

# HOME FOR URBAN PRODUCERS

*Reconstructing the Notion of the Current State of Home*

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'It shall be the concern of the authorities to provide sufficient living accommodation.'

- Article 22§2 of the Constitution of the Kingdom of the Netherlands

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# BACKGROUND

# Housing Shortage in the Netherlands

After the Second World War, the Netherlands underwent the largest housing shortage because of the urgent need of houses that were destroyed by the war and the rapid population growth by the baby boom. Until now, many estimations have anticipated that the Dutch housing shortage problem will continue even though the government has tried to supply housing stocks since 1920; compared to the housing stock of 1,442,000 in 1920, the housing stock in 2022, 8,077,549, has increased by 460% (CBS, 2023a). Despite the supply, the estimated housing shortage rate reaches at 390,000 units in 2022, and the housing shortage will reach a peak of 415,000 houses in 2024 (Primos, 2020).

With the forecast of sharp population growth – 19 million in 2034 and 20.7 million in 2070 (CBS, 2022a) – the housing shortage problem will mainly be the problem in the Randstad. The population in the Randstad provinces is foreseen to grow by 700,000 between 2010 and 2025, and the number of households will rise by more than 400,000. In the long term, the population growth in the Randstad

provinces will continue by 400,000 between 2025 and 2040 (CBS, 2011). Thus, the shortage is estimated to be most challenging in the Randstad provinces as seen in Figure 2.

This worsening situation, especially in Randstad, has to do with supply and demand. The lack of an affordable housing supply and the changing demand for qualitative needs are the initial causes (Hesselink, 2021). To analyze what encompasses the current problematic supply and demand relationship in the housing shortage, it is critical to notice that there are two actors involved: post-war housing and new target groups.

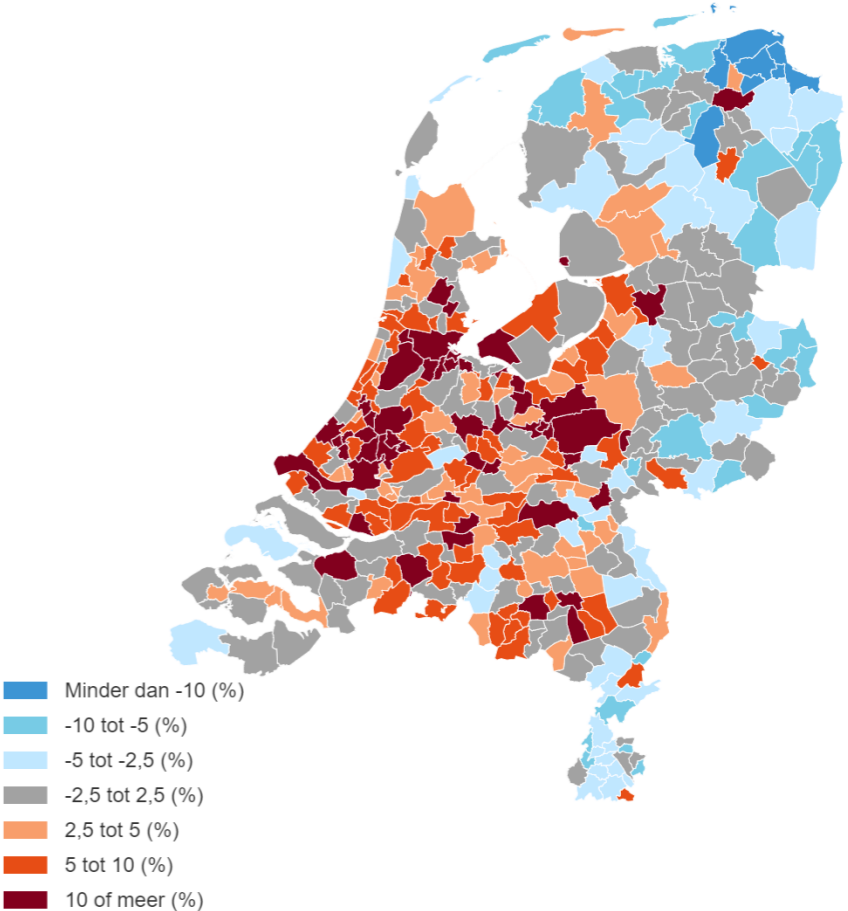


Figure 1. Regional population growth. From "CBS," by CBS & PBL, 2019 (<https://www.cbs.nl/nl-nl/nieuws/2019/37/sterke-groei-in-steden-en-randgemeenten-verwacht>).





## 1. Post-war housing

The Dutch government has set the plan to build 1 million additional homes by 2030, mainly focused on the inner-city densification. However, a few plans already seem impossible to achieve; the goal of annual 100,000 new homes in 2022 have failed by having only 66,000 homes built. With the stricter regulations of the building permit, it is expected that even fewer homes will be added in 2023 (NL Times, 2022).

The Dutch government already experienced a big housing shortage after the Second World War. Thus, the current housing shortage problem is closely intertwined with the existing post-war residential projects of 1.5 million dwellings between 1945 and 1960, which are the result of the previous housing shortage. As the government became the main leader, the governments and large private developers initiated many residential projects in a short period of time. The primary goal of the post-war housing projects was to create new living space for as many inhabitants as possible with a limited number of re-

sources and time. These projects were planned as uniform, large-scale developments with open, green, and street spaces (ICOMOS Netherlands, 2003).

Figure 2. Post-war housing Bijlmermeer, Amsterdam. From "Vijftig jaar Bijlmer: in idealen kun je niet wonen," by nrc, n.d. (<https://www.nrc.nl/nieuws/2018/11/28/in-idealen-kun-je-niet-wonen-a2780208?epik=dj0y-JnU9N05MT1hSbWFOQXc3cHdVzBDbTNSNEdw-Zy05dIRCm4mcD0wJm49S2tiZHZ5OW9VcF9hak-JQejYwMwVvZyZ0PUFBQUFBR1E2MC04>)

## 2. New target groups

As the Dutch population is estimated to grow over the next 50 years to 20.7 million until 2070, the changing pattern of the population dynamics indicate the target groups for the future housing stocks. Whereas the large part of the population growth after the war was due to the natural birth, the future population growth will be caused primarily by migration and increasing lifespan (CBS, 2022a).

### 2.1. Single-person household

The population group that will most rapidly increase is the single-person household as there is already a 'household shrinkage' phenomenon, meaning that the growth of the number of households is faster than the growth of the number of population (Figure 4). The Dutch household in 2020 consisted of 2.13 inhabitants whereas the household in 1900 consisted of average 4.70 inhabitants. Thus, there is the decline of the standard 4-person household and the increase of single-person household (CBS, 2022b). The sharply increasing single-person households include the aging population who is living alone, especially the post-war generations of over-65s. (CBS, 2019).

### 2.2. Migrants

Since 2000, the major population growth has resulted from a migration. Figure 5 shows that while the 'natural increase' gradually decreases, the 'migration growth' increases. Over the next few decades, it is forecasted that the Dutch population growth will solely depend on the migrant arrivals (CBS, 2023b). Immigration is going to live mainly in Randstad where the many existing internal migration groups already exist. Immigrants who are mostly young, highly educated starters will join the existing migration group in the Randstad (Hesselink, 2021).

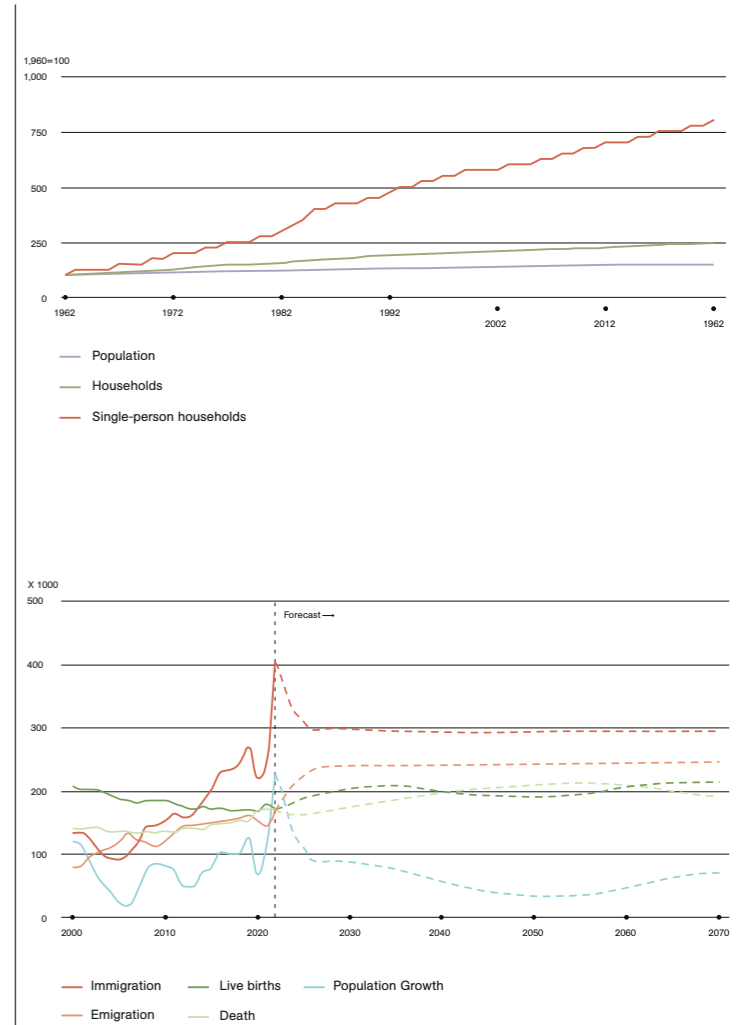


Figure 3. Growth in population and households. From "CBS," 2022 (<https://www.cbs.nl/en-gb/visualisations/dashboard-population/households/households-today>), adapted by author.

Figure 4. Population dynamics per year. From "CBS," 2022 (<https://www.cbs.nl/en-gb/news/2022/50/forecast-larger-population-due-to-migration>), adapted by author.



# PROBLEMS

## General Problem

Dutch housing shortage in relation to post-war housing and new target groups are caused by the discrepancy between the supply and demand in the housing market. The two key actors show how the government dealt with the previous housing shortage and what the differences are from the current housing shortage. With the two actors involved, general problems have been derived from the socio-demographic, economic and spatial perspectives in terms of supply and demand.

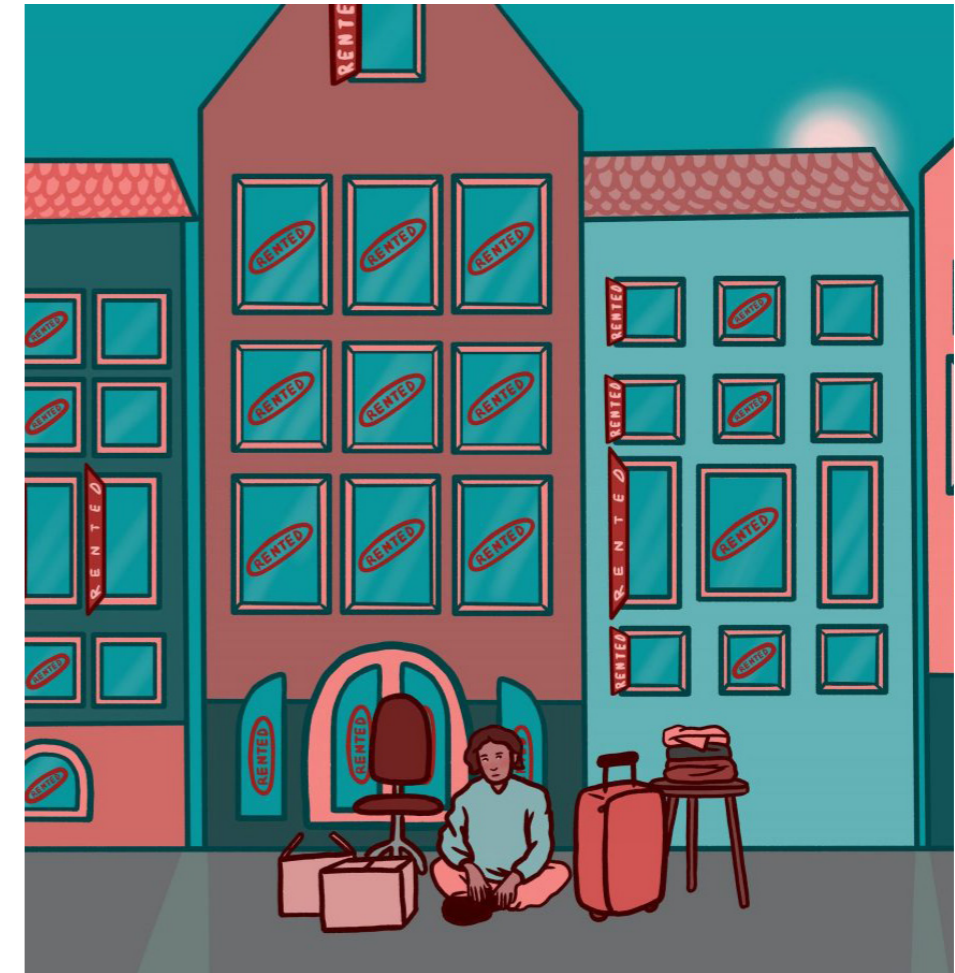
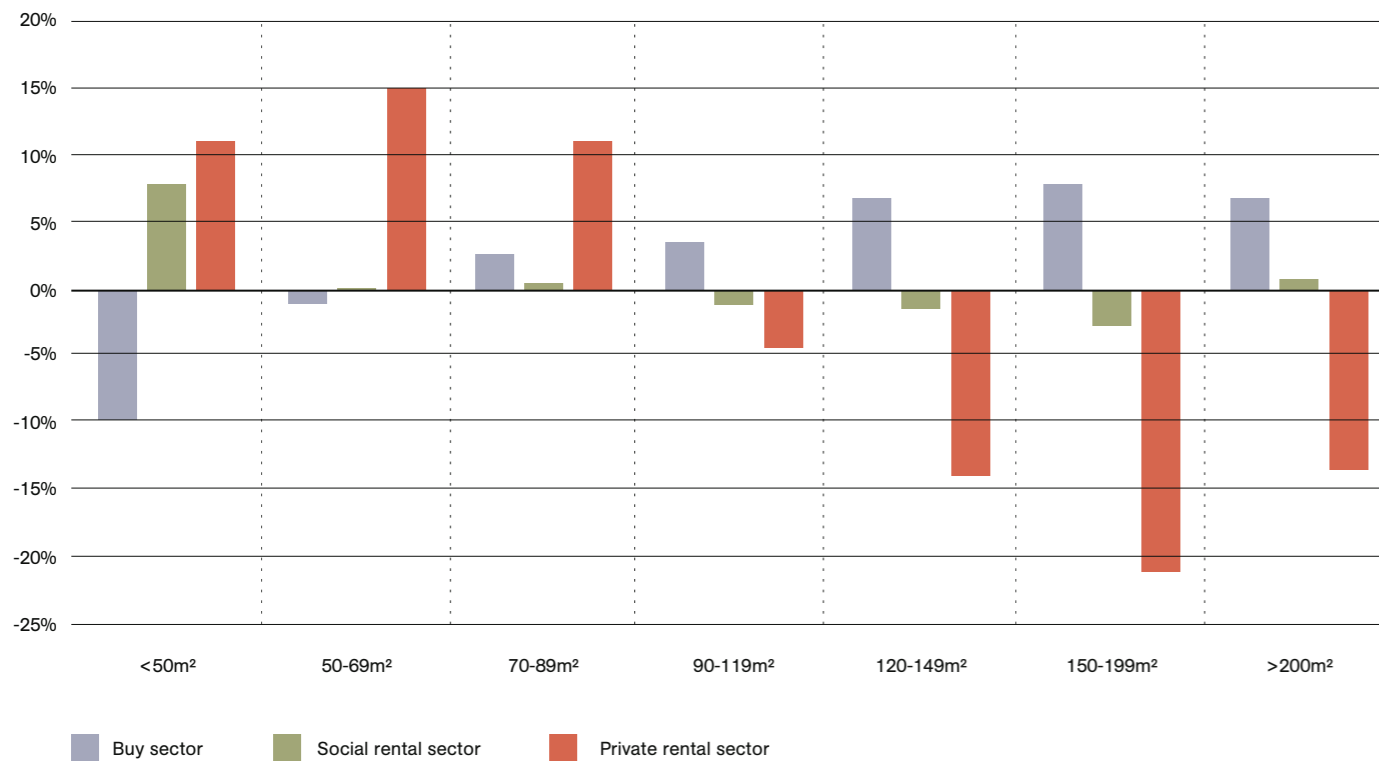


Figure 5. Middle incomers have nowhere to move. From "Erasmus Magazine," by M. Alonderyte, 2022 (<https://www.erasmusmagazine.nl/en/2022/09/08/housing-shortage-continues-to-rise-dutch-cabinet-launches-action-plan/>). Copyright by Erasmus Magazine.

## PROPERTY SIZE CLASSES BY OWNERSHIP

Five-year growth 2015-2019



### 1. Insufficient supply of affordable houses for growing target groups

The increasing housing prices combined with the high mortgage interest rates makes it impossible for those who are relatively affluent to buy a house. However, this is not the only reason. 34% of the houses in Randstad in 2020 were sold to those who did not plan to live there. Almost 700,000 houses are now owned by big private investors who would rent out their houses. High percentages of housing sales went to private investors: 50% in the Hauge, 45% in Rotterdam, 40% in Utrecht, and 35% in Amsterdam (NOS Nieuws, 2021). For this reason, starters in the middle-income group are neither eligible for the social rented sector according to the Housing Act in 2015 nor owner-occupied housing.

Consequently, small investors such as starters depend on rental housing in the private sector. However, they fall into social poverty once they choose to live in the private rental housing because they spend most of their incomes on the rental fees (Hesselink, 2021). Figure 7 indicates that relatively smaller sizes

of houses are in the private rental sector because it is specifically targeted to the starters in the middle-income group who are single, young, and highly educated professionals. The graph also shows that it barely happens to buy smaller houses.

In that regard, post-war houses have been relatively affordable houses because the houses do not meet the current standards of building technology and regulations. However, redevelopment of the post-war housing projects, caused by 1M Homes, destroys these affordable living spaces and results in a critical increase in rental charges. In consequence, existing residents are pushed out of the neighborhood (Domschky et al, 2022).

### 2. Limited capacity facilitating changing qualitative demand for housing

In contrast to the 'household shrinkage' phenomenon, the living area per person in a household has increased significantly. In 2020, a person in a household has the living space of average 53m<sup>2</sup> whereas a person in a household had only 8m<sup>2</sup> in 1990. A person living alone, which takes up the largest part of the population growth, has the biggest living area of average 88m<sup>2</sup> (CBS, 2022c). Because the post-war housing projects are not designed for a single-person household, current main - and constantly growing - population lives in houses that are appropriated to the nuclear family. Accordingly, one- or two-person households end up living in four- or five-room apartments. The decrease of the average household size and the increase of the living space per person generates 'living too big' consequence (Domschky et al, 2022).

In addition to 'living too big' problem, new lifestyles, adapted by emerging target groups, require different qualitative demands for housing. Low-cost air travel and digital communication shorten physical distances and change our sense of proximity. This economic transformation combined with the shifting view on physical closeness has caused new lifestyles within the living experience of one- or two-persons households such as 'living apart together' couples (LAT), long-distance relationships, freelancers with nomadic lifestyle, working from home, et cetera. The target groups who choose to take these various lifestyles demand different quality of living from those who form a traditional lifestyle of nuclear family. Therefore, while the housing shortage after the war focused on the houses for nuclear families, more contemporary housing shortage seems to have different focuses towards more various demands from diverse target groups (Van der Klis & Karsten, 2009).

Figure 6. Increase of smaller houses in private rental sector. From "ABF" by Cushman & Wakefield, 2021 (<https://www.cushmanwakefield.com/en/netherlands/insights/de-randstad-loopt-leeg#:~:text=For%20years%20there%20has%20been,330%2C000%20to%20419%2C000%20in%202025.>), adapted by author.

## SPECIFIC PROBLEM

# Changing Meaning of the Home

As observed from the general problems such as insufficient supply of inexpensive housing and limited capacity for qualitative demands, there is a discrepancy between what the current existing houses provide and how new target groups want to live in their dwellings. Because the meaning of home during the twentieth century, when many post-war residential projects were realized, does not match with the meaning of the home in the current housing situation, it is crucial to revise the understanding of the current meaning of the home (Bricocoli et al, 2020).







