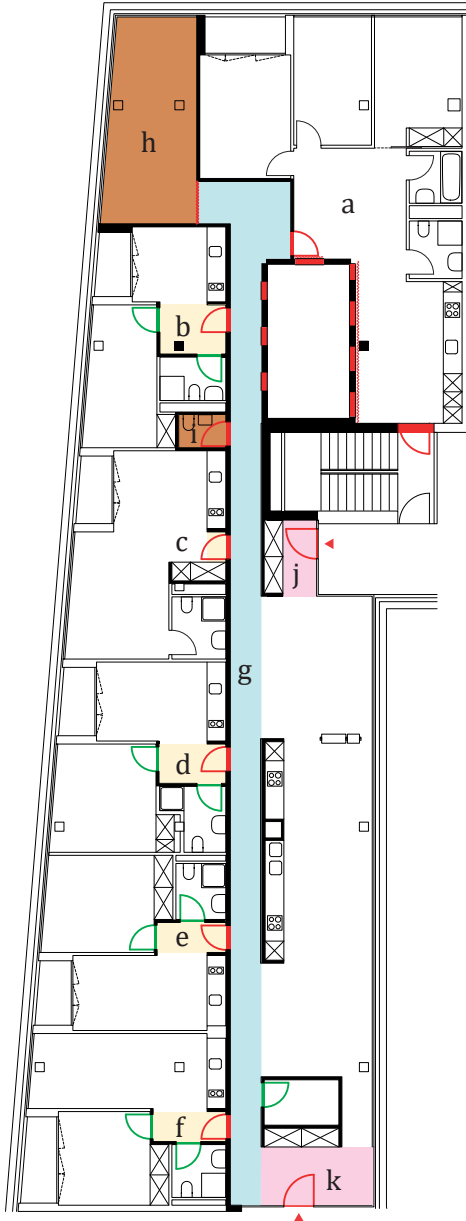
Red = primary threshold
Green = secondary threshold
Black = space-delimiting elements

Visibility map
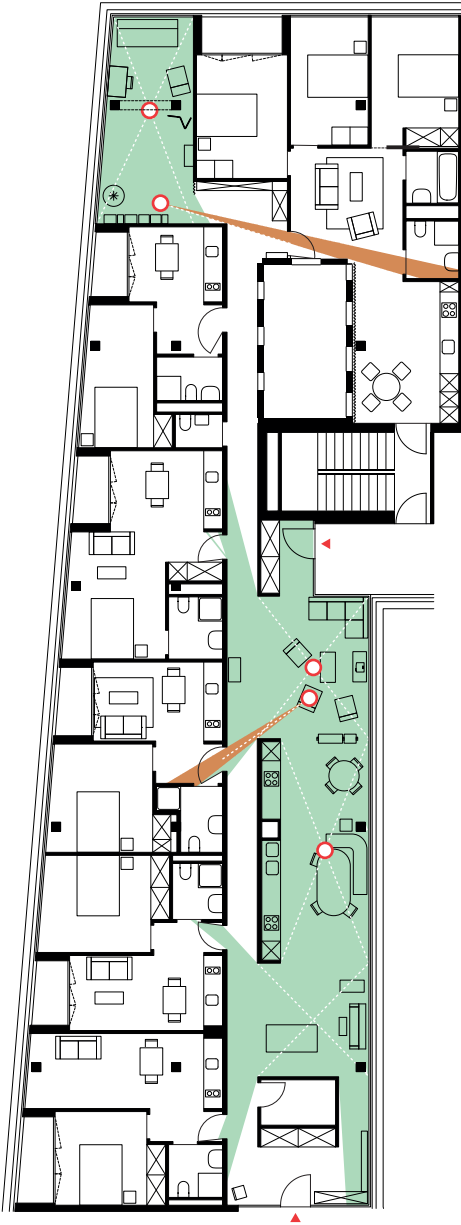
Dreier Frenzel Architecture uses a double concept of space when it comes to the transition. On one side, there is a continuous space where the inhabitants find the collective kitchen and the living rooms. This greatly represents the gathering effect of the community life. There is no threshold, except the objects. In fact, we recognize the function used, favored or chosen by the inhabitant of a particular area only through them. And on the other side, a long corridor distributes all the private units. Here, the kitchen is acting both as a barrier and the creator of the space. The hallway is perceptible even with interruptions. Another interesting point is that the second entrance is created with fixed cabinets which reinforces the hallway and thus protect even more the private sphere.