## 1. Dichotomy between home and work

By the twentieth century, 'house' became a place of repose and retreat: a place for cooking, eating, bathing, sleeping, giving birth, and nothing more. The meaning of home was grounded to this physical unit of a 'house' where 'home' implied the family life apart from social, public, and working life. The form of nuclear housing is a place where the nuclear family lives; a mother is the one who stays at home taking care of the economically non-profitable practices at home such as cooking and cleaning while a father takes responsibility for the working practices at office outside of the house. Therefore, the meaning of the home around the nuclear housing and the nuclear family itself has been strictly divided by the dichotomous logic between home and work and set as the default setting around majority of domestic architecture (DASH, 2018).

## 2. Ambiguity between home and work

As Airbnb depicts the changing meaning of home on their advertising billboard (Figure 9), people want to

be at home everywhere they go. Many of emerging target groups do not have to stay in one physically permanent place to be 'at home.' As the meaning of the home is less grounded in the physical space of a 'house,' - and thus space has become less significant - home does not always have to be defined by a fixed physical unit but can also be defined by emotions, memories, and rituals. The twentieth century's idea of home has lost its meaning from static status of home to an individual sense of home (Van der Klis & Karsten, 2009).

Also, the meaning of the home today has become more flexible and ambiguous, from where 'the house can and should also be a place to be productive,' said Janaina Tschape, a German artist (Aureli et al, 2022). Figure 10 illustrates how home has become a workspace. The home has turned into a new kind of integrated workspace where the kitchen and the balcony become improvised offices while they simultaneously serve the traditional domestic functions. These new forms of home life imply an indistinguishability between work and home.

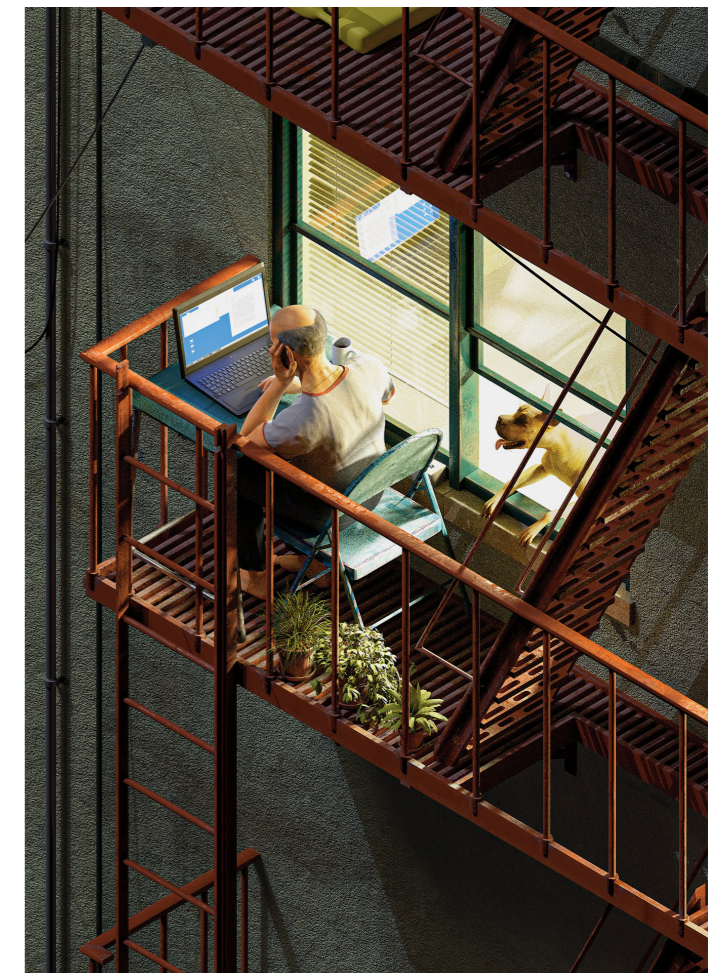


Figure 8. Airbnb advertising slogan. From "Swipefile.com" (<https://swipefile.com/airbnb-billboard/>).

Figure 9. Working From Home. From "The New York Times Magazine," by Max Guther, 2020 (<https://www.nytimes.com/interactive/2020/06/09/magazine/remote-work-covid.html>). Copyright by The New York Times Company.



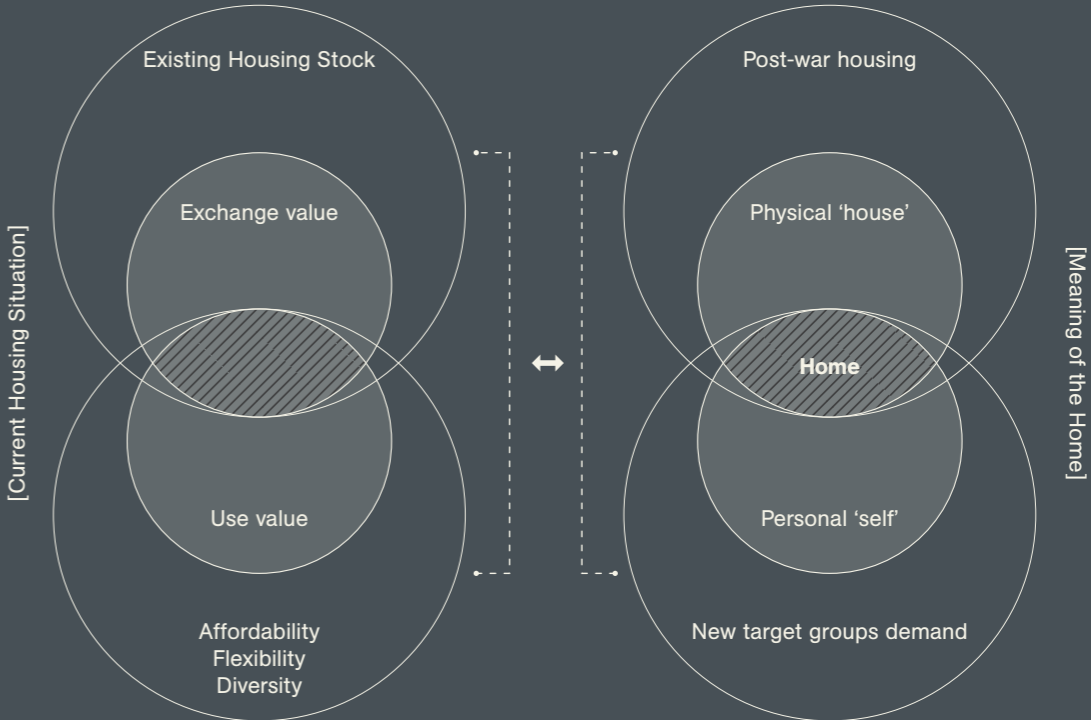
# PROBLEM STATEMENT

## Internal Conclusion

The general problems deal with how affordability and diverse demands are not supplied in the housing market, and why housing is seen as commodity by seeing a house as an exchange value rather than its use value. According to Pattillo (2013), although housing is more than simply the price of a consumer goods, housing units are seen as the exchange value by “owning its fixity in space and the prestige or stigma it can impart.” Simultaneously, he emphasizes that housing can be also seen as the use value because housing prices are the consequences of measurement of the demand for housing based on the characteristics of the house and its environment such as park, school, crime rates, neighbors, et cetera. Therefore, the grey area between exchange value (economically profitable and physically exchangeable) and use value (the needs of the emerging target groups) is in parallel with the idea of the grey area between the meaning of the home in a physical sense of ‘house’ and the meaning of the home in personal sense of ‘self.’

Despite these radical changes over the last fifty

years in the living society, the traditional form of the home is still the most prevalent idea. Because the architecture in the housing market still reproduces the existing parameters of which the home is traditionally conceptualized, the architecture perpetuates the tradition in its spatial organization, a home for nuclear family. In a bigger scale, as the ideological separation between the home in the house and the work in the city has become transcendent, it is significant not only domestically but also societally to examine how this shift has influenced the urban environment as it lost its initial characteristic as it had (Aureli et al, 2022).



## 3 Critical Topics

While the traditional meaning of the home is based on a space where a family can impose how a standardized home life looks like to a society, the more contemporary meaning of the home is 'personal.' 'Personal' implies not only heterogeneity of target groups' demands on habitation, but also variety activities that are expected to occur in the residential environment. Therefore, the research first tries

to define 'home' and study the diverse demands for home by the emerging target groups.

Then, the research also delves into adequate housing typologies and densification strategies that could reflect the value of the current meaning of the home in a wider range of society and infrastructure.

**“How can the design of the living environment integrate a future mix in the post-war neighborhood towards times in which urban inhabitants *bring* diverse meanings of the home?”**

### **Reinterpretation of the meaning of home**

- How has the concept of domesticity been constructed in the seventeenth and the early eighteenth centuries?
- How has the meaning of the home been defined during the twentieth century?
- How has the relationship between the mode of living and the material structure of the house changed?

### **Implementation of the contemporary home**

- How have socio-economic and cultural factors influenced the current domicile of the growing population?
- What are the new demands and trends of urban dwellers?
- How is the currently productive home different from the previous models?

### **Enrichment of the post-war environment**

- What are the design principles that encourage a productive living environment?
- How can we adapt the four productive objectives to the contemporary residence?
- How can densification in the post-war context be realized to enhance the productive nature of domestic life?

# Dealing with Scarcity: How much vs. How to Live

According to Marja Elsinga, Professor of Housing institutions & Governance at TU Delft, from the interview “1M Homes: ‘More living space’ doesn’t mean ‘more building’” (n.d.), ‘1M Homes’ can be achieved not only by building new houses, but also by utilizing the existing housing stocks. She reminds that there are opportunities of utilizing existing housing stocks if achieving the numerical goal was not the only focus solving the current housing crisis.

The emphasis on the need of different approaches from the currently quantity-oriented solution implies that the current housing market is missing out on some critical opportunities to solve the housing crisis. As professor Elsinga mentioned, focusing on creating adequate homes for future users and including the existing houses into consideration are also important in terms of solving the problem more profoundly.

As post-war houses and new target groups play an important role in the current Dutch housing crisis, the approach of solving the previous housing shortage problem after the war is reflected in the

existing post-war houses in terms of differences and similarities from the point of perceiving home by the target groups now.

Therefore, researching the meaning of home will help understand how ‘1M Homes’ project can be delivered while reducing the discrepancy between the current target groups’ needs and what the existing post-war housings provide to them as home.



Figure 11. Colossal post-war housing block. From “Colossal Amsterdam housing block brought up to date with customisable apartments,” by L. Crook, 2017 (<https://www.dezeen.com/2017/03/11/colossal-amsterdam-housing-estate-up-to-date-customisable-apartments-architecture/>).



# THEORETICAL FRAMEWORK

## Home, Target Groups, Post-War Housing

Similar to the three main topics with respect to the current Dutch housing situation, the research can be conducted with the three themes: home, target groups, and post-war housing, which are connected, intertwined, and overlapped to each other under the concept of 'productivity.' Within these three topics, several studies can be done in the spectrum of the relationships between the three topics.

In the relationship between 'home' and 'target groups,' the history of Western domesticity until the contemporary time can be researched. The history of Western domesticity touches upon the home as a medium and the target group as an interpreter of the medium, explaining what kind of activities are referred to as home activities over time and how the idea has been reflected in architecture in the past. Contemporary home-life translates and interprets the meaning of home in a contemporary way. Different meanings of the home delineate the more diverse kinds of new activities emerged by target groups, and thus the study of contemporary home-life is focused more on the target groups' individual

lives. The relationship between 'target groups' and 'post-war housing' implicates the home as a mode of facilitating the more diverse contemporary meanings of the home in the existing housing typology. Studying different programs of activities by the target groups and post-war housing revitalization helps understand how different meanings of the home have been realized in practice. Finally, the design and densification strategy depict the relationship between the home on a relatively small scale and its effect on the larger urban post-war neighborhood.

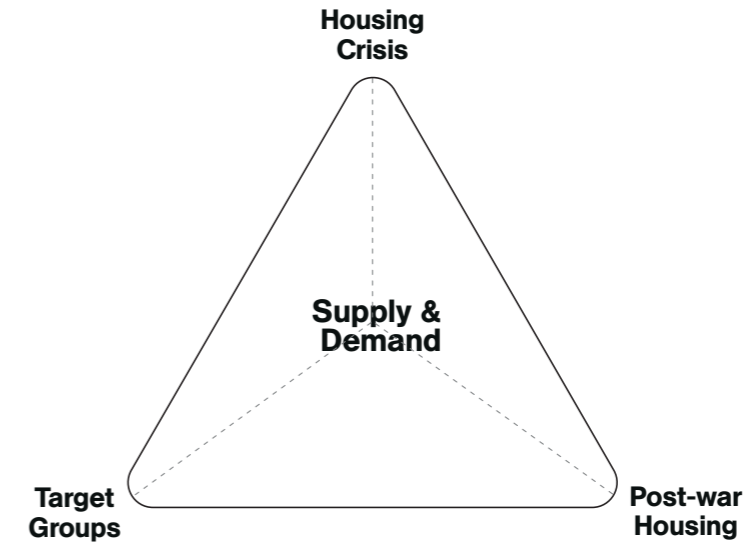


Figure 12. Dutch housing shortage by supply and demand. *by author*

Figure 13. Three key elements by productivity. *by author*

## Three Steps

The methodological approaches are done in three separate parts: reinterpretation, implementation, and enrichment. These three parts will be studied successively as they are formulated in such a way that the research examines what there exists already (*potestas*), what it does (*practices*), and what it influences (*potentia*).

### Reinterpretation through literature study

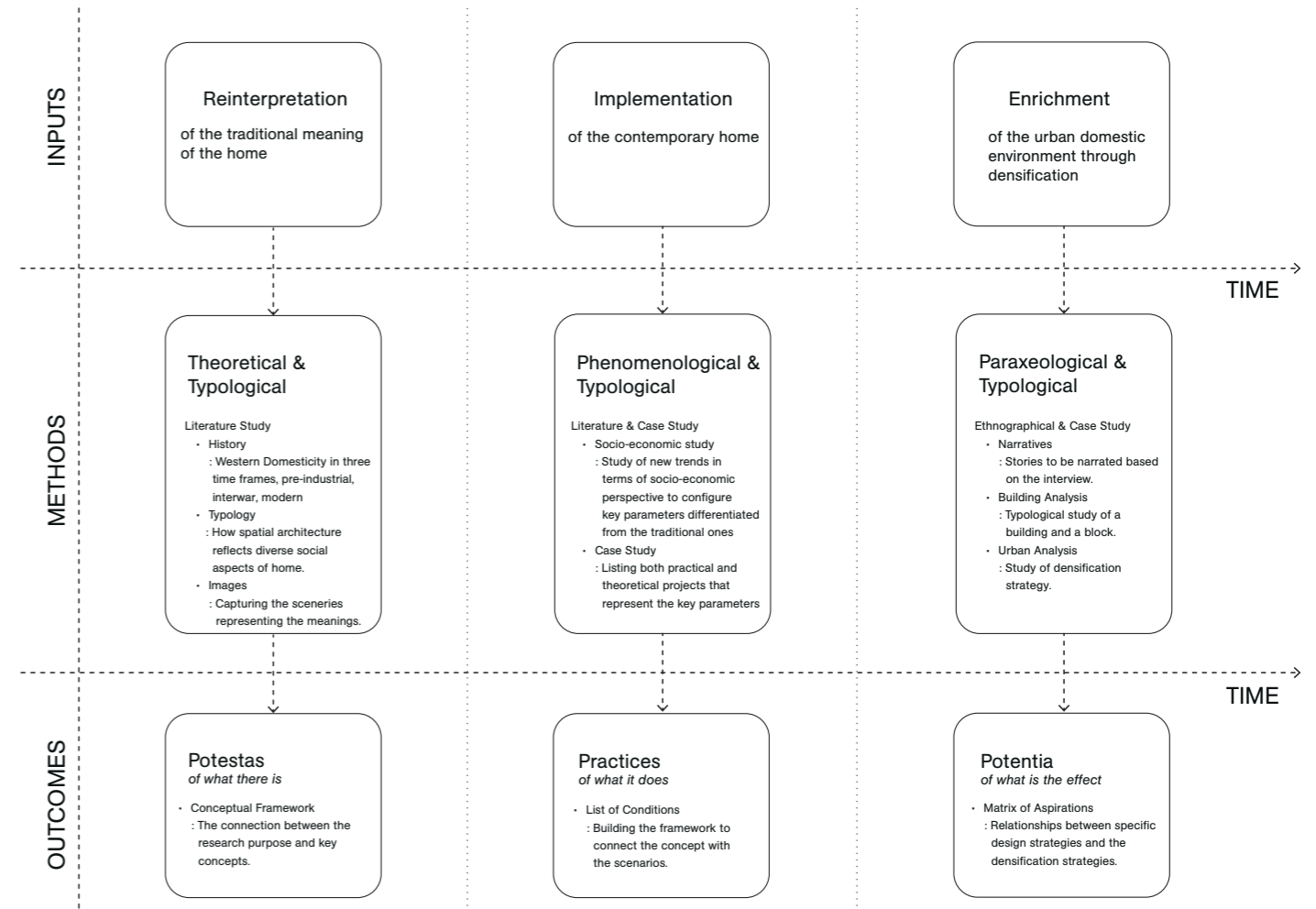
Reinterpretation of the meaning of the home is conducted by the literature study in the three literary approaches: history, typology, and image. Even though the current prevalent idea of 'being at home' has spread worldwide with the emergence of modernism, its ideological roots are from the history of Western domesticity (Aureli et al, 2022). Thus, it is crucial to study the history of Western domesticity. Similarly, the type is put into image showing how home-life is reflected into spatial architecture. The typology of homes in the history of Western domesticity translates diverse social aspects into a built form. Lastly, images such as drawings and photographs are going to be investigated. The sceneries will be the kind of diary that makes it possible reminisce each of homes in different times. All three literary approaches are in the end to find the relationship between home and its meaning in the past.

### Implementation through literary and case studies

The research of the implementation of the meanings of the home is done by both literary and case studies. This implementation part is dedicated to defining the new meanings of the home and to figuring out the value of the home that the new agenda of target groups can introduce. Thus, based on the study of new trends of living and the matrix of target groups, several parameters will be driven. Socio-economic study is dedicated to inventing new trends of living in relation to emerging target groups that differente from the preveious model. Case study of existing and theoratical practices help understanding the critical characteristics and requirements for representing the found trends through socio-economic study.

### Enrichment through ethnografical adn case studies

Finally, the enrichment of the post-war neighborhood for the purpose of bringing in the diverse meanings of the home is done by ethnographical and case studies of the existing architectural and urban design projects in practice. The narratives explain how inhabitants find their own meanings of homes, which suggest an important strategic approach to the design process. The case study is composed of architectural and urban analysis. This part of research aims to finding opportunities for densification on architectural and urban scale.



## CHAPTER 1

# Reinterpretation

When a new physical materiality of a house mapped onto an existing mode of living

## Introduction

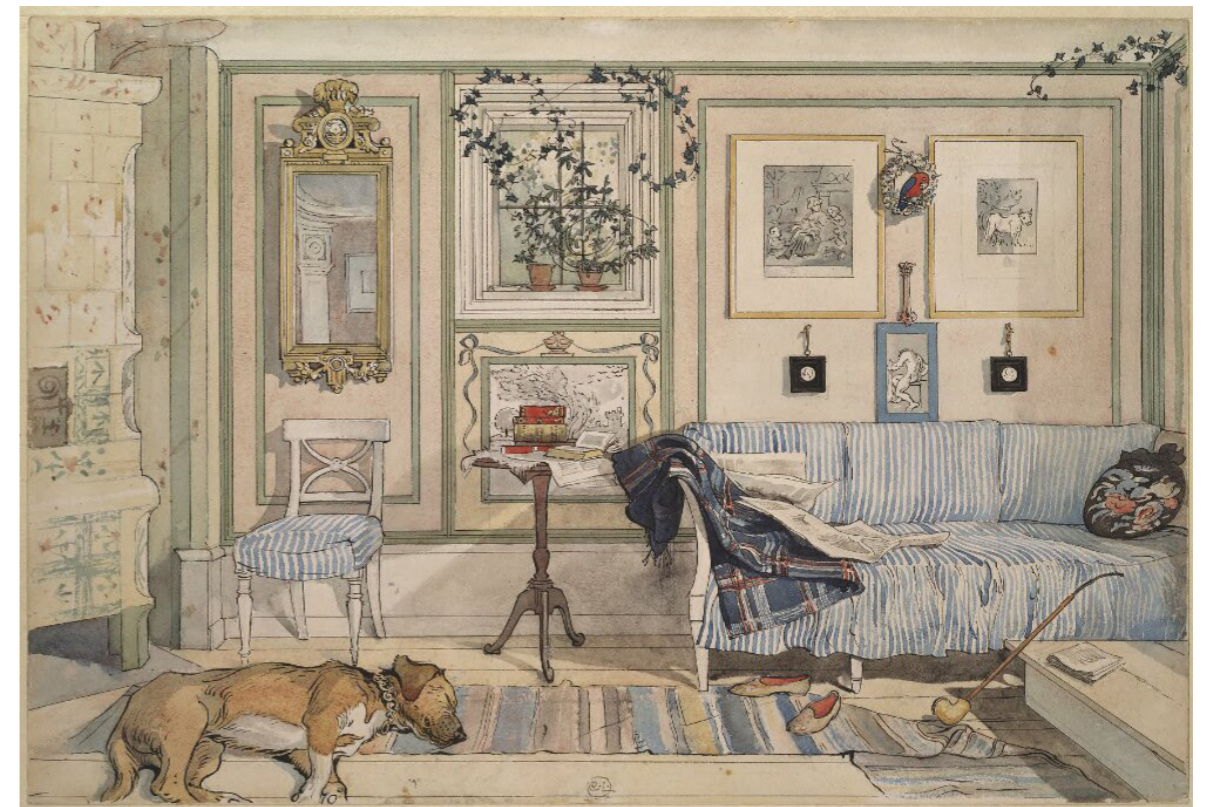
The spatial demarcation of the home is a principal product of human endeavor because it indicates social and cultural significance of one's past, present, and future. The sense of home is a sequence of "familial" relationships not only with parents, siblings, and children, but also with friends, neighbors, and associates. Thus, the home is seen as an unexcavated site for archaeology of sociability where domestic border is confirmed in the inhabitants' everyday rituals (Putnam, 1999).

Cieraad (1999) warns about the risk of a direct interpretation from the physical materiality of the house because it is more important that the changing behavior of the inhabitants constructs the meaning of the home. In other words, the inhabitants' behavior can change while the material structure of the house might have not changed over decades. Therefore, not only the design principles in relation to the physical structure of the house, but also major changes in the domestic habitation are going to be studied in order to reinterpret the meaning of home.

Several architectural historians argue that a certain time in history has contributed more significantly to the changing meaning of home. Holliss (2015) claims that since the industrial revolution, the way people live and work has changed. Putnam (1999) points out that it is the interwar period that the do-

mestic space has been fundamentally transformed. De Mare (1999) travels further back to the seventeenth century to explain the emergence of the concepts of domesticity. Therefore, in this chapter, an attempt to reinterpret the meaning of the home is delved into the three parts chronologically.

- **How has the concept of domesticity been constructed in the seventeenth and the early eighteenth centuries?**
- **How has the meaning of the home been defined during the twentieth century?**
- **How has the relationship between the mode of living and the material structure of the house changed?**



Carl Larsson, *Cosy Corner*. From *A Home*, 1895. Nationalmuseum, Stockholm.



# The Concept of Domestic Space

The common senses related to home can be “coziness,” “intimacy,” “snugginess,” “privacy,” and “comfort.” Those sentiments are often mistaken to be the derivatives of the seventeenth century’s concept of domesticity. However, they are the result of the creation from the nineteenth century. Designers and authors in the nineteenth century interpreted the paintings, writings, and houses of seventeenth century and projected the sources of the seventeenth century for the sale of the sentimental image of “cozy” interiors. Thus, the currently prevalent idea of domesticity is not the result of the seventeenth century, but the result of the nineteenth century (De Mare, 1999).

Although seventeenth-century sources have little to do with emotional annexation of the home, De Mare (1999) still puts emphasis on the seventeenth-century domicile because it is the time the concept of domesticity was created in terms of the physical aspects. All business related to the house in the seventeenth century was directed to three physical aspects: **the space, objects, and pictorial representation.** The seventeenth century paintings and writings in the Netherlands illustrate how these three physical aspects have helped forming the legal demarcation of domestic space.

## Domestic space and Objects: Simon Stevin’s sovereign space

Simon Stevin’s schematic drawing of a house provides an insight into the relationship between the town and the house around 1649 (Figure 1). He created an indoor space separated from the town by building walls and the roof. This space defines the

boundary between the indoor space and the external space. Only the doors in the middle of the housing plan connect the indoor space from the street. Stevin’s drawing of a house also shows not only the hierarchy of indoor spaces, but also the relationship between the objects in each room and the function of the rooms. When entering the main entrance, the inhabitants and visitors are guided to the hall (Voorsael) which is a transitional space between the outdoor and the rooms in the house. Each room is defined solely by the specific objects and furniture related to activities. For instance, a dining table defines the rooms as a dining room (Eetkamer). A bedroom (Slaepkamer) is dependent on a bed placed in a room. Small rooms such as C, D, and E in Figure 1 can be combined with the bigger rooms and become a sub-space that can be used in various ways related to the function of the big room. C can be a writing room as a part of the office (Vertreccamer). But if the sub-space were positioned by the kitchen (Keuken), it can become a scullery. Therefore, the function of a room is determined solely by the furniture and possession of the owner.

Stevin’s depiction of the housing plan stresses the physical aspect of the house. All rooms share one roof, which indicates a different quality from the one of the outdoor spaces. Also, the rooms are separated from each other in hierarchical order to have their own identity. As these indoor spaces in a house have their own sovereignty, differentiated from the outdoor space, it has positive qualities in relation to the town (De Mare, 1999).

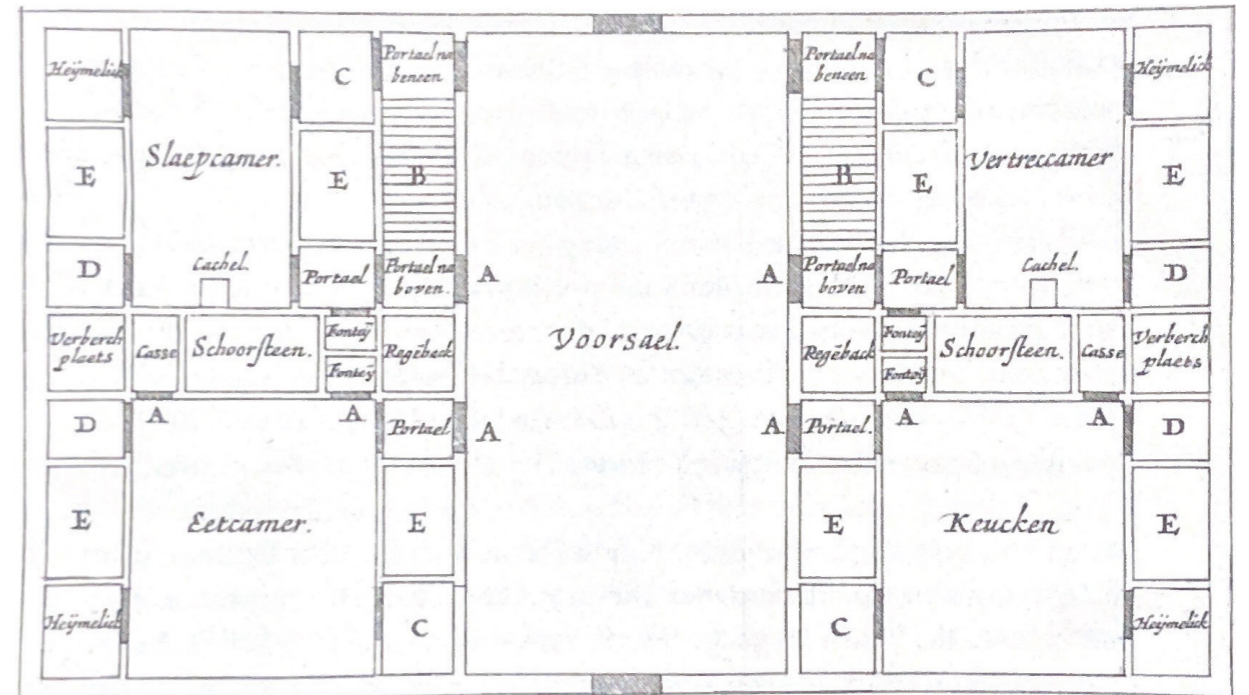


Figure 1. Simon Stevin, floor plan in Hendrick Stevin, *Materiae Politicae*, Leyden, 1649. Engraving, 9x6.5in. Courtesy of the Royal Library, The Hague, the Netherlands.



**Pictorial representation: Dutch windows and front house**

Window has played a significant role in Dutch social history. Dutch window symbolizes “showcase mentality”; the occupants willingly expose the interior to present their lifestyle and household composition to the passerby. This tradition proves a symbolic borderline between the domestic interior and the public exterior (Cieraad, 1999).

The symbolic reference of the “showcase mentality” can be delineated in the seventeenth-century Dutch paintings such as Gabriel Metsu’s painting, *Woman Reading a Letter*, in Figure 2. A woman is reading a letter, sitting by the window, while engaging in domestic affair with the servant. The location of the woman is front house where visitors are welcomed. The front house, shown in Figure 3 and 4, is a specific room featured in front of the house for the special occasions for the public and formal event, while other rooms where more intimate family activities are done are located at the back of the house. A slipper on the left bottom corner in Figure 2 indicates the inappropriateness of the shoe’s use in public street, which consequently indicates the

symbol of domestic territory of the front house. Similarly, the laundry basket in the servant’s hand refers to the domestic chore. The woman’s presence at the window and the objects relating to domesticity represent the boundary between domestic territory and public street (Cieraad, 1999).

From the late seventeenth to the eighteenth century, the size of the windows at the front house gradually grew as seen in Figure 5. According to Cieraad (1999), these big windows at the front house represent a more sculpted front façade. Also, because the big-sized windows are raised above the ground level, the front façade makes even more distinctive separation between public and domestic territory.

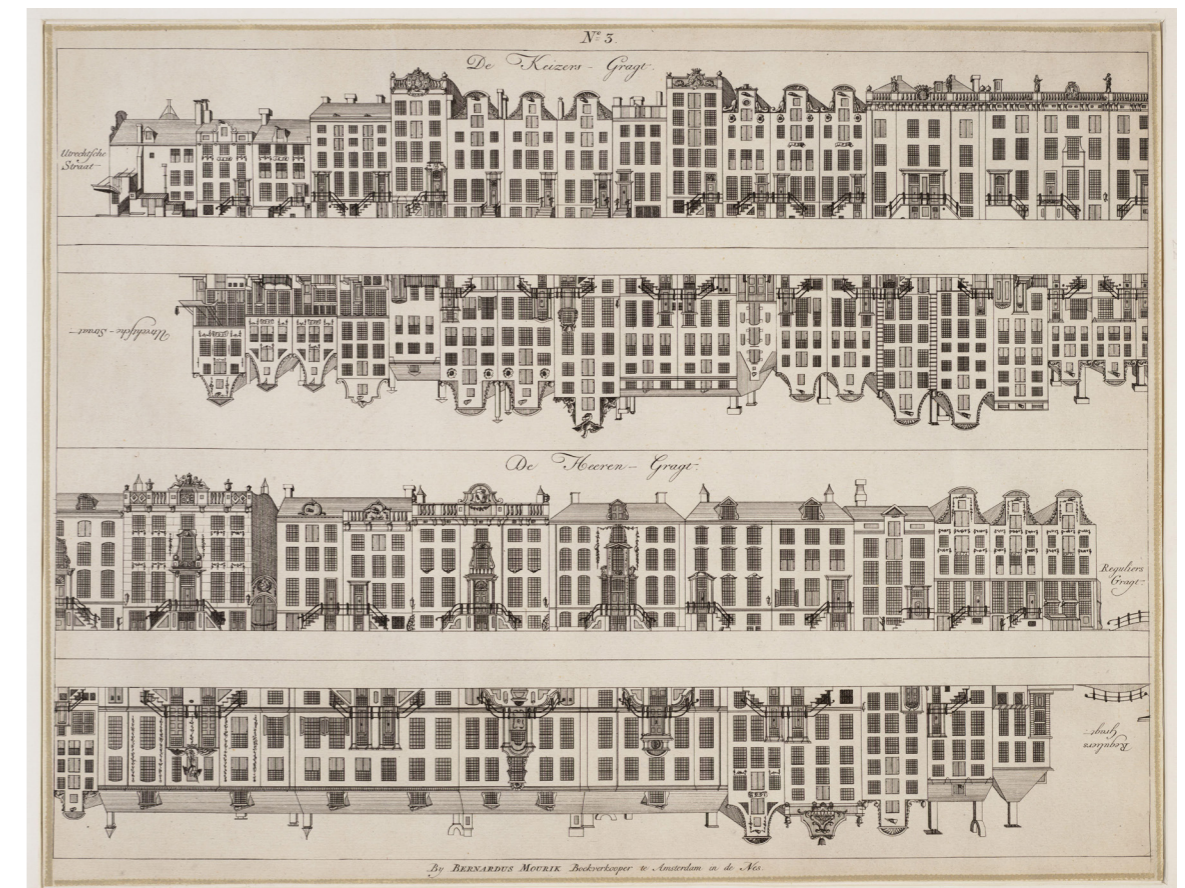


Figure 2. Gabriel Metsu, *Woman Reading a Letter*, ca. 1663. Reproduction, oil on panel, 52.5x50.2 cm. Courtesy of the National Gallery of Ireland.

Figure 3. Frances Holliss (2015). 32 Queen St, Hillfields, Coventry, Plan Drawing. *Beyond live/work: the architecture of home-based work*. Routledge. Recreated by the author.

Figure 4. Frances Holliss (2015). Master-watchmaker’s workhome at No. 61 Allesley Old Rd, Coventry, Plan Drawing. *Beyond live/work: the architecture of home-based work*. Routledge. Recreated by the author.

Figure 5. Caspar Philips Jacobszoon, *Herengraht* 539-543, *Het Grachtenboek*, ca. 1767. Courtesy of the Amsterdam Municipal Archives.





## Case study: the Heilige Geesthuis project

Although the currently prevailing sentiments of “domesticity” are not originated from the seventeenth-century houses, the examination of the houses described by different authors from the seventeenth century such as Stevin (1649), Metsu (1663), and Jacobszoon (1767) depicts the concept of domesticity in terms of the spatial separation between the indoor and the outdoor space. The seventeenth-century house, however, is still a public building where material possessions and related activities are represented to the public (De Mare, 1999).

The dual existence of the public and private activities in the domestic environment can be traced back to the Dutch city block. ‘House’ was the building type that accommodated the dual function of dwelling and working such as “bakehouse,” “bathhouse,” “ale house,” and “weaver’s house.” In Dutch housing culture, all kinds of design configurations were created for different city blocks that combined living and working for specific target groups. The weavers’ block would be one of the examples that represented the dual function of house (Schreurs, 2018).

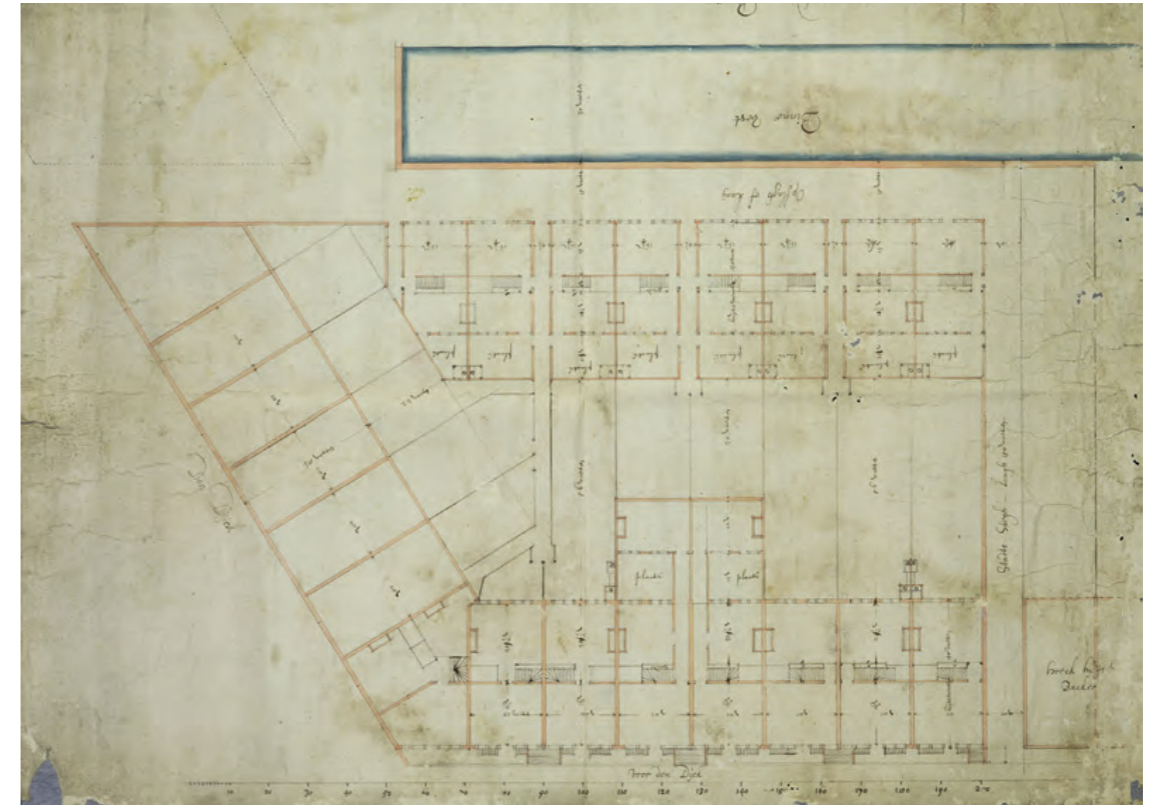


Figure 6. Plan drawing of Rotterdam weavers' block, c. 1670.

Heilige Geesthuis developed a weavers' block to generate capital growth between Schiedamsedijk and Stadsbinnenvest (the current Baan) in Rotterdam (Figure 6). The U-shaped city block followed the plot shape with an open side towards a narrow side alley. The grid linked the houses on Schiedamesedijk (below) and Stadsbinnenvest (above) by placing the housing units directly behind each other. Paths connected the inner area via the gardens to the quay houses on Stadsbinnenvest and to the quay via a small gate along the grid line. The connection between the inner garden to the housing unit to the quay accentuated the production process of cloth manufacturing on the quayside (Figure 7). As part of the urban fabric, this housing block on the city plan level facilitated public activity (Schreurs, 2018).

There are seven units on Schiedamsedijk and another seven on Stadsbinnenvest. The dwelling units on Vasteland, which have never been realized, are drawn only with the perimeter (Figure 6). According to Figure 8, the seven houses on Schiedamsedijk (left) are the dike houses, and the other seven on Stadsbinnenvest (right) are the quay houses. The dike houses have three floors and an attic and raised half a floor above the ground level, whereas the quay houses only have two floors and an attic.

There were four or eight rooms plus an attic with a high floor on the ground level, and the rooms of the 14 units on both sides of the weavers' block were relatively spacious (Figure 9). The function of the room was apparent by the kind of furniture to be put in the room; all rooms were large enough to place a loom. Thus, all rooms were decisively dedicated to the work function (Schreurs, 2018).

In addition to the work function, all rooms, except for the front room, facilitated fireplaces, which hinted that different tenants, not a single family, lived together in a single housing unit. It was possible that the weavers could have either employed workers and given them a room of their own or shared a dwelling unit as a family (Schreurs, 2018).