The brown hatches try to look into the private space from a correct position in the different collective space, but it is really difficult to penetrate in it. The top one here has an extremely narrow viewing angle and it crosses the bathroom only if we admit its door is open. For the bottom one, not matter how you move in the living room, it is difficult to look into more, because of the alternating of space with a bathroom and the living room.
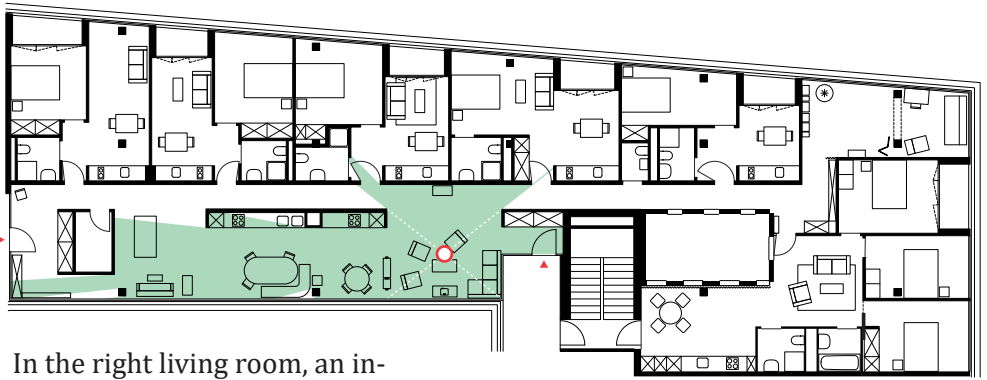
In the right living room, an inhabitant is able to see the whole collective space at once, but not the private area.
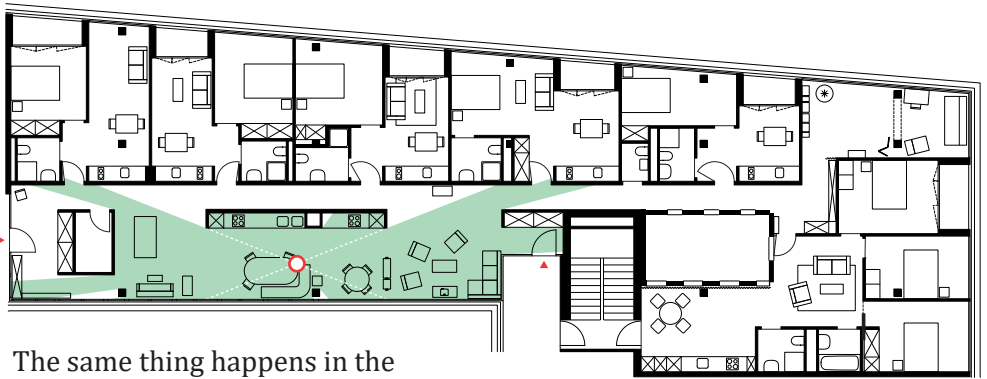
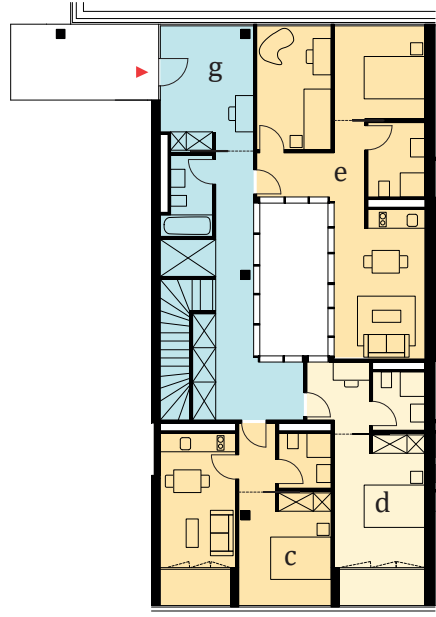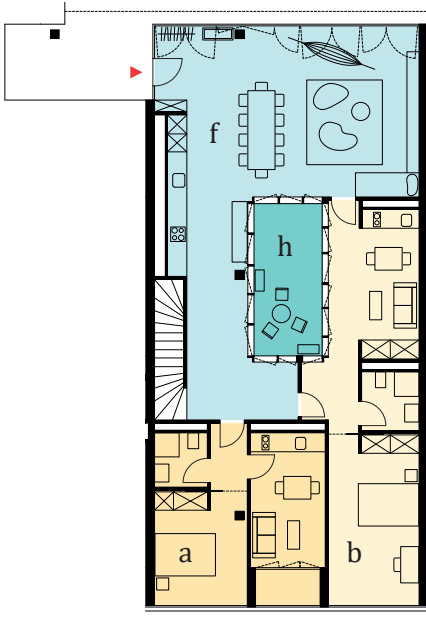The same thing happens in the middle of the collective kitchen.