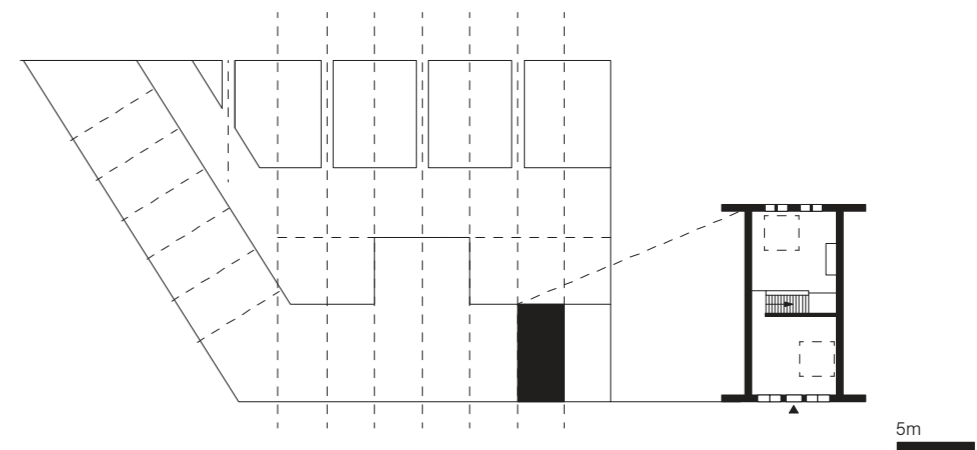
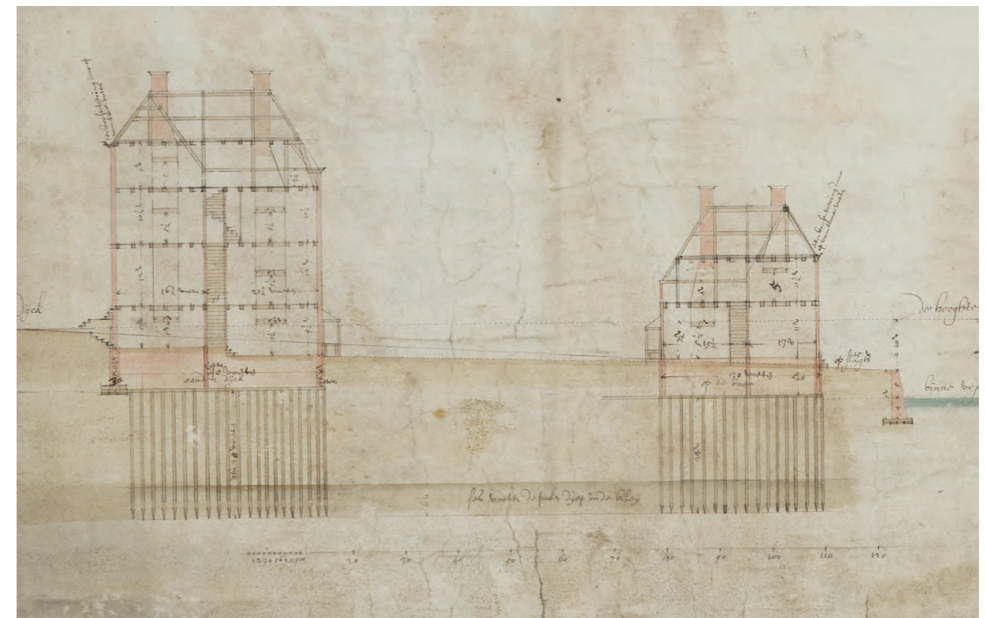


Figure 7. Weaver's workshop, Johannes van Ouderogge, 1651.

Figure 8. Section drawing of Rotterdam weavers' block, c. 1670.

Figure 9. DASH (2018). Open building block of Rotterdam weavers' block. Plan Drawing. Recreated by the author.



# Meaning of the Home

Compared to the houses in the seventeenth and the early eighteenth century, the modern home in the Western and Westernized country is often more democratic, socially isolated, and self-reliant. Based on a nuclear family household by companionate marriage, a family agrees not only to have joint decision making, but also to emphasize shared activities as a familial ideology. The more democratic ideology provides a greater opportunity in the labor market for women, and the emphasis on the idea of “doing thing together” influences on the consumer and leisure culture. For this reason, the modern family and the home are presented differently from the earlier model (Munro & Madigan, 1999).

Although industrialization in the nineteenth century changed the way people related to each other and to the material products, the actual living experience of people in the domestic space regarding consumption and appropriation did not change as radically as the industrial society did. Changes from traditional to modern in terms of the modes of living had occurred gradually over the twentieth century and thus could be divided into two phases: 1) reconfiguration of space caused by a technical development and democratic ideology between the 1920s and the 1950s, and 2) changes in modes of living associated with habituation in the 1960s (Putnam, 1999).

## 1. Reconfiguration of the home (1920s – 1950s)

The paradigm of the modern home in domestic architecture was established between the 1920s and the 1950s. The domestic space was designed around the installation of a technical core of sewers, water and gas, electric cables, and telephone lines, that is linked to external energy and communication infrastructures. With engineers and social reformers, housing design emerged by **the technical innovation and the optimistic ideology of democracy** (Putnam, 1999).

The establishment of the modern home necessitated the collaboration between the state and science-based industry to build the necessary infrastructure. The technical installation and communication infrastructure transformed the home into a technical terminal (Putnam, 1999). The technical home caused the family economy in the nineteenth century, where products were produced and consumed by the same household, to disappear. **The loss of productive mode** in the household had a great impact on **the status of housework** and **the layout of domestic space** (Laermans & Meulders, 1999).

### Domestication of professional housework

One of the examples would be the domestication of the laundry work by the introduction of the washing machine. In the nineteenth century, laundry work was a professional job contracted to laundresses. In rural places, the profession of laundering brought women, water, and linen together to the public space. In cities such as Paris and London, laundry job was professionalized by the lower-class women and brought them together in public washhouses which was the public locus of female sociability. After the laundry work was mechanized and industri-

alized by the domestic washing machine, the public profession of laundering was devalued and turned into a private one-person job (Laermans & Meulders, 1999).

### Crosscutting the two worlds

As the communication infrastructure was established by the state, the family members came to rely on external sources of education, employment, and social provision. Thus, the definition of success depended on external sources than on the family. Consequently, the boundary between the home and the outside world was intensified, and the home as a medium of social identity was transformed. The design philosophy of the modern home viewed the outside world as impersonal, rational, technical, and public. On the contrary, the interior of the modern home was seen as unpopulated, benign, natural, intimate, and private. This symbolic separation not only ignored the technical infrastructure that underlined modern home life, but also depersonalized the external public space (Putnam, 1999).

*“It seems as if the monolithic external world is to be held at bay, while the personal and anecdotal can stand in their own right, free of the obligations to be respectable or to carry the destiny of class and nation.”*  
- Putnam (1999).

## 2. Reproductive modes of living (1960s)

Initiated by the state and the industry, the modern planning paralleled with the obsolescence of the public professionalism of the domestic service and the disconnection of social and physical boundaries between the home and the external world. Therefore, abstaining from the productive mode of living within the modern home, the scope of family activity became reliant solely on the consumption of commercially produced goods and the nurturance of the young (Putnam, 1999).

In the 1960s, a second transformation emerged as technical, economic, and political development of modernity formed the backbone of modern home life. As material products supported modern households, home became the domain for personalization (Putnam, 1999). Putnam’s research on the home alteration study in Britain between 1986 and 1992 showed how modern households shaped their do-

mestic environment as home as they adapted and decorated their domestic spaces for their needs. And it concluded that there are two types of living patterns that modern households commonly had. The first pattern practiced collective consumption as leisure, which was seen as a compensation for the work time outside of the house. This type of household was usually composed of couples at an early stage in marriage without children and accepted defined roles and given rooms to them. As a result, the couples modernized or extended their domestic space to be consumed, enjoyed, and displayed. Another pattern was often seen in the household of couples in midcareer with raised income and with children. They willingly redefined their domestic spaces to pursue their personal growth. They adjusted their space over several years to create a platform and continually invested in personal development activities.

The two types of domestic consumption patterns implied the reproductive mode of living that emerged newly in the modern time after the war. They showed how different classes, generations, and life phases of the modern family used the **home for the reproduction** of different aspirations. The increased popularity in DIY activity and the thriving variety in home decoration style signaled the “co-cooning” aspect meaning that the modern home turned away from the public realm.

## Appropriation for Home

### Open plan

After World War II, substantial changes were found in the housing design and the use of the houses. New towns were built, and the urban working class moved into mass-produced and standardized houses. By the 1960s, many houses embodied the open plan as a popular housing type, which focused on the function and layout that were suitable for working-class families. The idea was based on rational and scientific planning which considered the well-being of the inhabitants rather than the conventional aesthetics. Consequently, the designers tried to equip the living environment that provided not only quality of fresh air, light, and contact with nature, but also quantity of labor saving and efficiency. On the other hand, the uniformity of the open plan was criticized because it made builders and developers create the 'ultimate popular commodity'. Its universal appearance attributed the house to be considered as a product that could be bought and resold (Attfield, 1999).

The design of the open plan also reflected the utopian ideology. While traditional housing design prioritized the hierarchy of rooms where it segregated the genders and classes, open plan was

based on social equality and adaptability. Therefore, modernist housing had to remove the features that identified the social pretensions. From the 1950s onwards, a multifunctional living room of the open plan replaced the front room encouraging tenants to move to the front for everyday use (Munro & Madigan, 1999). Also, the "rooms," defined by the social hierarchy, were eliminated by breaking down the division walls and thus uniting rooms to create "spaces." Rooms turned into "areas" within "spaces." The relationship between areas within spaces became a more substantial factor of the housing design than the specific function of each room. Therefore, the new housing design methodology based on the open plan idea attempted to create integrated, flexible, and efficient space (Attfield, 1999).

### User's appropriation for flexibility

Despite the major shift in the housing plan, several studies showed that the inhabitants in the modern houses with open plan negated the suggested use by modernist architects (Attfield, 1999). According to Alderson (1962), the research and development group from the British Ministry of Housing and Construction reported that "even where an architect had deliberately left no room for eating in the kitchen, people managed to force a table and chairs into it in order to eat some of their meals there."

Chevalier (1999) highlighted the term "appropriation" in relation to the concept of the home. The term "appropriation" was understood as the creation of an inalienable environment through mass-produced materials. Consumers succeed in personalizing objects that are mass-produced by interpreting and integrating them in their own ways of life. As Alderson (1962) mentioned, the users of the modern house interpreted modernity in their own ways in domestic paradigm. The three ethnographic case studies: residents in Harlow New Town, UK by Attfield (1999), the French urbanites in the Parisian suburb Nanterre by Chevalier (1999), and the life of the working class in Glasgow, UK by Munro & Madigan (1999), showed how the tenants appropriated their mass-produced home spaces and objects to their needs while resisting to use the functional open plan in the way architects intended.

**Appropriation 1: structural modification**

Some residents actively appropriated their homes by altering domestic interiors of the open plan. In the case study of Harlow New Town, described by Attfield (1999), the tenants appropriated the modern space differently from the design intention of the modern architects. One of the common appropriations was structural modification of the open-plan living-dining room. Because the contravention to the multifunctional living-dining room became so common, although used to be officially banned by the new town corporations, that the local authorities accepted the structural alteration as a common practice and instituted a formal system. The modification of the housing structure entailed adapting the open-plan living-dining area flexibly by constructing and reconstructing the walls in the “open” area for the changing needs. A common adaptation was to divide the multipurpose living-dining area into two separate rooms by adding walls for dining and kitchen area (Figure 12). However, the same household would also demolish the previously added walls when their needs changed according to the changing lifestyles and family circumstances.

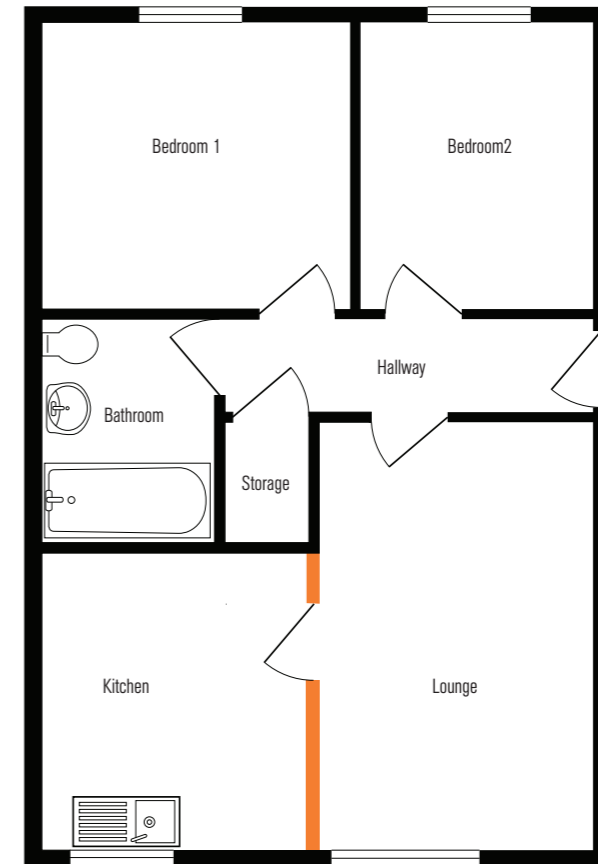
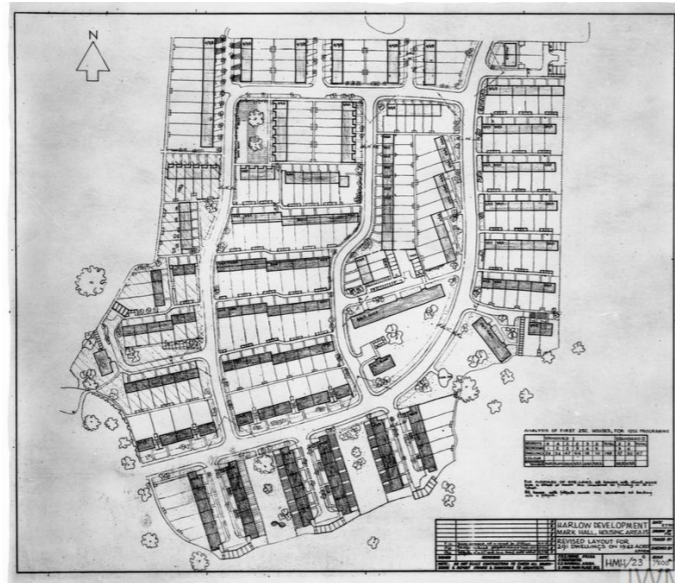


Figure 10. Post war planning and reconstruction in Britain: Harlow New Town 1.

Figure 11. Post war planning and reconstruction in Britain: Harlow New Town 2.

Figure 12. Open plan, Dads Wood, Harlow, recreated by author.



## **Appropriation 2: interior decoration**

According to Giddens (1984), an important meaning of home is “as the archetypal ‘back region’ in which everyone can relax.” Associated with this meaning, the home should also be a place that was welcoming and relaxing for visitors. The “welcoming” home environment also implied that the home should be “presentable” (Munro & Madigan, 1999). In this sense, another response to the modern home by the users, according to Attfield (1999) and Chevalier (1999), was displaying objects that were ornamental and nonfunctional. The architects’ version of modernity was to remove the pretentious elements in the home and to focus on function and efficiency. However, the occupant’s interpretation of modernity engaged with fashioning the home with traditional furnishing habits.

*“Many people still feel the need for a room apart, where photographs and souvenirs can contribute to memories and where the fireplace and be treated as an altar to household gods [while] the rooms of today must often serve more than one purpose.”*

– Writers of the exhibition guide for the Festival of the Britain exhibition in 1951

The blue-collar workers who moved in the big factories of Paris showed how the French urban inhabitants created a meaningful home in their uniformly structured apartment. The case was done in a residential district of council tower buildings, Les Fontenelles in Nanterre, France between 1988 and 1990 (Figure 13). The tenants of the Les Fontenelles, France created their own meaningful décor by displaying items that reminisce personal and fa-

miliar memories and associations even if the items were less (or non-) functional and efficient. This type of interior décor transformed the flat into a home (Chevalier, 1999).

Chevalier (1999) emphasized the lounge because this multipurpose, open space was important for not only the individuals as a mean of “presentation of self,” but also a family as a mean of “representation of a family home to the outside.” In other words, the individual and familial identity was expressed through a sense of being “at home”. The living-dining space, where decorative elements such as family related objects, souvenirs, and even heirlooms were displayed, accomplished a spatialization of time. In the discourse of the appropriation, the mass-produced objects were transformed into the mean connecting with time and events in the life of the constructors of the “home.”

*“An individual’s role in social life is fragmentary unless attached to something of permanence. The history of the past, equally fragmentary, is concentrated in an object that, in its material substance, defies destruction. Thus, keeping an object defined as inalienable adds to the value of one’s past, making the past a powerful resource for the present and the future.”*

– Weiner (2009)



Figure 13. Les Fontenelles in Nanterre, France.



Figure 14. Glasgow City, 1954.

### **Appropriation 3: negotiation of using internal space**

Others rather passively appropriated their homes by negotiating their ritual behavior in the modern house. Munro & Madigan (1999) focused on how each household used their domestic spaces and how it achieved both family intimacy and individual privacy. It was important for the authors to relate the physical house to the relationship between family members in the domestic life because “home” embodied both a physical space and a social space as “home” was part of an ideological trinity: “family,” “home,” and “community.” The way individuals related to each other in the intimate domestic life constitutes a “proper” family, and the physical design of housing contained these social relationships. Therefore, the home “provides an important locale within which individuals negotiate their daily lives” (Giddens, 1984).

The case study was based on the working-class households of at least three members of the traditional family in postwar housing in Glasgow, UK (Figure 14). The houses were broadly two types: 1)

house with a single living room of a dining plus a small kitchen with no sitting space, and 2) house with a separate (but smaller) living room without dining space, but with a kitchen that is large enough to accommodate dining space. In the research by Munro & Madigan (1999), the habitual behavior of the households in the living room was especially the focus because the communal activities and shared experiences around a family mainly occurred in the living room while bedrooms were for privacy. Thus, behavioral patterns revolving around the living room could derive the relationship between the physical space and the social space.

Because of its limited spatial availability of the living room, the use of the living room was “time zoned.” The children were prioritized to use the living room in the earlier time of the day until their fathers came back home after work. At the later time of the day, the adults had priority to use the living room when the younger children went to bed or to their own rooms if they did not join the adults. The authors could also examine more subtle ways

of time zoning. Because women were more likely to stay at home for longer time than their partners were, they had more time with socializing. When visitors came, women could spend time with friends without causing any conflict with the rest of the family members because women and their friends were already familiar with the schedules of their partners’ work and other family commitment. Therefore, they could “come by” for the seemingly casual but carefully scheduled socialization. Thanks to the concept of time zoning rather than space zoning, the same physical space could be flexible by the social norms that structuralized how the space was utilized.

The three case studies suggested that it had been rather contradictory in everyday practice than the assumption that there would be a “match” between the physical housing design and the desire for a shared, democratic family life. In terms of the manifestations of modernity in the home context, there was a crucial difference between the architects’ ideal and the occupants’ interpretation. Although architects generated the open plan concept of a multipurpose area to create a flexible and integrated space, residents’ active interventions proved to be a way for flexible and adaptable home for changing circumstances of the family lifestyle. The case study of Harlow New Town in UK by Attfield (1999) depicted how differently modernity was facilitated by the actual residents in the modern domestic life from the architects’ intention. The modern family divided (and reunited) the family’s surroundings by structural walls depending on the changing lifestyle of the family. The Parisian urbanites of Les Fontenelles in Nanterre, researched by Chevalier (1999), displayed nonfunctional items to create the sense of “home.” The examination of the housing in the Glasgow, UK by Munro & Madigan (1999) studied how families negotiated the use of the modern living room imposed by the physical space of the open plan and the social space in relation to the idea of the home and the family. In all cases, flexibility was achieved by user’s appropriation for domestic interiors and negotiation.



# New Home, New Meaning

In the process of appropriation, time played a fundamental role in the construction of “anchoring.” The (de)construction of the structural walls by the residents in Harlow New Town reflected the changing lifestyle of modern family households. The appropriation of the Parisian urban inhabitants’ home decoration made the sphere of commodities become gradually inalienable to represent their own identity over time through the sense of being home. The negotiation based on time-zoning in Glasgow indicated the relationship between physical space and social space. By analyzing the use of the open plan from the case studies, it was able to help understand how the relationship between the mode of living and the material structure of the house has affected each other in domestic life of the actual residents in modern times (Munro & Madigan, 1999).

While the multifunctional living-dining room was significant as a communal space practicing the ideology of the home and the family, the survey directed by Bernard (1992) for Institut National de la Statistique et des études Economiques (INSEE) in France pointed out another focal point in the home environment during the postmodern period. There was an increasing demand on the kitchen as a focal point of its recognition of domestic labour. As the previously hidden area was moved to the front stage, the connection between the visibility of domestic work and the role division of a married couple became

important. The open kitchen or the kitchen-dining room substituted the separated formal dining room which was originated from a servant-based bourgeois model.

As the innovative transformation in the design of modern homes was caused by the science-based industry, the external sources of higher education, labor market, consumption, and politics. External institutions influenced domestic life in the modern period extensively. The destruction of the traditional structure of housing spaces with hierarchy and symmetry was parallel with the democratic structure of domestic spaces with equal relations between family members. In consequence, the informalization of social relations within households affected rooms, especially the modern living kitchen space. The scope of personalization, performed first in the living-dining room, was extended to the kitchen, and to the bathroom which were hidden at the back of the house in the traditional domestic structure. The exposed domestic work became the locus of negotiation in the household of which indicated the labor division in the household. Therefore, home continuously evolved around the system of material life supports (Bonnes et al., 1987).

# Implementation

When a new mode of living is mapped onto an existing materiality of a house

## Introduction

Mies van der Rohe in his opening speech at the building exhibition from the Werkbundsiedlung (Werkbund Housing Estate) in Stuttgart in 1927 mentioned that “the struggle for a new form of housing (is) only one aspect of the larger struggle for new ways of living.” Mies made it evident that “the struggle of the new housing” resulted from the “altered material, social, and intellectual structure of the time.” Today, his argument still applies to the current dimensions of the twenty-first century. As our lives have become more diverse and accelerated than ever before, many long-separated aspects of life such as work and leisure, and public and private have become converged. For instance, family does no longer resemble any standardized model, and private life can be broadcasted to public world at any time (Herwig, 2022).

Michel and Aiden from the TED conference in 2011 introduced a quantitative analysis of how frequently a word has been used in five million published books in history. When examined from Google Ngram Viewer, it is evident that the concept of domesticity has been influenced by “altered material, social, and intellectual structure of the time” as Mies van der Rohe (1927) said. Thus, the trend of domesticity has fluctuated over time, and its implication still affects how we perceive the current state of the home.

According to Figure 1, since 1829, there had been an exponential growth of the use of the word “work” and easily passed over the number of the usage of the word “house.” The year was during the Industrial Revolution between 1760 and 1840 where the traditional way of making goods by hand was switched to

the mechanical process. As a result, the importance of the dual-functioning house of living and working such as weaver’s house was diminished. In addition, the word “home” was more frequently used than the word “house” for the first time in 1916. It was during the first World War when the modern architecture of housing experienced a dramatic transformation and imposed the new ideology of “home.” Since 1996, the number of uses of the word “house” surpassed the word “office.” Simultaneously, the use of “home” and “house” has noticeably increased.

As investigated in the previous chapter, Reinterpretation, the concept of a modern home has become developed with political, ideological, social, and economic issues. Similarly, as the Google Ngram Viewer indicates, there can be another flipping factor in recent years, related to socio-economic and cultural issues, implying another radical transformation in the domestic environment as coincided with the increasing usage of words “house” and “home.” Therefore, this chapter Implementation delves into what has contributed to the contemporary way of living in a domestic environment and what are the new demands on housing.

- **How have socio-economic and cultural factors influenced the current domicile of the growing population?**
- **What are the new demands and trends of urban dwellers?**
- **How is the currently productive home different from the previous models?**

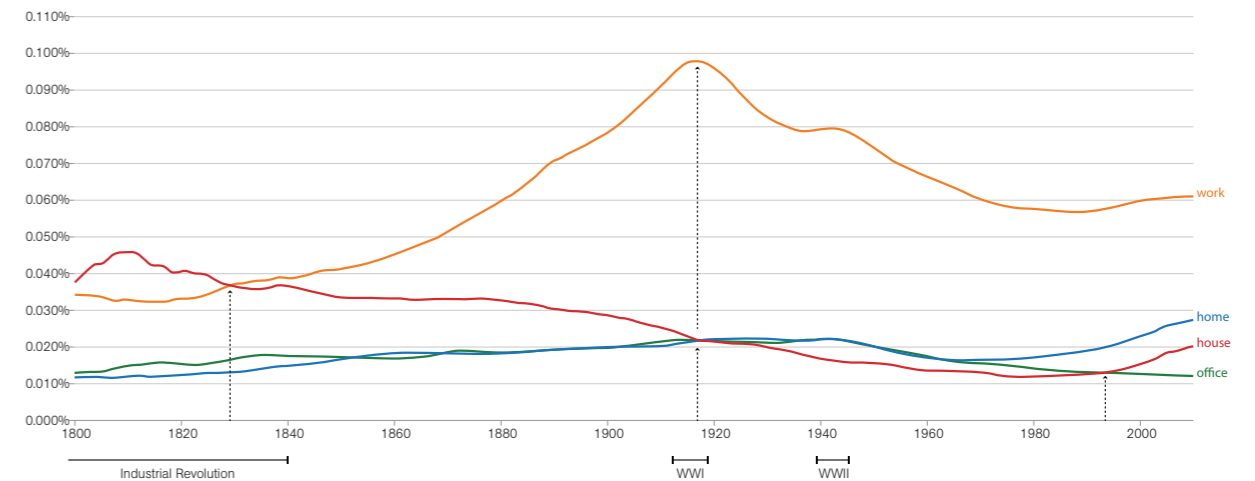


Figure 1. Trend between words: home, house, office, and work. Recreated by the author.



# Hybridization and Reduction

**Privacy was yesterday**

Since World War II, the notion of privacy with respect to domesticity has coincided with political considerations and individual morality. Frank Lloyd Wright's project "A Home in a Prairie Town" (Figure 2) idealized a modern house affording "absolute privacy." Franklin (1998) confirmed that Wright's emphasis on privacy in his project "A Home in a Prairie Town" is related to political considerations: "American ... places a life premium upon individuality, - the highest possible development of the individual consistent with a harmonious whole ... It means lives lived in greater independence and seclusion" (Riley, 1999).

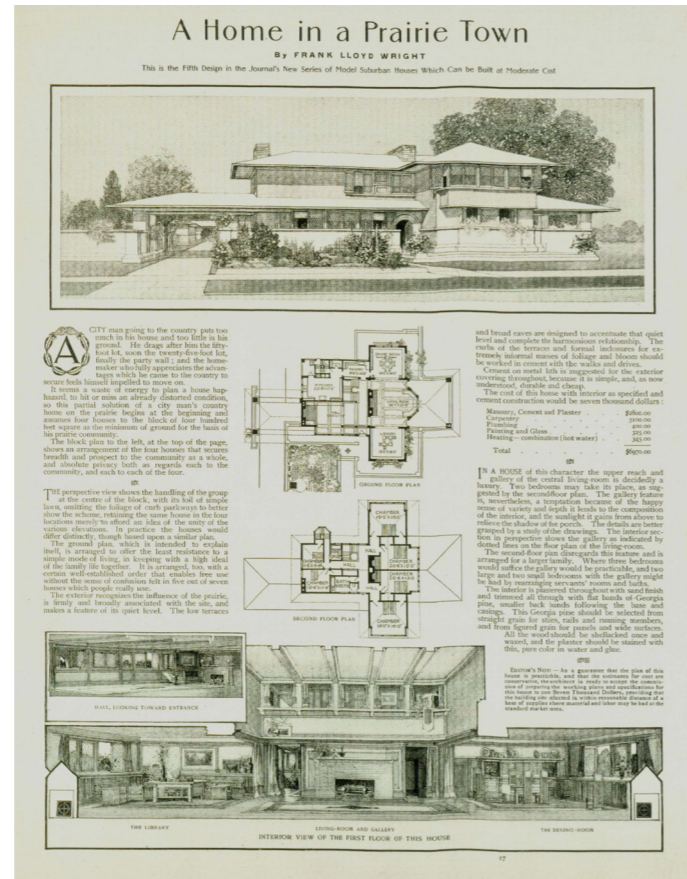


Figure 2. Frank Lloyd Wright. (1900). A Home in a Prairie Town. Ladies' Home Journal, February 1901.

Riley's argument in "The Un-Private House" (1999), however, has relinquished the quality of home that has long been characterized: a shelter, separated from the outside world of work, that provides absolute privacy. He argues that "the duality of public and private is no longer an operative concept." By the twentieth century, the concept of privacy in domicile has become fluid by the ascendancy of digital technologies and the transformation of the family and family life.

Herwig (2022) points out the importance of "in-between" status of domesticity. It is the space where zones and functions cannot be fixed and thus impossible to define clearly. Since digitalization, freedom and control in the home environment has increased coincidentally. Platforms like Instagram and Pinterest allow us to stream the images of interiors, even the most private space such as a bedroom, to the outside world. Herwig (2022) cites a sociologist, Boris Holzer, that "the aim is to maintain an openness to various form of **cultural production.**" Holzer perceives the status of je ne sais quois of home as a form of cultural production, which encourages home to be a means for self-promotion to the public.

MaLisa Foundation (2017) studied the visibility of gender on YouTube after analyzing top 1000 YouTube channels and conducting 14 interviews with female YouTubers. As a result, 71% of female YouTubers record their videos in their own apartments. This indicates that the production of self-presentation ranges beyond the interior décor. The apartment has turned into a mélange of both openness to and retreat from the public world, and thus the apartment is no longer exclusively private. We share it with family, friends, colleagues, followers, and random people on social media who do not have any personal connection. In the case of the home office, the workspace becomes active perpetually, devoid of time and physical doors via online meetings. Therefore, people nowadays willingly expose themselves to the public via digital portals (Herwig, 2022).

*"The private in the literal sense of exclusivity has ceased to exist, and even the basic right to the inviolability of the private sphere seems to be at least partially eroded in daily life – more or less voluntarily."*  
 – Herwig (2022).

Private life is not separated from public life, the world of work. The inhabitants today have also changed with the possibility of presenting private life voluntarily to the public professionally as well as personally. As the inner life can be projected to be present perpetually, the outside is also connected to the private individuals at any time of the day, and even at night (Herwig, 2022).



## Business of making things

For the first decade of the twenty-first century in advanced capitalist countries, manufacturing in urban context has been downplayed in planning and politics. The idea of urban manufacturing and production is perceived as a dying breed of the new urban economy. Modernist planners considered that the early and mid-twentieth century industrial sites would belong to the city periphery because deindustrialization of the urban economy was inevitable. Consequently, modernist functional separation pushed the urban industrial sector out of the central urban fabric. Once the greatest blue-collar cities around the world, such as New York City, has replaced its industrial sector with “post-industrial,” service-driven upscale commercial and residential developments (Novy, 2022).

Recently However, the contribution of manufacturing to urban economics brings greater benefits among new generations. The new trend, associated with the technological development in artificial intelligence, 3D printing, and robotics, has helped the business of making reintegrate into mixed-use urban development. Leading the trend, new genera-

tions are varied: small and independent urban makers targeting urban consumer markets, high-tech manufacturers, other businesses between traditional manufacturing and the creative sector. They prefer urban sites to traditional industrial areas at the periphery of cities because they rely on an educated urban workforce, universities, research facilities, and adjacent access to other businesses they work with or for (Novy, 2022).

For this reason, urban making takes place in many cities today, incorporated with urban development projects on various scales. Rotterdam is developing a “Makers District” for showcasing the returning manufacturing industry specialized in digitalization and robotization (Rotterdam Makers District, 2017). The district is developing on both sides of the Maas: RDM and M4H (Figure 3). In RDM, along with three education institutions: de Hogeschool Rotterdam (HBO), het Albeda College (MBO), and het Zadkine College (MBO), approximately 35 start-ups, SMEs, and global players in the maritime sector are located in the Dokhaven (Figure 4). Companies and educational institutions collaborate in the RAMLab on projects related to 3D steel printing for the maritime

industry (Figure 5). On the other side of de Maas, M4H, once used for fruit transshipment, has transformed into a focal working space. For example, 80 creative entrepreneurs of furniture makers, artists, food truck builders and musicians are working on the Fair Design Plein and the Keilewerf (Figure 6).

Bloqs in London, UK also offers a new model of an open access factory for professional makers and maker businesses with affordable workshop space, equipment, and community of fellow makers. The facility consists of workspace with woodworking, metal working, fabric & sewing, engineering, spray finishing, and also service and resources of classes, meeting rooms, kitchen and bar (Figure 7 and 8).



Figure 3. Rotterdam Makers District. North M4H and South RDM.

Figure 4. RDM Rotterdam. Dokhaven, RDM.

Figure 5. RAM Lab, Dokhaven, RDM.

Figure 6. Keilewerf, M4H.

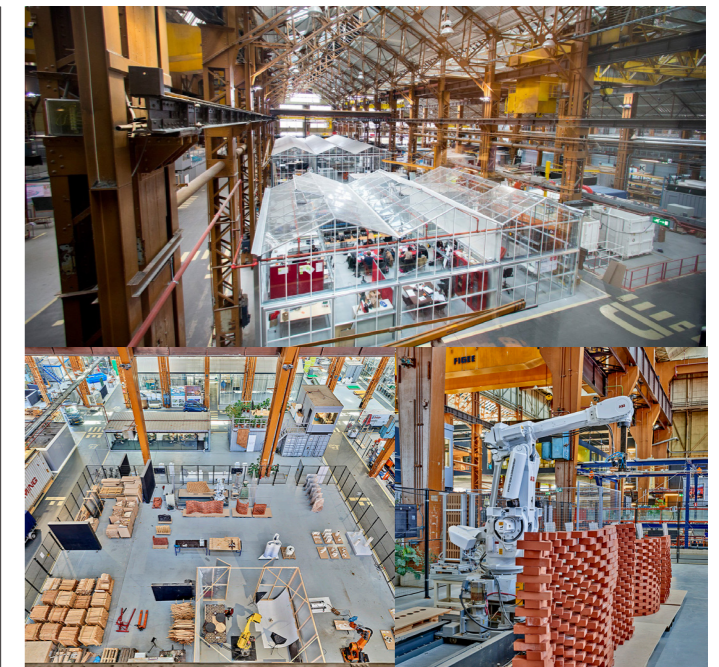






Figure 7. 5th Studio. Workspace, Bloqs. London.

Figure 8. Fran Williams. (2022). Kitchen, Bloqs. London, UK.



### Simply service

The trends of individualization, urbanity, and mobility not only shape society, but also significantly contribute to the dynamics of temporary living (Bell, 2018). One of the examples is “multilocality,” a sociological term indicating that people have come to live in multiple number of residential locations. Multilocality implies that the traditional nuclear family lasts only a few intervals of the life cycle and rather transforms towards more diverse forms of households during the life span (Herwig, 2022). For example, nomadism indicates a kind of lifestyle of people who move their habitats continually and periodically. Since the corona crisis, the number of digital nomads in the US has increased by almost 50%, and there are 35 million digital nomads worldwide (Remote Year, 2022).

It has to do with the experience economy. Because people nowadays can own everything else, they can rather seek to purchase moments of happiness, especially while travelling. However, Herwig (2022) argues that people can now have the same experience at home. Hotel chains have demonstrated that people can live in the hotel lounge. One can sit on the classical Arne Jacobsen’s Egg Chair or a leather sofa in a lounge with a café au lait while waiting for the room to be cleaned by service personnel. The round-the-clock service with the facilities of the hotel lounge and bed-and-breakfast promises the focus on the more essential: life experience.

The emphasis on the experience economy is especially noticeable in the serviced apartment segment, according to the Serviced Apartments Market Report by Gregorius (2021). According to the report, the serviced apartment segment is crisis resistant as 92% of the serviced apartment businesses have survived the crisis and generated 54% of the occupancy rate in 2020. In Germany, there are currently 36,301 serviced apartment units and will grow by 48% by the end of 2023. According to Bell (2018), although the main user of the serviced apartment is still business travelers, the focus is moving towards the leisure market. As the segment observes the shift to the experience economy, the share of the target groups for the segment can reach 40% depending on the concept and location. Therefore, the service apartment business is forecasted to grow continually.

The hybrid form of hotel and apartment can be achieved by a combination of well-designed interior spaces and round-the-clock service. This “home-hotels” or “hotelization” blur the boundary between the traditional hotel rooms, the individualized Airbnb, and one’s private home. The combination of the amenities of the hotel such as convenience and anonymity, and the private home provides advantages to the users who are looking for variety of options for life (Herwig, 2022). As operators have taken various measures to increase occupancy in practice, the serviced apartments are open to diverse target groups: students, hospital staff, government employees for separate home offices, or soldiers in quarantine (e.g., Adapt Apartments Berlin), weekend commuters, temporary employees, frequent flyers. Thanks to the diverse target groups, users can adjust their longevity of stay flexibly (Gregorius, 2021).

### Everything shared

Several professionals discuss how living will change in the future and what the future generation would want for the home (Bell, 2018). Gregorius from the Apartment Service Consulting observes the breakdown of the traditional three-phase model of life: childhood/adolescence, working life, and retirement. The futurologist Stephan Jung from Inoventiq mentions that the future generation, especially generation Y will change jobs circa seventeen times and move houses circa fifteen times in their lives. Markus Lehnert, who reports on the success of the open plan concept in London, thinks that the future living will be the form of co-living with a large communal kitchen. With these diverse opinions on the more temporary living style, one important common matter occurs: flexible residential units that are capable of accommodating as many life spans as possible. Flexible homes can be better achieved by compact apartments but well embedded in the urban fabric, which implies that “relocation and occupation” are necessary to function. For instance, instead of individual balconies, communal spaces such as roof terraces can be created for gatherings and socializing (Herwig, 2022).

One of the building types that is suitable for flexible living is co-op buildings and micro apartments. These types try to create convertible spaces for users for delimited time periods. The inhabitants of the optimized apartments seek new ways for achieving social connectivity through communal spaces where target groups can cook, work, and socialize together. The users are diversified from young professionals, singles, commuters to the elderly. Either diverse target groups or a specific target group can live together and create their own “Republic” (Herwig, 2022). The exhibition, New Architecture of the Collective (2017), cites that “for centuries, people tended to live and work in multigenerational houses. For economic and social reasons as well, it seemed practical for people to form collectives in order to care for one another.”





A Japanese architecture studio has also claimed the importance of the collective living as a new way of dwelling. Riken Yamamoto & Field Shop published design research on a new way of living in 2012. The studio proposes the Local Community Area (LCA) where approximately 500 people live together as a collective group (Figure 9). According to Yamamoto, it is time to open the boundaries of the dwelling and to reconsider the scale of individual living, from individual to the neighborhood, and to the street. The critical point of the LCA concept is the sense of indeterminacy which implies no limits or defined condition. Instead of pre-conceiving the outcome, the relationship between individual and collective, the care for children and the elderly, and finally the local economy is put central, which allows the community to grow and be resilient for the future. As diverse forms and scales of living are accepted, the floor plans of the residential units involve different kinds of spatial configurations such as the combination of bedrooms and business living rooms. Consequently, a house is divided into two areas with a

sliding door or narrow staircase in between: a shop or workspace and a private bedroom behind or above the workspace or shop. The shop or workspace acts as a buffer between public and private. The rest of the housing functions such as toilets, laundry rooms, and kitchens are left as communal facilities (Jürgenhake, 2018).



As the form of collective living tries to make bigger communal areas and reduce the area for individual private use, many residents resort to external spaces for extra functions such as storage and car rental. For example, possessions that are used only occasionally, such as ski equipment, have less space to be stored in the apartment, or they are too big to be stored in the wardrobe. Therefore, self-storage units are built as an extended living space where they are usually located along traffic arteries. You can make a call, visit, sign a contract, and deposit your own possession in the storage unit on the same day (Herwig, 2022). Shurgard, one of the self-storage brands, has its self-storage locations in 9 different countries in the Europe, UK, and US, and has its self-storage units in 66 locations in the Netherlands (Shurgard Self Storage, 2023). There are different types of self-storage units; either you can walk in by traffic transportation (Figure 10), or you can visit a drive-in self-storage unit by car (Figure 11). As depicted in Figure 12, each storage unit is treated as if the layout of parking lot is designed with broader parking corridor.

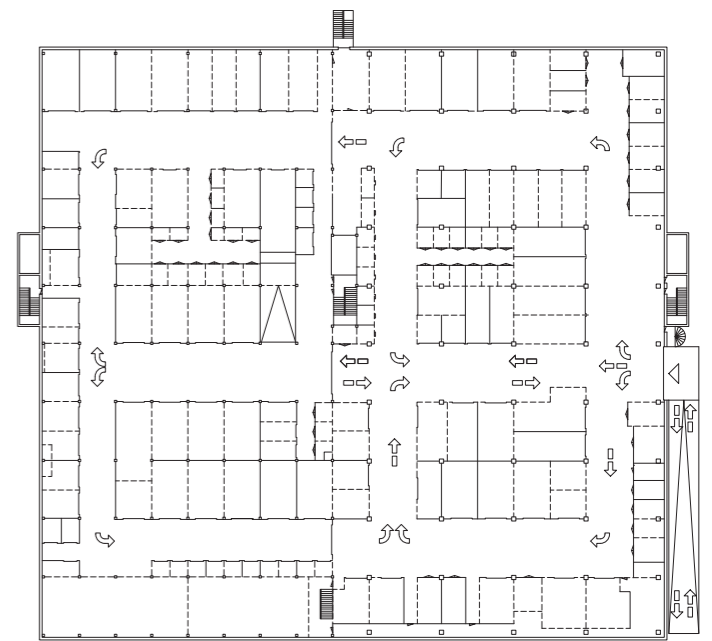


Figure 9. Local Community Area, Riken Yamamoto & Field Shop, 2012

Figure 10. Shurgard self-storage unit, accessed by walking.