Photo 16

Photo 17

Ecoquartier Jonction, Geneva 2018 - Cluster 0114
Dreier Frenzel Architecture

Common space

f - 68m²   continuous space

g - 41m²
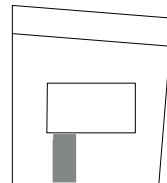hallway and entrance/multipurpose room

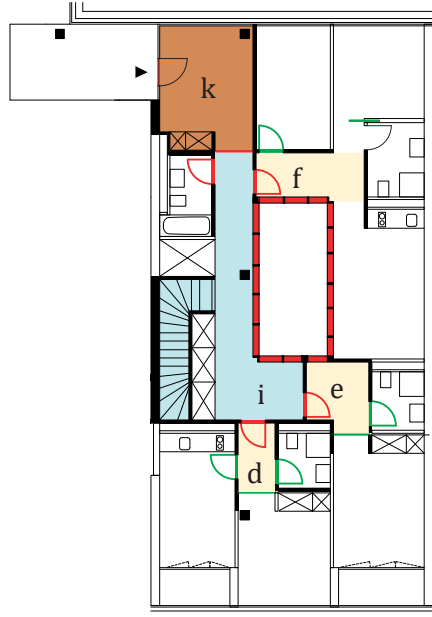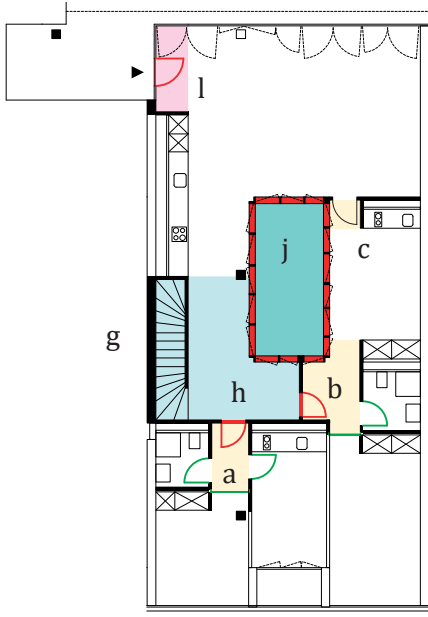h - 11m²   courtyard

Private units with kitchen: 5
a - 31m²   2 rooms
b - 40m2   2 rooms
c - 31m2   2 rooms
d - 25m2   2 rooms
e - 45m2   3 rooms

(e) was a couple and they broke up. The one who stayed found someone to share the private unite.

Average
Private unit 34.4m²
Common space/unit 24m²
Equivalent 58.4m²

Threshold space

Private

a - 2.7m²   vestibule l=1.2m
b - 4.8m²   vestibule l=1.9m
c - 0.95m²   alcove l=1m
d - 2.8m²   vestibule l=1.2m
e - 4.5m²   vestibule l=1.9m
f - 5.4m²   vestibule l=1.5m

While (e) a vestibule big enough to put a small table benefits some light through the patio, (b), (c), and (f) are all exposed to the gaze of others. The long typology requires this system to bring light but overexposes the living room of two units. Here sliding doors are useful for units with the door face to the hallway (a & d).

Common

g - 4.6m²   staircase l=0.97m
h - 12.8m²   hallway l=2m
i - 14.2m²   hallway l=1.2m
j - 11.3m²   courtyard l=2.2m
l - 3m²   entrance l=1m

Temporary privatisation

k - 12.3m²
multipurpose room/second entrance
l=3, L=4m

This is possible with the sliding door, although I saw a resident doing some stretching with the door open.

Red = primary threshold
*Green = secondary threshold*
Black = space-delimiting elements
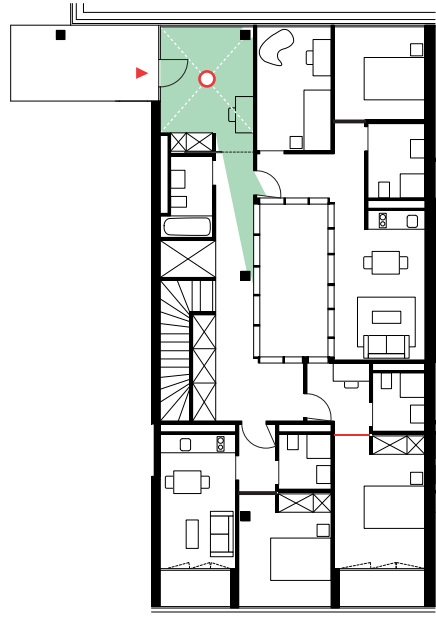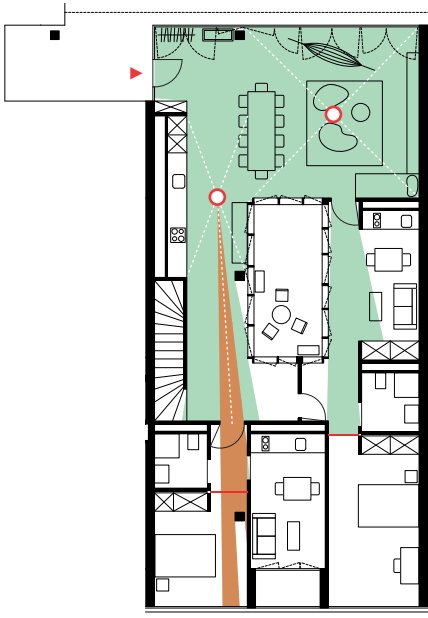
Visibility map

Conceiving a cluster apartment with a duplex typology is interesting. It allows splitting, or a least balance the collectiveness between the two floors. The evident logic, which is the case here, is to put more private units on the second floor, away from the possible disturbance. The narrower hallway (2m to 1.2m) gives already the impression of a different world when arriving from the staircase. This floor is the domain of the private even if there is a multipurpose room in the corner. This is due to its size, way smaller than collective space on the first floor, it allows peaceful activities such as yoga or stretching as I saw during my visit. This entrance is also less used by the inhabitant.