Figure 11. DriveInUnits self-storage unit, accessed by car.

Figure 12. DriveInUnits self-storage unit, plan drawing. Recreated by the author.

# Conceptual Ambiguity of Productivity

Because domestic life has changed drastically as the lifestyle of people has diversified, the demand for housing has also become capricious. While some parts of domestic space are hybridized with other functions, others have become reduced in size and scale. Before its transformation, Herwig (2022) defines the modern residence from a sociological perspective and tries to inform the status of the modern home (Figure 13). Modern residence is socially the location of the bigenerational, nuclear family, functionally a place for only leisure and reproduction, social-psychologically a sphere of intimacy, and economically as a purchasable or leasable commodity. Except for the commodity aspect, the first three aspects of modern residence have disappeared (Herwig, 2022).

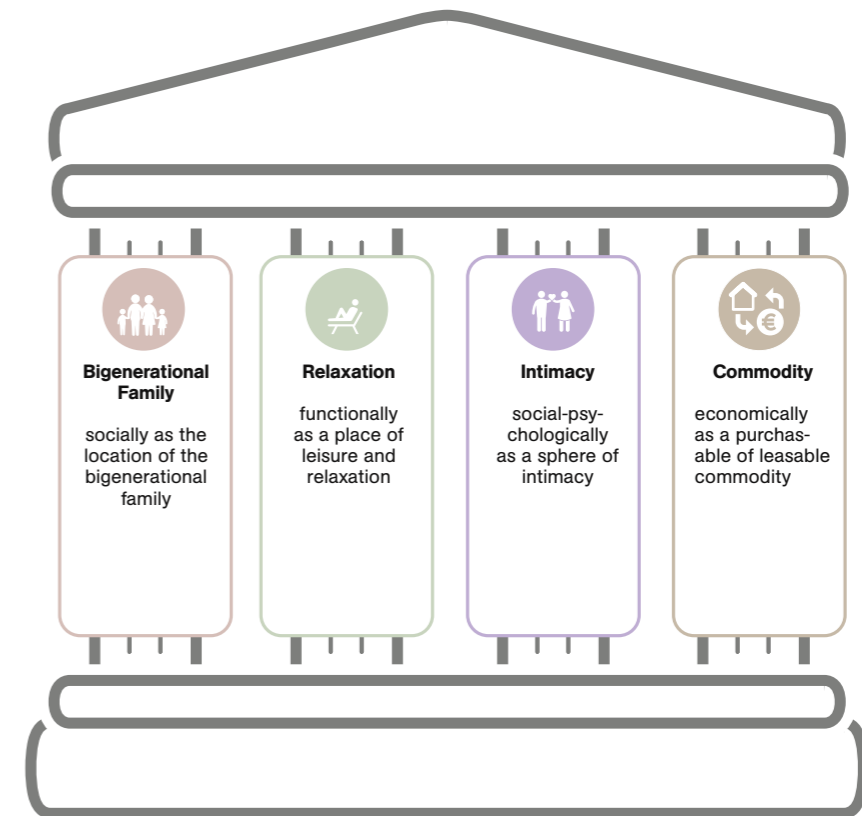


Figure 13. Modern residence, from a sociological perspective. Own work.



The current home is, however, no longer a place for standardized nuclear family, only leisure and reproduction, nor intimacy. Western domesticity, which was based on this dichotomous ideology, now attempts to move beyond the parameters. It is a location for diverse users who live in various lifestyles, a place for both productive and reproductive activities, and a sphere of private, collective, and public domain. More importantly, as current domesticity transcends the boundaries of the traditional reproductive home, new forms of production in domestic environment imply an overlap between work and life (Aureli et al, 2022).

Then what is the new forms of production? Many scholars have challenged the distinction between production and reproduction. “Production” has been referred to the working activity performed in exchange for a wage, while “reproduction” refers to unpaid activity for retreating ourselves (Aureli et al, 2022). Or “production” can be defined as the production of physical goods such as manufacturing. Others use the term for efficiency, output, and value. On the other hand, the term can also be used to refer to jobs, logistics, and systems. Thus, the term itself is “surrounded by ambiguity” (Novy, 2022).

Because it is too complex to sort out the complicated overlaps of the term “productivity,” Novy (2022) suggests that it is important to think about what kind of producers and products are meant when the idea of “productivity” is promoted. Who is potentially going to be valued? And who is not? According to his suggestion and the examination from the previous section “Hybridization and Reduction,” the new forms of production in the current domestic environment can possibly be as the space for self-presenting, self-making, shared, and providing service (Figure 14).

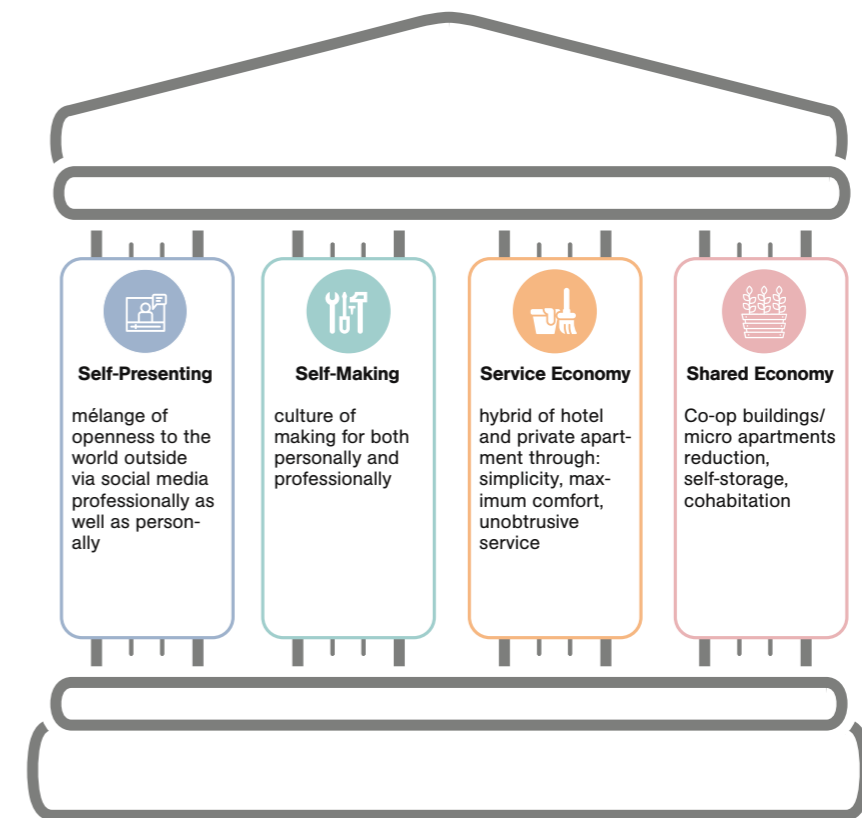


Figure 14. Parameters for Productive Home. Own work.

# Enrichment

When a new mode of living is mapped onto the urban living environment



## INTRODUCTION

Herwig (2022) emphasizes the importance of urban planning to enrich a wide range of programs and facilities that current and future target group's demand. It can be accomplished as if the city is conceived as an expanded living room. For those who live in a smaller apartment, life necessarily takes place outside of the living cell: in the café, on the park bench, in collective residential amenities, in shared party kitchens, and on roof terraces. This creates genuine networking which engenders a sense of community. Similarly, van Gameren in DASH (2018) criticizes the currently existing typical urbanism by saying that 'in today's service economy, the functional zoning typical of modern urbanism is no longer self-evident. People's domestic and professional lives increasingly take place in one and the same domain. They need a different type of city, one that accommodates a wide variety of programs, with tailor-made facilities that allow combinations of living, working and care. ... It is where the individual dwelling, the collective domain and urban life meet.' Therefore, it is crucial to discuss why the modern

urban planning based on the functional zoning does not work for the productive city, how to densify a city to accommodate the growing needs, and which part of urban life meets the individual and collective life.

- **What are the design principles that encourage a productive living environment?**
- **How can we adapt the four productive objectives to the contemporary residence?**
- **How can densification in the post-war context be realized to enhance the productive nature of domestic life?**

# Design Principles for Productive Home

Holliss (2015) provides the Workhome Design Guide, that helps designing home-based work environments. The principle is based on the analysis of 76 contemporary houses in urban, suburban, and rural contexts in England in 2006. These ‘workhomes’ accommodate various ranges of occupations, households, building typology, and spatial strategies. The design principles from the Design Guide provide potential scope in designing the workhome.

## Dominant Function

Holliss (2015) insists that one of the most important factors for creating workhome is the main function of the workhome. Some of them function predominantly as dwellings (home-dominated), others are predominately working places (work-dominated). A third category of the dominant function of the workhomes puts living and working with equal status. In other words, people not only could work in their homes, but also could live at their workplace. As each function provides a different lifestyle around productive activities, this categorization of “dominant functions” of workhomes can become a tool for utilizing a range of different occupations and situations.

The first dominant function of the workhome is home-dominated (Figure 1). As the most common type of workhomes, the home-dominated workhomes include wide variety of different housing

buildings such as flats, houses, cottages, a bungalow, and a live/work unit. In this type, people work in their homes; some have a separate working space, and others work in a spare bedroom, living room, or kitchen. Family caregivers and start-up businesses preferably choose home-dominated workhomes. The second type is work-dominated workhomes (Figure 2) where people live at their working place. This type also has a wide range of building types from a funeral parlor to industrial unit, to school caretaker’s accommodation embedded in a school building, to a pub converted into a mechanic’s workshop. Artists and craft workers tend to prefer work-dominated workhomes. When neither of the functions – home nor work – dominate, it falls into the third category: equal status (Figure 3). Dwellings are positioned adjacent to workplaces. For example, a gallery/framing workshop and a family house have separate front doors but are linked internally. Also, dwellings with workplaces at the bottom of a garden or courtyard accessible from roads, often mews, are also included in this third category. Professionals with more developed businesses prefer their homes to be equal status (Holliss, 2015).



Figure 1. Childminder’s home-dominated workhome, London.

Figure 2. Costume designer/maker’s work-dominated workhome, London.

Figure 3. Picture-framer and gallery owner’s equal-status workhome, West Sussex village.



## Spatial Typology

The differentiation of the dominant function of the home raises the need for establishing the relationship between work and home in these dual-functional buildings. Thus, Holliss (2015) creates three basic degrees of spatial separation between work and live: live-with, live-adjacent, and live-nearby. The first and the most common type is live-with which makes little (or no) spatial separation between the working and living functions. The dwelling and working aspects are performed in a single room that is accessible from one entrance (Figure 4). This type can be both work-dominated and home-dominated. The live-with type can be found in several models such as 'spare-bedroom,' 'double height mezzanine,' 'separation of functions by floor,' and 'single open-plan.' In every case, the functions overlap in this live-with type, resulting from the single entrance. The second type is live-adjacent, which involves a greater spatial separation between the dwelling and working functions (Figure 5). The two compartments, one residential and the other workplace, are accessed from two separate entrances on the street. Although this type can be both work- and

home-dominated, the equal-status workhomes generally fit in this type. The building typology regarding work-adjacent type includes the 'residential accommodation above the workplace,' 'workplace beside or behind the residential compartment.' When the interactions with the public members are involved, this type of functional separation is most preferred. The live-adjacent type is useful for a home-based self-maker such as furniture-maker to keep dust and noise away. Lastly, the third type is live-nearby. It provides the greatest degree of spatial separation because the living and working functions are dedicated to separate buildings at a close distance. This type can usually be found in equal-status workhomes, but the other two are also possible. The 'shed at the bottom of the garden,' 'mews with subsidiary access road,' and 'working in the garage' are the general models (Figure 6).



Figure 4. Live-with, working in the bedroom.

Figure 5. Live-adjacent, living above the shop.

Figure 6. Live-nearby, shed at the bottom of the garden.



### Pattern of Use

Regardless of the function and typology of a building, different users utilize the working space in different ways. Some would use all the spaces for both functions (dual-use space) as seen in Figure 7. A photographer works in his bed, bath, WC, and on the sofa. Other workhomes will have dedicated workspaces, that are organized according to the occupational requirements of the home-based worker (Figure 8). Another type of workhomes will have dedicated living space that is organized according to the domestic functions. These three patterns of use are dependent on the occupation, family structure, personality, and the available space (Hollis, 2015).



Figure 7. Dual-use spaces of an illustrator, architect, and photographer.

Figure 8. Dedicated workspaces for Building surveyor, a baker, and an architect.



## Conclusion

The three categories: function, typology, and use guide to the universal design principles that help architects make a wide range of productive homes. According to Figure 9, a home-dominated house can be designed according to any spatial design strategy and any patterns of use. However, some arrangements are more compatible than others. For example, if an artist's workhome is in dual use, separate entrances for work and live with equal status make more sense. If a psychotherapist prioritizes privacy, live-adjacent or live-nearby are more suitable than live-with.

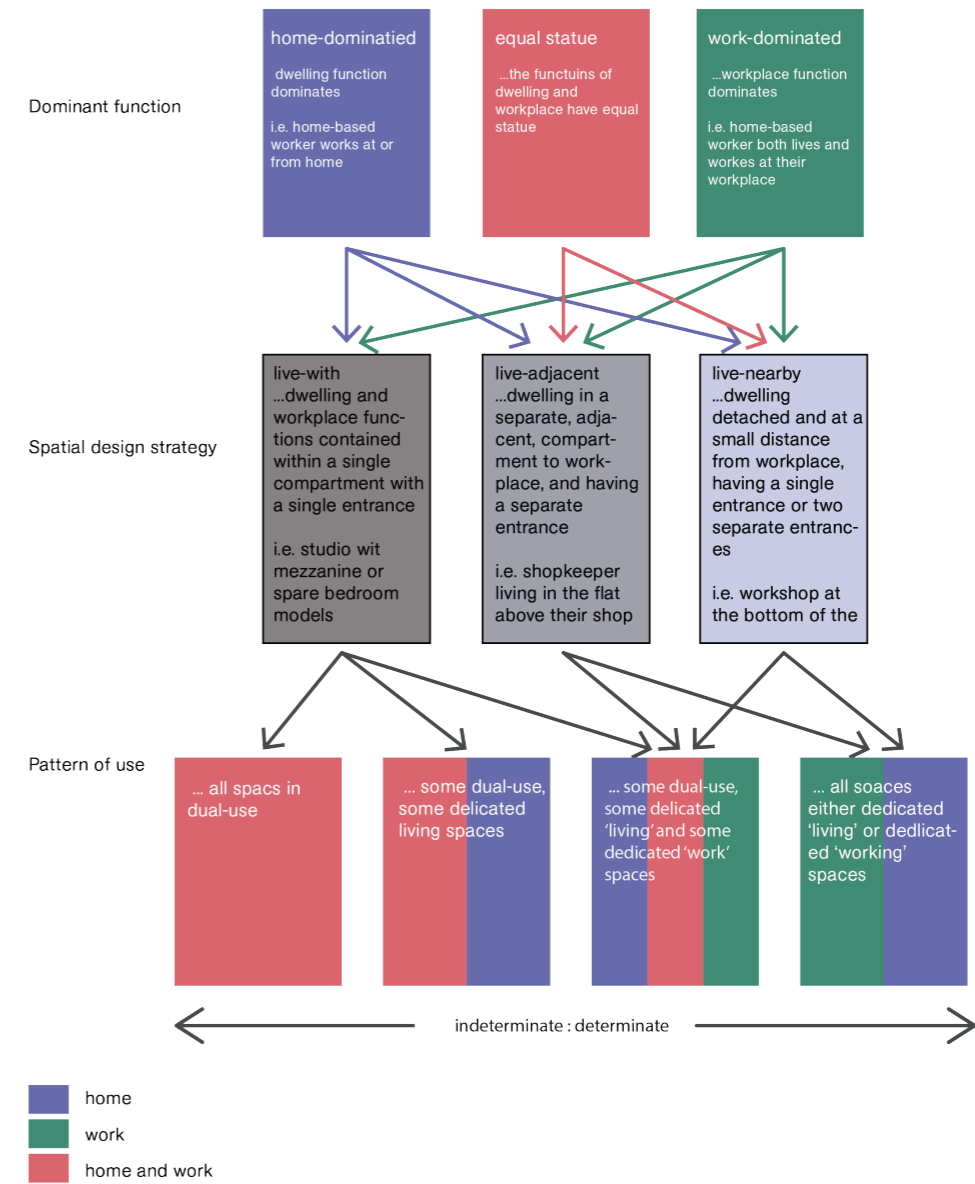


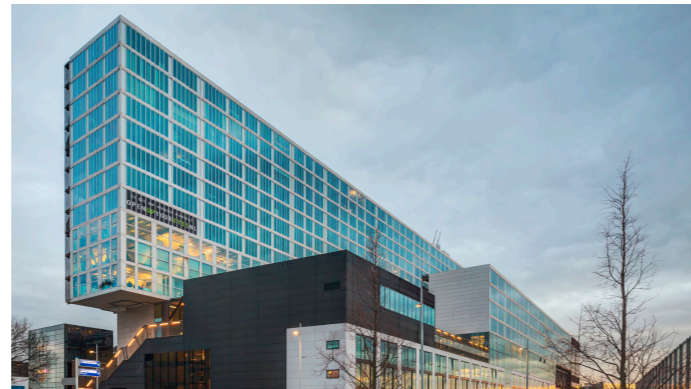
Figure 9. Design principles for workhomes. Recreated by the author.

# Productive Objectives

Along with the universal design principles for work-homes, it is important to study how architects place the newly emerging productivity in their design with respect to the four objectives: self-presenting, self-making, service, and share. The aim of the case study is to understand what kind of design elements have influenced creating the culture of productivity on different scales within the domestic environment.

**Self-presenting**

**Structural framework for flexible spatial layout: Schiecentrale 4b, Rotterdam / Mei architects and planners**



Sciecentrale 4b in Rotterdam has been designed for both flexible residences and companies from creative sectors such as a radio and television station. The office spaces, after-school care facilities, and parking garage are positioned in the two lower layers (Figure 10). The upper floors accommodate work-integrated homes. Because these so-called workhomes are sold unfinished, the homeowners arrange the space layout as they wish (Figure 11). Double metal-stud walls between residential units make it possible to combine and expand units. An extra space for storage or office is attached to the gallery, placed in front of the main entrance of the residential unit (Figure 12). The harmonica doors from floor to ceiling allow the living/working units to create an exterior gallery space (Figure 13).

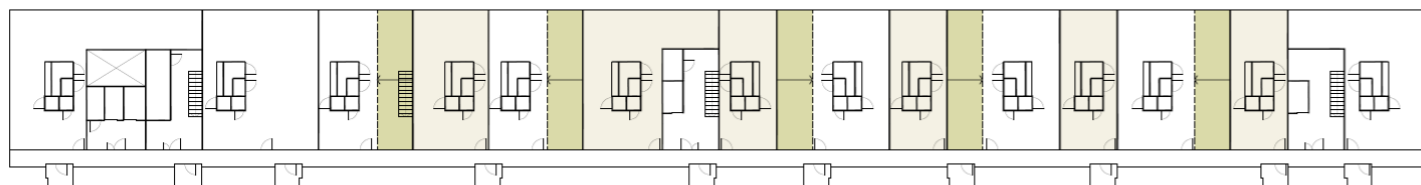
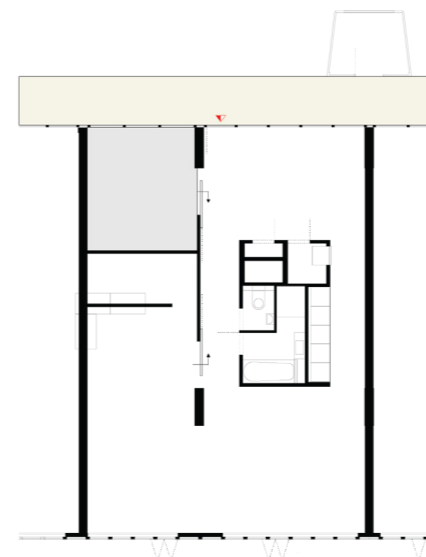
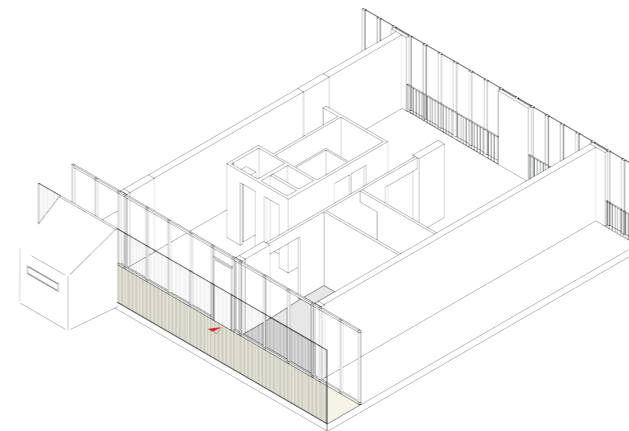


Figure 10. Schiecentrale 4b, Rotterdam by Ronald Tilleman, 2013, photograph, retrieved from ArchDaily.