Then, when it comes to visibility, the interior of the private units can be seen from far away, as the brown hatch shows it on the plan. The sliding door inside the vestibule can protect it, but you might as well just close the primary door.
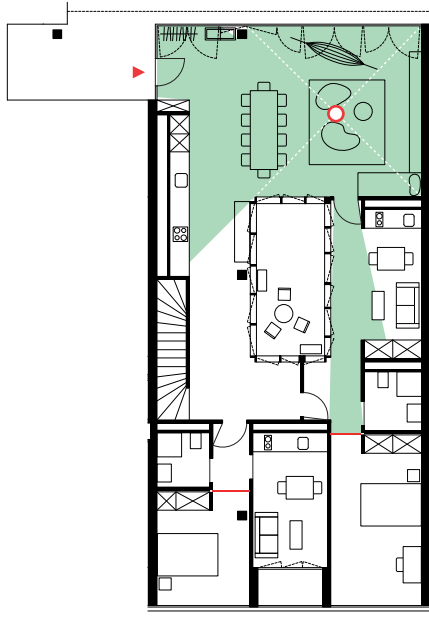
In the middle of the first floor living room, the inhabitant can see the entire collective kitchen without problems. It has little control over the long apartment, but this one has a second entrance, which allows the inhabitant to avoid undesirable encounter.
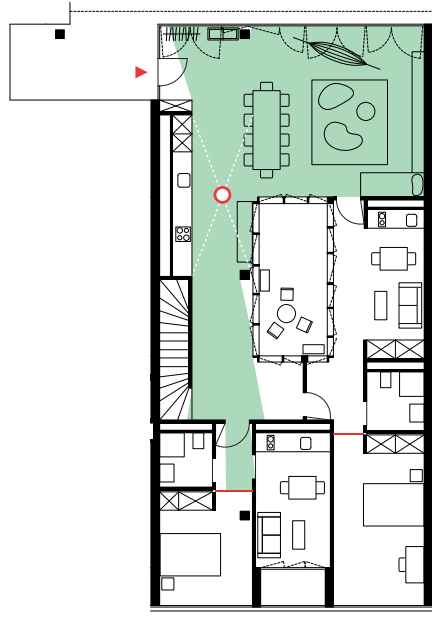
Standing in the middle of the kitchen this time, it also allows a complete view of the living room in return. It is also possible to see a little bit of the private unit aligned with the corridor.

Photo 18

Mehr als Wohnen, Haus A, Zurich 2014
Duplex Architekten

a

b

c

d

l

o

n

e

f

g

m

h

i

j

k

p

Top cluster
Common space
l - 177m^2 continuous space
n - 23m^2 balcony
o - 15m^2 balcony

Private units all with kitchen: 6
a - 43m^2
2 rooms (kitchen in living room)

b - 43m^2
2 rooms + 1 vestibule kitchen

c - 39m^2
2 rooms (kitchen in living room)

d - 28m^2
1 room + 1 vestibule kitchen

e - 30m^2
1 room + 1 vestibule kitchen

f - 40m^2
2 rooms (kitchen in living room)

Average
Private unit 37.1 m^2
Common space/unit 35.8 m^2
Equivalent 72.9 m^2

Bottom cluster
Common space
m - 143m^2 continuous space
p - 30m^2 balcony

Private units all with kitchen: 5
g - 39m^2
2 rooms (kitchen in living room)

h - 40m^2
2 rooms (kitchen in living room)

i - 44m^2
2 rooms + 1 vestibule kitchen

j - 28m^2
1 room + 1 vestibule kitchen

k - 28m^2
1 room + 1 vestibule kitchen

Average
Private unit 35.8 m^2
Common space/unit 34.6 m^2
Equivalent 70.4 m^2

The typology used by Duplex Architeckten is quite attractive. At first, it seems really interesting to scatter small apartments inside a continuous space like this one. But now, looking at the numbers, it seems that the Haus A is not meant to reduce private space in favor of a better collective or better environment, instead, they give a huge amount of additional space to private units already big. The average private unit is 37.1m^2 and they offer 25.8 more. The result is a surface almost equivalent to the family apartment in the cluster C0208 Ecoquartier Jonction, where 4 persons live (72.9m^2 vs 77m^2). We can maybe argument that their idea is to compensate for the smallest private unit (28m^2). Although it's a very good idea, if it is true, but here in the top cluster, there's only one unit with this little surface. I like the scattering, but I think it is possible to do it better, as for now, it seems a luxury house.

a

i

c

h

d

b

g

j

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m

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s

n

o

r

t

p

q

Top cluster
Threshold space
Private

a - /   living room

b - 4.3m^2
vestibule kitchen l=1.9m

c - 5.7m^2
vestibule kitchen l=2.1m

d - /   living room

e - 4.3m^2
vestibule kitchen l=2m

f - /   living room

Common
g - 15m^2 hallway l=1.8-2.4 m
h - 5.8m^2 alcove/vestibule 1.9m
l - 2.9m^2 entrance l=1.8m

Temporary privatisation
i - 30.3m^2 living room
j - 16.6m^2 office
k - 6.1m^2 common bathroom

Bottom cluster
Threshold space
Private

m - /   living room

n - /   living room

o - 6.4m^2
vestibule kitchen l=2.4m

p - 4.3m^2
vestibule kitchen l=1.9m

q - 4.1m^2
vestibule kitchen l=2.1m

r - 13m^2 hallway l=1.3-1.7m

u - 2.14m^2 entrance l=1.6m

Common

Temporary privatisation
s - 4.8m^2 common bathroom
t - 11.9m^2 office

The Haus A seems to have a poor separation between private and common spaces. I do not think that the vestibule is necessary everywhere, but here, it seems to be the case. The scattering effect puts the entrances everywhere, with (a) being extremely close to the façade. In addition to that, the space in front of him can be privatized with a curtain. What happens when another inhabitant invites friends over and use this place? Then this kind of ambiguity happens again in the common balconies. Although this happens a lot of times in cooperatives, which uses the walkway to distribute and to be a place to stay; here, it appears to be strange. (g) seems to be too big for a corridor but too narrow to be psychologically comfortable when big spaces are next to it. One good thing, in my opinion, is to use alcoves like (h) to create a threshold when the apartment doesn't have one. It could be a place where *don't care to be seen & don't mind if you join* happen.

Red = primary threshold
Green = secondary threshold
Black = space-delimiting elements

The size of the common spaces is really big and they are connected to each other with their angles. The diagonality created between two functions of the continuous space, allows the inhabitant to have a good surrounding vision. But I still don't understand the entrance directly facing the middle of the common space in the bottom left, nor the entrance emphasized by the brown hatch on the left plan.The kitchen has a good gathering effect, but being so close to the private unit, it seems a little bit annoying.

Conclusion

The notion of private and public is at the very basis of architecture regarding housing. Depending on the design of the house, architects can provide a comfort to the inhabitant or, conversely, a discomfort. The material feminism pointed that out. The architecture was interpreted, to a certain degree, as the cause of the isolation of the women. Curiously enough, it was also used to provide a solution. Instead of enclosing the private life, which hid the problematic of the domestic work at that time, architecture helped to unveil the behind the scenes. A more collective life was introduced along with new social ideologies. Nuclear family as a model of life was questioned and freer thoughts were emerging. Today, the housing needs to diversify itself and architects need to understand contemporary and future lifestyles. This doesn't mean that the traditional household needs nor will suddenly disappear. Houses for big households are necessary to accompany the life phase it intended to. Numbers provided by countries in Europe and in Switzerland, illustrate the multiplication of different households and the fall of the traditional one. There are patchworks of families, singles, the elderly, divorced, and so many others who don't live according to the idealized model. Along with other development of more cooperative lifestyles, the cluster apartment is intriguing in its typology form and in its self-manage-

ment. Sure, shared houses have the same principle, this new form of apartment suggest mediating the tension between the private and public, between freedom and norms. Therefore, the question regarding the very notion of these two concepts was raised, in order to innovate.