Figure 11. Flexible layout by Mei architects and planners, 2008, Schematic diagram, retrieved from ArchDaily. Recreated by the author.

Figure 12. Extra office/storage unit by Jeroen Musch, 2013, Photograph, retrieved from ArchDaily.

Figure 13. Gallery Typology by DASH, 2019, Drawing, retrieved from DASH. Recreated by the author.





**Functionally undefined space that is semi-public:  
Canal Court Codan, Tokyo / Riken Yamamoto**

Canal Court Codan by Riken Yamamoto comprises office-dwellings that are flexible and suitable for work and retreat (Figure 14). Such residential units are differentiated by SOHO (small office home office) which is open towards the corridor (Figure 15). To use the SOHO space flexible, the kitchen and the sanitary spaces are pushed to the façade to secure the SOHO space in the large portion of the entrance. As residents can adjust the location of the partition walls, the users can not only change the size of the SOHO space, but also use the space in various ways. The project attempts to create a small city that accentuates the life of home workers by facilitating support and commercial programs such as a daycare center and a senior care center (Yamamoto, 2012).

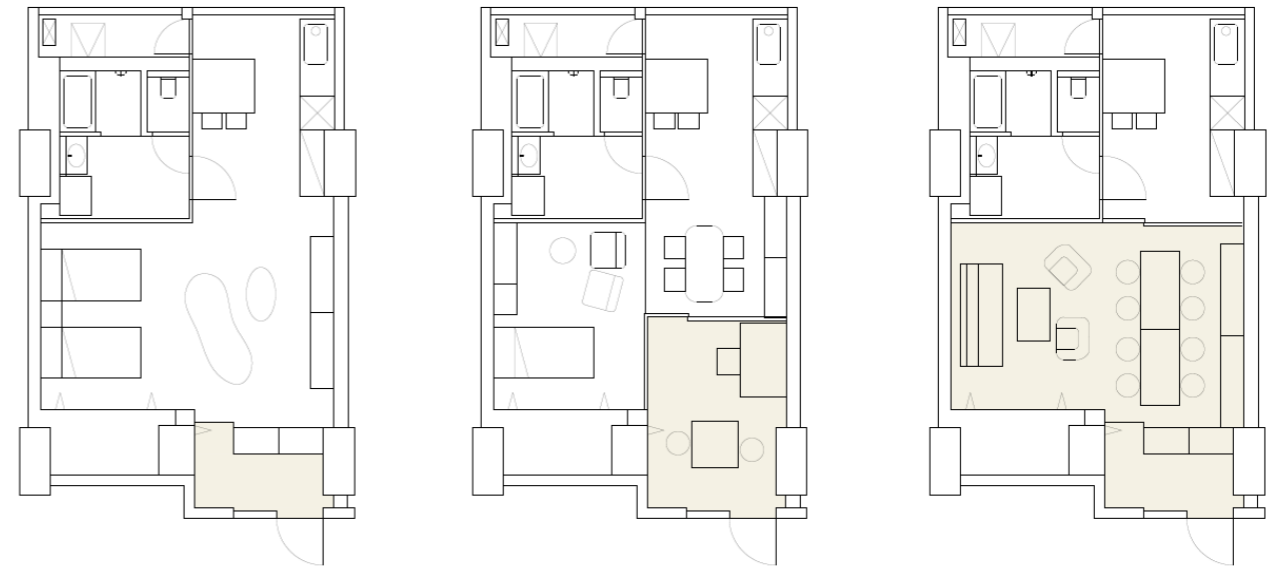


Figure 14. Courtyard, 2005, Photograph, retrieved from AV Monografias N116.

Figure 15. SOHO by Riken Yamamoto, 2012, Plan Drawing, retrieved from Riken Yamamoto. Recreated by the author.

**Various routes in the house: Design proposals by De Zwarte Hond**

One of the design suggestions for the new housing plan by De Zwarte Hond is making various walking possibilities within the house. The capability of taking more than one pathway in the house can create flexible zones that can turn into a home office as the inhabitant wants to at any time of the day. Figure 16 represents the possibility of making two different routes in the same house by using the built-in furniture. The built-in furniture creates various flexible living areas such as kitchen and home office. Another way of creating different routes in the house is incorporating the entrance hallway (Figure 17). While a wider entrance creates an extra width for a desk and a chair, a dwelling unit does not have to make an extra room when the inhabitant does not need a lot of space for working from home. For both cases, built-in furniture and a wider entrance hall, a common user scenario is created; when a person is in contact with another person publicly on- and off-line, other people in the household can take another route while there is no need for others to be exposed to the public.

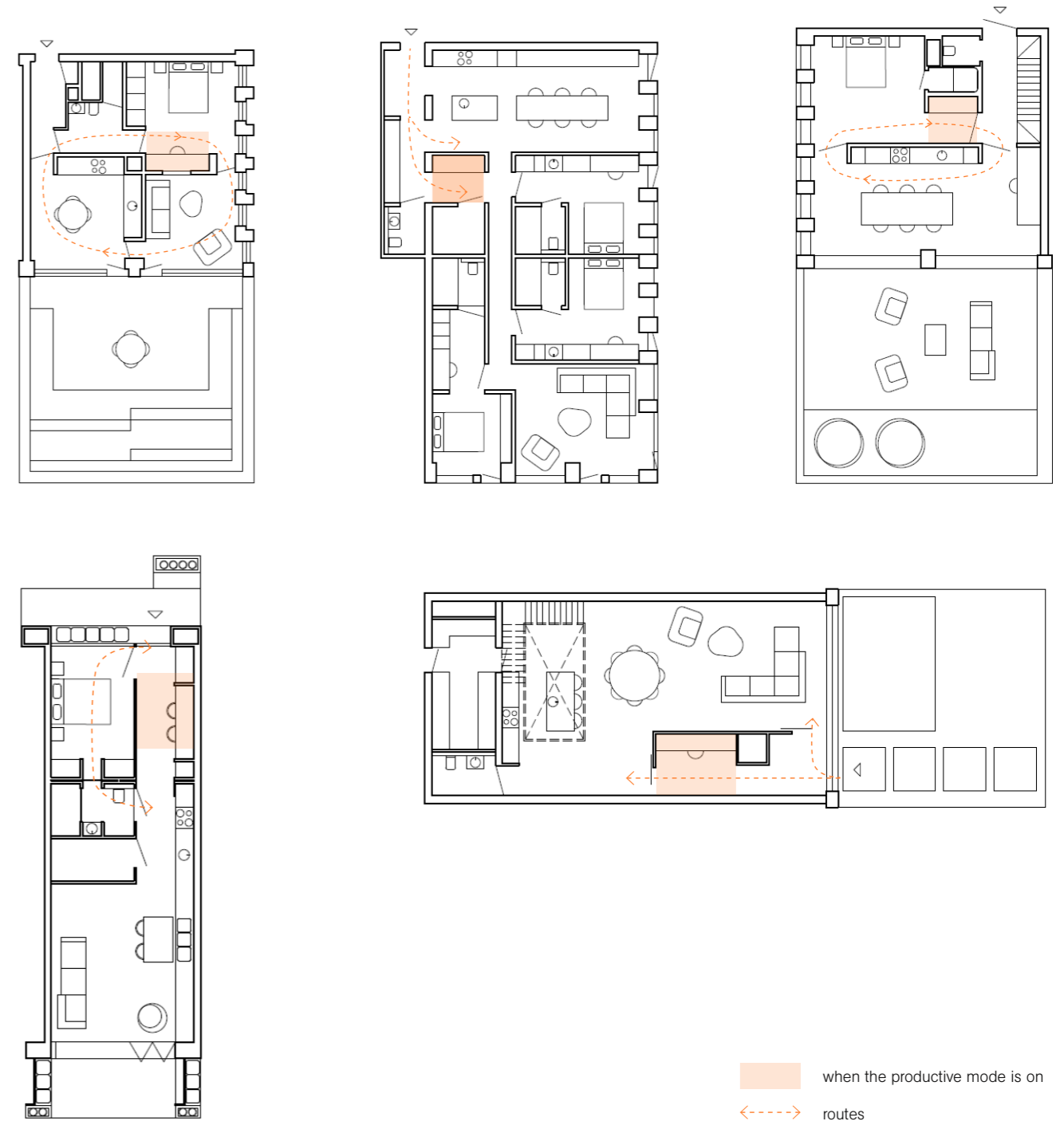
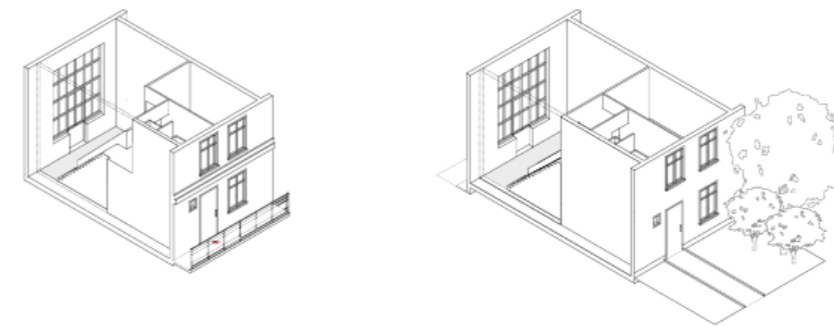


Figure 16. Built-in Furniture by De Zwarte Hond, 2022, Plan Drawing, retrieved from Out There #4 Woning plattegronden. Recreated by the author.

Figure 17. Entrance Hall by De Zwarte Hond, 2022, Plan Drawing, retrieved from Out There #4 Woning plattegronden. Recreated by the author.





**Self-making**

**Mezzanine for artists: Cité Montmartre aux Artistes, Paris / Henry Résal & Adolphe Thiers**

Cité Montmartre aux Artistes project (Figure 18) was led by a group of artists in 1930. It was realized to combine habitat and production for artists and young professionals within the city (Gameren, 2019). The artists' city is composed of three buildings that are positioned parallel to each other (Figure 19 & 20). Each building has four floors of double-height units. Each residential unit accommodates both domestic and production uses. While the rooms for domestic functions face back façade, the working program is in the front part of the building through a double-height large windows revealing the artists' working life to the neighborhood (Figure 21).

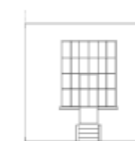
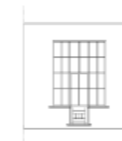


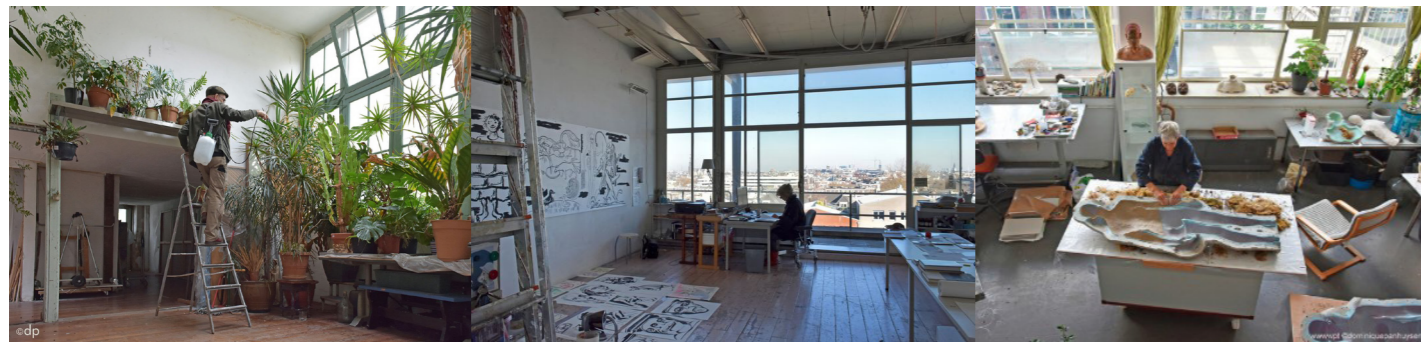
Figure 18. Main Entrance by Philippe, 2018, Photograph, retrieved from Région Ile-de-France.

Figure 19. Parallel building blocks by Philippe, 2019, Photograph, retrieved from Région Ile-de-France.

Figure 20. Parallel building blocks, recreated by the author, 2023, Plan Drawing, retrieved from DASH (2019).

Figure 21. Floor plan, recreated by the author, 2023, Plan Drawing, retrieved from DASH (2019).

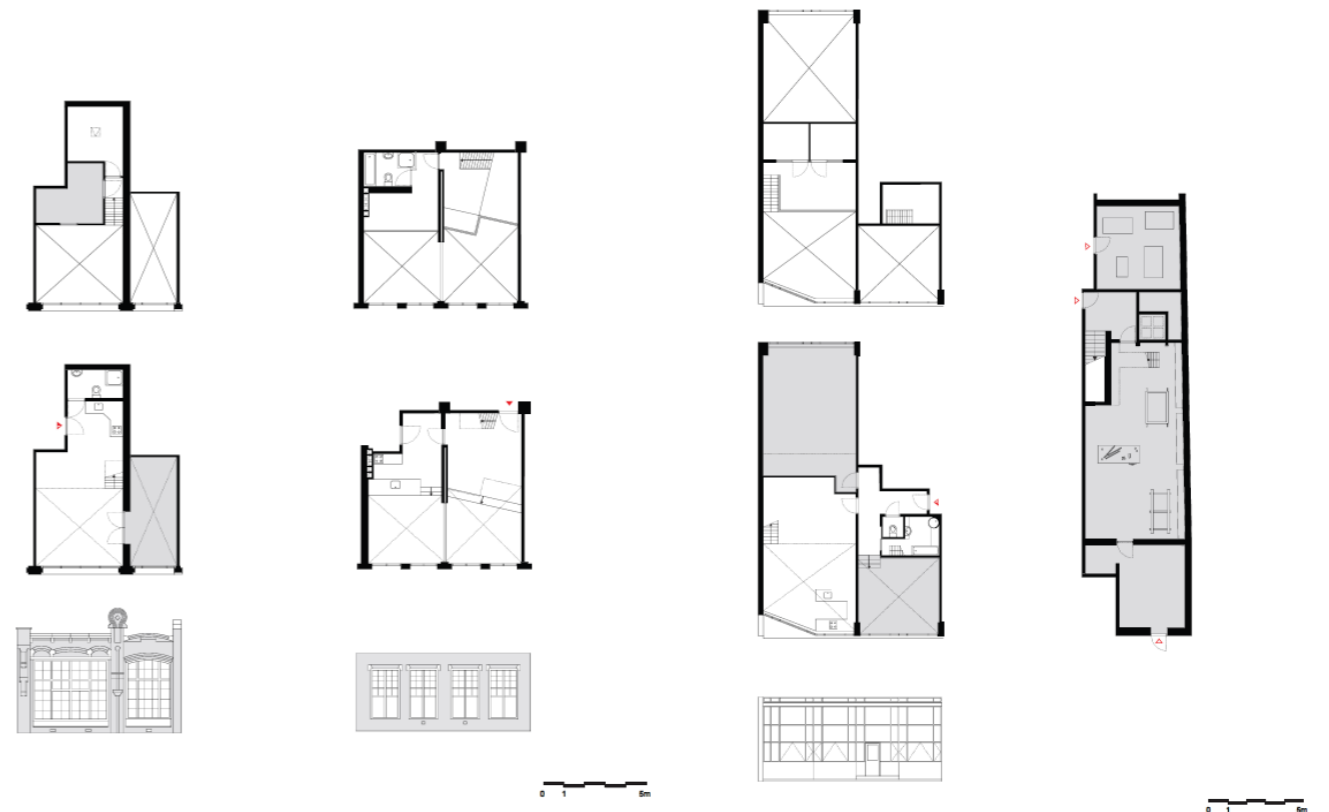




**Spatial typology, work-with, work-adjacent, and work-nearby: Woonwerkpand Tetterode, Amsterdam**

The living and working community in this unique shell is realized by the cooperation between several architects who renovated the industrial building complex (Figure 22), and the users who filled in the programs (Figure 23) such as a metal workshop, shoemaker's workshop, artists in atelier apartments. Thus, the interior and programs have been developed, considering the wishes and preferences of inhabitants and the users. The production side is evident when investigating the ground floor plan in Figure 24. On the ground floor, artisanal workshops are positioned, which are the 'work-nearby' typology of workhomes mentioned by Holliss (2015). A large lift for goods and two footbridges contributes to the production perspective of self-making objective because the lift and bridges are not only used for people but also for products to be transported. On the upper levels, variety of atelier apartments depict two

other spatial typologies of workhomes: 'work-with' and 'work-adjacent.' The first three atelier apartments in Figure 24 represent 'work-with' typology. With a shared entrance to the domestic and working places, the 'work' function is positioned either right next to the domestic parts of the apartment or vertically stacked under the upper domestic floor. The last atelier apartment in Figure 24 represents 'work-adjacent.' The floorplan is a metal workshop in a courtyard having three entrances on ground level. Two entrances are directed to the two different metal workshop spaces, and the other entrance is directed to the domestic upper floor. While residential units representing 'self-presenting' might have required a small space for a desk and a laptop such as at the entrance hall made with built-in furniture, the residential units for 'self-making' require bigger and higher spaces for making physical objects. Because the residents are artists and manufacturers such as painters, shoemakers, sculptors, the apartment requires bigger volume with double high ceiling such as mezzanine and atelier apartments.



- 1 printing works
- 2 atelier
- 3 shoemaker
- 4 transformer room
- 5 theatre rehearsal room and lounge
- 6 violin maker
- 7 massage room
- 8 timber workshop
- 9 ceramic workshop
- 10 office
- 11 computer workshop
- 12 metal workshop
- 13 atelier
- 14 artist collective 'De Crèche'
- 15 discotheque 'De Trut'
- 16 hairdresser's
- 17 gallery
- 18 second-hand clothing store
- 19 plant store

Figure 22. The industrial building complex by Dominique Panhuysen, 2021, Photograph, retrieved from Broedplaatsen West.

Figure 23. The infill by Dominique Panhuysen, 2021, Photograph, retrieved from Woonwerkpand Tetterode Facebook page.

Figure 24. Spatial Typology recreated by the author, 2023, Plan drawing, retrieved from DASH (2019).



## Service

### A new urban home: En Aparté Hotel & Apartment, Toulouse / Tailandier Architectes Associés

In the central Toulouse, France, the mixed-use urban planning project was realized in 2021 (Pintos, 2022). This Aparté project comprises two components: an apartment hotel and a collective housing block. These two main components are perpendicularly aligned to the main volume of the common area on the rue du Béarnais (Figure 25) while the two wings (the apartment hotel and a collective housing block) create the landscaped garden (Figure 26). The ground floor works not only as a transitional space between the public street and the private residential units, but also as a communal area of both the apartment hotel and the collective housing block (Figure 26). The northern building volume consists of collective houses with access to the balcony while the southern wing has the hotel apartments (Figure 27).