Private and public are two different worlds that share a complex relationship, which has surely been experienced by all of us. The Industrial Revolution was the start of a complex disorder in the house. New technologies were penetrating the private life of the family, while the latter was trying to isolate itself from the public. This showed the complex interrelationship of the two universes. In fact, we saw that one cannot exist without the other, since the private arises from the very public it wants to hide. The domain of care and commerce are both a good starting point to understand their notions respectively as an opposition of two universes, which is not false. This is the reason why architects need to provide houses with enough protection for the privacy of the inhabitant. One's own room must absolutely not be penetrated when the owner decides to. This is imperative in any forms of household, from the nuclear family to the collective living such as the cluster apartment. But the tension between private and public is far more complex. It is not only about the disorder brought by technologies whether in the past with the telephone or the smartphone of today. It simply asked for a renegotiation of the boundary between the two, as it has disrupted the precedent establishment. So, the real tension between private and public, comes to human beings and their interactions between them and with the environment. This is the reason for the discussions about the visual contract with modal verbs of Semprini. It shows how complex the visual connection can be when two people are put in a relationship. The room has also been stated as a neutral environment which takes

different characters depending on the nature of the activity taking place inside. This whole discussion about the tension between private and public is to understand that just by protecting the individual from the public world is not enough for the collective living. Indeed, what the cluster apartment inhabitant needs is not a complete isolation, but rather a gradation of thresholds that allows him to interact with the collective, while having the possibility to retreat. This raised the fundamental question of the threshold. And with the help of Mestelan and Boettger we identified the threshold as any form of transitional state which implies a period of time, motion and it involves all our senses in order to identify the environment precisely. Therefore, the notions of the *threshold*, the *threshold space* and the *space-delimiting elements* are used in mind to analyze the different cluster apartments. Each of them shows their method to mediate the private and the common spaces. Stadterle functions in layers in the plan. The most public space is the walkway, then it is the interior common spaces and finally the private spaces. The only threshold space is in the private unite and created with the axis of bathrooms. The cluster C0208 in Ecoquartier Jonction on the other hand uses the combination of a continuous space a parallel corridor to distribute the private units. It seems really effective, but maybe too functional or too hotel like. But this could be a good thing, because as we have seen, the scattering method of Haus A of Mehr Als Wohnen isn't quite practical and give too much additional space to its inhabitant. Finally, the cluster C0114 in Ecoquartier Jonction is conceived as a duplex which helps to balance the private and public sphere not only in plans but also in the verticality. This may be the most interesting, yet really simple, method to create cluster apartment in the future.

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Photos

Photo 1 - Inhabitants in the collective space | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 2 - Entrance | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 3 - Entrance | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 4 - Entrance door | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 5 - Hallway | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 6 - Collective space and hallway | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 7 - Entrance of the family apartment in the cluster | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 8 - Living space | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 9 - Kitchen | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 10 - Kitchen | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 11 - Kitchen | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 12 - Second living room | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 13 - Staderle facade - © Rory Gardiner
https://www.batidoc.ch/projet/genossenschaftshaus-stadterle/660060

Photo 14 - Staderle kitchen - © Rory Gardiner
https://www.batidoc.ch/projet/genossenschaftshaus-stadterle/660060

Photo 15 - Ecoquartier Jonction façade - © Dreier Frenzel
https://www.dreierfrenzel.com/architecture/016-ecoquartier-jonction-co-dha#content

Photo 16 - Private unit | C0208, Ecoquartier Jonction (GE) | Ricky Lee

Photo 17 - Hallway | C0114, Ecoquartier Jonction (GE) | Ricky Lee

Photo 18 - Living room hamac | C0114, Ecoquartier Jonction (GE) | Ricky Lee