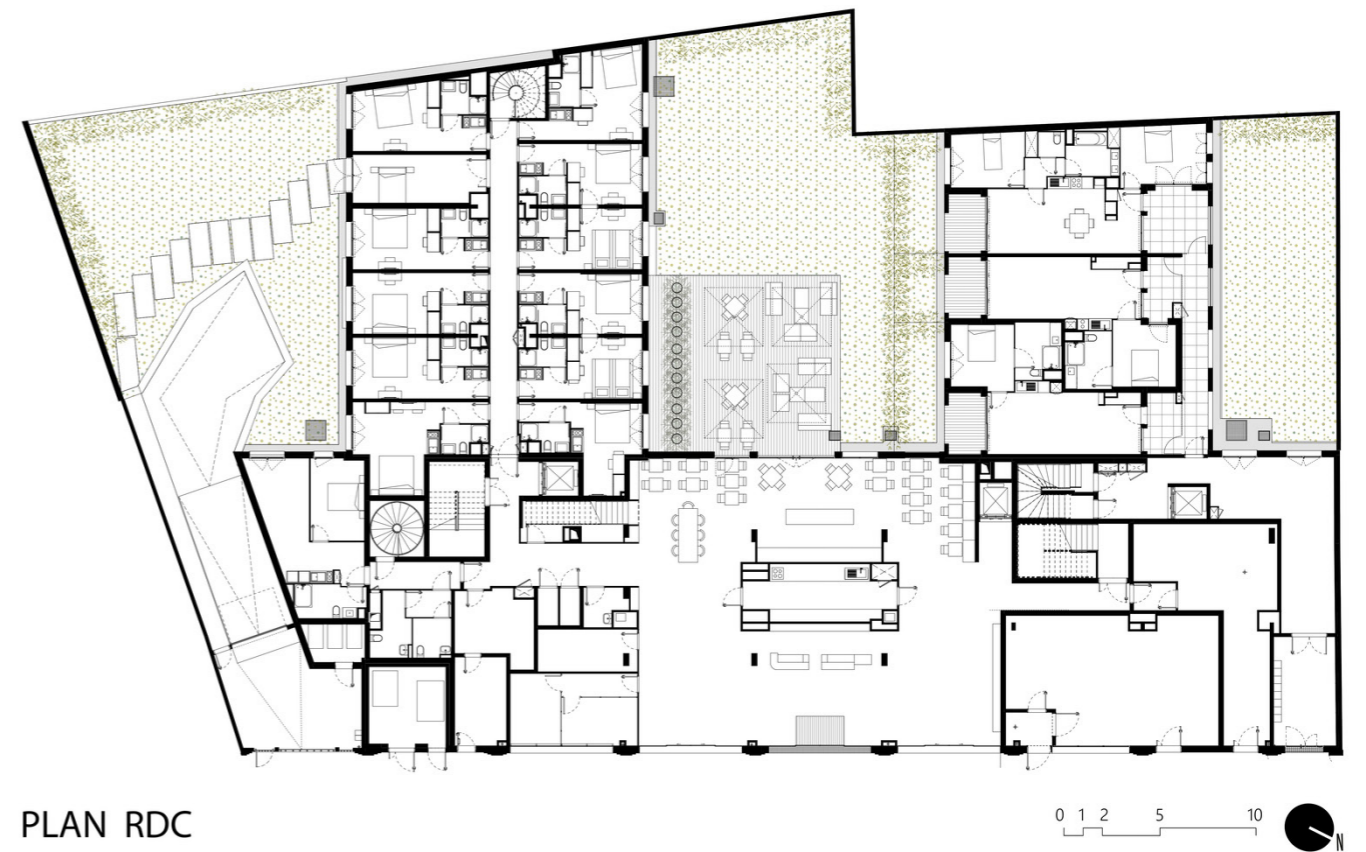


Figure 25. Main façade by Roland Halbe, 2022, Photograph, retrieved from ArchDaily.

Figure 26. Ground floor by Tailandier Architects Associés, 2021, Plan drawing, retrieved from ArchDaily.

Figure 27. Hotel apartment (left) and collective housing (right) on the courtyard by Roland Halbe, 2022, Photograph, retrieved from ArchDaily.



**Share**

**Collective street: WindSong Cohousing, Langley / dys architecture**

Residents in Windsong community collectively work at least three hours a month working in the collective garden, cooking together, cleaning, and doing administrative paperwork. Around 100 people at Windsong are singles, seniors, and families (Gardner & Building together, 2013). 34 dwelling units relate to two residential streets that are covered with double-height glass roofs (Figure 28). Collective functions are a collective kitchen and a dining room, laundry, a children's playground, a handcrafts space, and a guestroom, that are centered in the meeting point of the two streets (Figure 29).



- 1 Community space
- 2 Children's play area
- 3 Teenage club
- 4 Laundry room
- 5 Office space
- 6 Studio
- 7 Vegetable garden
- 8 Attic

Figure 28. Residential Street in Windsong Cohousing Community, n.d., Photograph, retrieved from Canadian Cohousing Network.

Figure 29. Ground floorplan by DASH, 2013, Plan drawing, retrieved from DASH (2013). Recreated by the author.





**Intergenerational living through cooperating partnership: STA | Zwei+plus Intergenerational Housing, Wien / trans\_city TC**

Cooperative intergenerational living subsidizes social housing whose units are let in pairs to two households that can be either family or friends. These two households must move in at the same time and commit themselves to mutual cooperative support. Whilst a single-person household can live together on the same estate, she or he has a separate unit which preserves privacy. This new partnership allows intergenerational households to live together by assisting each other in a constructive way. For instance, seniors can assist preschoolers until their parents come from work (Pintos, 2020). The four L-shaped building volumes create green courtyards in which residents can gather and do collective activities together (Figure 30). A few collectively programmed courtyards are community gardens in the middle of the building block and meditation garden on the northern side of the block (Pintos,

2020). Other collective spaces are spread around the ground floor: a community care, a laundry room, a playground, kindergarten, and a senior assistant center (Figure 31). Another unique communal space on the upper floors is the communal gallery with “front porch” (Figure 32). The galleries on the upper floors bring the classic front-porch with a raised sitting area with open railing so that the gallery not only works as a circulation zone, but also works as a meeting point.

**TYPICAL FLOOR**

- 1 stairs & corridor
- 2 gallery
- 3 apartment
- 4 private „front porch“



**INTERGENERATIONAL LIVING**

- 1 guest apartment
- 2 rubbish
- 3 bicycles
- 4 meditation garden
- 5 ventilation garage
- 6 entry hall & stairs
- 7 foyer
- 8 community room
- 9 kitchen
- 10 office room
- 11 caretaker apartment
- 12 carriages & prams
- 13 passage
- 14 childrens playroom
- 15 laundry room

**KINDERGARTEN**

- 16 vestibule
- 17 foyer
- 18 garderobe
- 19 hall
- 20 classroom
- 21 toilettes
- 22 storage
- 23 activity space
- 24 director
- 25 personell
- 26 kitchen
- 27 carriages & prams
- 28 playground

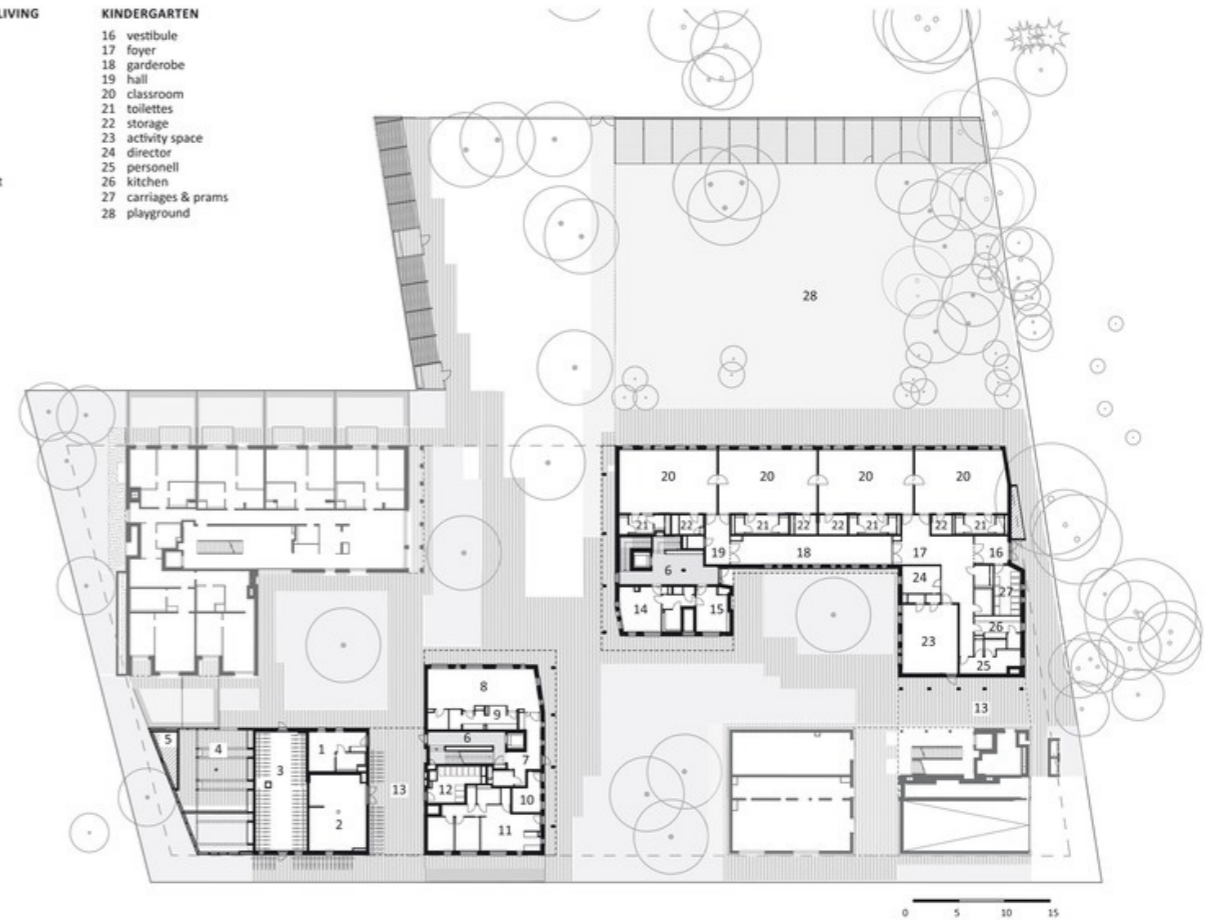


Figure 30. Green courtyards by Hertha Hurnaus & Leonahard Hizensauer, 2020, Photograph, retrieved from ArchDaily.

Figure 31. Ground floorplan by trans\_city TC, 2018, Plan drawing, retrieved from ArchDaily.

Figure 32. Gallery with front-porch by trans\_city TC, 2018, Plan drawing, retrieved from ArchDaily.

# Densification Strategy

## Significance of productivity in urban scale

While the trends of productivity in urban living environments are based on the four objectives on the domestic scale: self-presenting, self-making, share, and service, the concept of productivity easily expands to the urban scale as the concept of “productive city” has become one of the main concepts in many European urban planning (Novy, 2022). For example, Brussel published a municipal planning “Brussels Productive City” (Borret, 2018) trying to stimulate productive economy in the city. In the fourteenth edition of “Europan” is also focused on the integration of productive activity into the urban fabric (Europan, 2017).

As Novy (2022) insists that the productive industries and businesses are “not only city-compatible but also city-affine,” the idea of “productive city” has greater potential advantages for twenty-first-century cities. “Cities of Making” project (2022) has demonstrated that productive activities in central urban context diversity urban economics and build economic resilience by promoting social cohesion and environmentally sustainable circularity. For instance, production in a central urban site reduces transport, and curbing sprawl and land consumption. This is critical to achieve net zero goals. From an economic perspective, if productive processes are visible and tangible in city centers and on main streets, the urban spaces will become more attractive and active. Additionally, community-oriented organizations such as social enterprises and cooperatives can make new urban spaces for interacting and sharing goods and skills. Altogether, this makes diverse businesses of productions seek urban locations (Novy, 2022).

## Jane Jacob’s exuberant diversity in a city’s streets and productive city

This propagative idea of “productive city” is supported by Jane Jacobs’ argument in “Death and Life of Great American Cities” (1992), noting that “the fix is in the mix.” In her book, she was strongly opposed to the modern urban planner’s idea of beautifying the city; she accused Ebenezer Howard of claiming that urban life must be abandoned to save the people. She argued that “urban functions should be brought together wherever possible rather than being separated.” According to her, human beings should live in communities with layers of complexity and seemingly chaos. However, urban functional zoning prevents human beings from developing communities and economies.

Jacobs (1992) identified four conditions of “exuberant diversity in a city’s streets” that realize “the fix is in the mix,” saying that “in combination, these conditions create effective economic pools of use ... All four in combination are necessary to generate city diversity; the absence of any one of the four frustrates a district’s potential.”

1. *The district and its internal parts must serve more than one primary function: preferably more than two. Layers of functions stimulate people’s presence because people go outside at different times for different purposes while they use many facilities simultaneously in common.*
2. *Most blocks must be short. People can have more opportunities to turn corners more frequently.*
3. *The district must combine buildings that vary in age and condition, and the mingling must be close-grained. She said, “hundreds of ordinary enterprises, necessary for the safety and public life of streets and neighborhoods, and appreciated for their convenience and personal quality, can make out in old buildings, but are inexorably slain by the high overhead of new construction.”*
4. *A dense concentration of people who live there must be present; “Intricate mingling of different uses in cities are not a form of chaos. ... they represent a complex and highly developed form of order.” She set the density rate at more than 125 dwellings per acre, measured by the number of people per room.*

Holliss (2015) directly cites Jacobs’ (1992) four conditions to convince that the four conditions: high density, combined with mixed functions, short blocks and various users in age and building conditions create vibrant productive domestic environment on urban scale. People living at their workplace or working in their home generate a finely grained mix of functions that is in line with Jacobs’ first condition. Short blocks enhance the permeability in the city. Productive activities in the form of micro-businesses make pedestrians and bikers take different routes when visible from the street, which meets Jacobs’ second condition. Diverse neighborhoods in age and conditions are often economically beneficial because there is more opportunity for home-based businesses, which is relevant to the third condition of Jacobs’. Lastly, high density market with concentration of diverse people is always on demand to meet the requirement of creating and managing productive city.



## CONCLUSION

# Meaning Creation by Inhabitants

The meaning of the “home” is more than a physical state of “house.” It embodies both a physical and social space. Munro and Madigan (1999) define home as the house itself within which the social relations contained. Moreover, “home” embraces an ideological transition. In terms of the meaning of the “home” attracts more extensive interests in urban life, the socioeconomic history of building, gender and class, domestic power relations, design, and the culture (Shove, 1999).

Within these extensive study about the shifting boundaries of home throughout the history of Western domesticity, there have been a crucial finding that is in common throughout time; inhabitants have continuously pursued ways of circumventing and resolving the imposed physical design of the house and demands of social and cultural ideologies. The changing meanings of the home from the seventeenth century to the twentieth century deal with the home’s spatial identities, as well as the spatial transgression of domestic activities and the culture. Therefore, the meaning of home, as a core symbol, can be derived not only from its physical structure, but also from the practices performed on and in by the users.

## POSITION STATEMENT

# Spatial Typology for Future Target Groups

The current housing situation embodies three practical trinity: housing shortage, target group, and existing post-war houses. While the way future target groups relate themselves to domesticity has changed and will continuously diversify, the existing and current housing supply seems to keep perpetuating the traditional form of houses: a home for nuclear family.

Through research, it has become more apparent that it is critical to think the other way around. Until recently, architects have been intensely concerned about how to provide a better way of living for the current and future target groups by experimenting spatial typology and arrangement. However, by moving their focus towards the more sophisticated life of target groups, architects can delve into how to create a home, in both physical and psychological senses, where the inhabitants can experiment the given spatial and typological domestic environment, leaving the target groups as the interpreters of the home.

Consequently, the research points out that flexibility and adaptability are the two pivotal concepts in domestic architecture to suit the needs of varying demands of future target groups. The research depicts its capability of flexible and adaptable living. Integrating the concept of 'productivity' in the

'reproductive' domicile can be accomplished from material to urban scale by inhabitants' different degrees of appropriation.

## REFLECTION

# Research Plan and Final Consequences

My research planning was based on the depiction of the Figure 1. As divided in three parts: the historical meaning of the home, demands of the future target groups, and newly created urban domestic environment, I expected my design process to be influenced directly and successively by the consequences of my research. In other words, my first step of my design would be the enrichment of the domestic environment on urban and neighborhood scales, the second phase of the design would implement the demands of the changing target groups into the architectural elements, and lastly the design would also reinterpret the historical meaning of the home. However, as I proceed the research and design process, it is evident that the clear distinction between the three parts of the planning is practically impossible because every finding of the research influences every process of the design directly and indirectly. Even if the original plan of my research and design is maintained in a sense that a certain part of the research is more relevant to a specific design decision, it is inevitable that the design process should be more holistically appreciated.

After I decided not to stick to the initial research and design planning, the process of the project has made more progress. As delineated in Figure 2, while keeping the research plan strictly so that it is clearer

what is critical information for the design, the design plan has been going back and forth between various conceptual ideas on urban, neighborhood, architecture, and material scales.

This approach has also been reflected on the presentation layout. It was also one of the most significant feedbacks from my mentor that it might make more sense that my research comes in and out throughout the presentation. My original intention of how I would present my design was as described: research, analysis, and design. However, it is likely that the audiences might lose the track of the presentation if I keep it this way because my design extensively deals with various findings from the research. Therefore, the presentation is curated in such way: analysis, research, analysis, design, research, design.

It was my first time that I construct my presentation structure in such a way that it was important to keep and maintain the very central idea of my design throughout the presentation, that is, "productive domestic environment for increasing target groups for the future." In the end, this way of presenting my design with respect to my research has helped me sorting out the key ingredients from the overall research and design process.



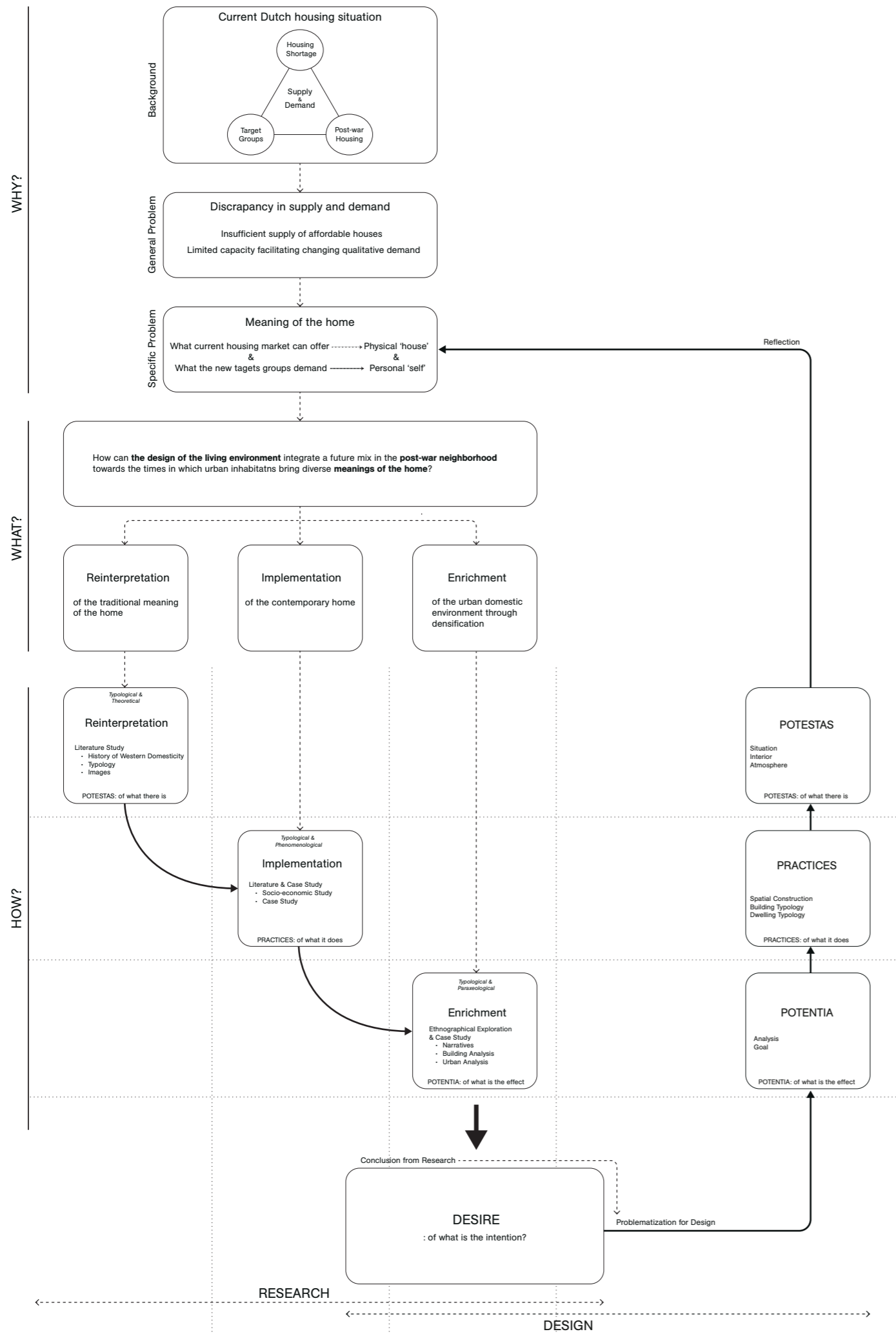


Figure 1. Research Plan, by author.

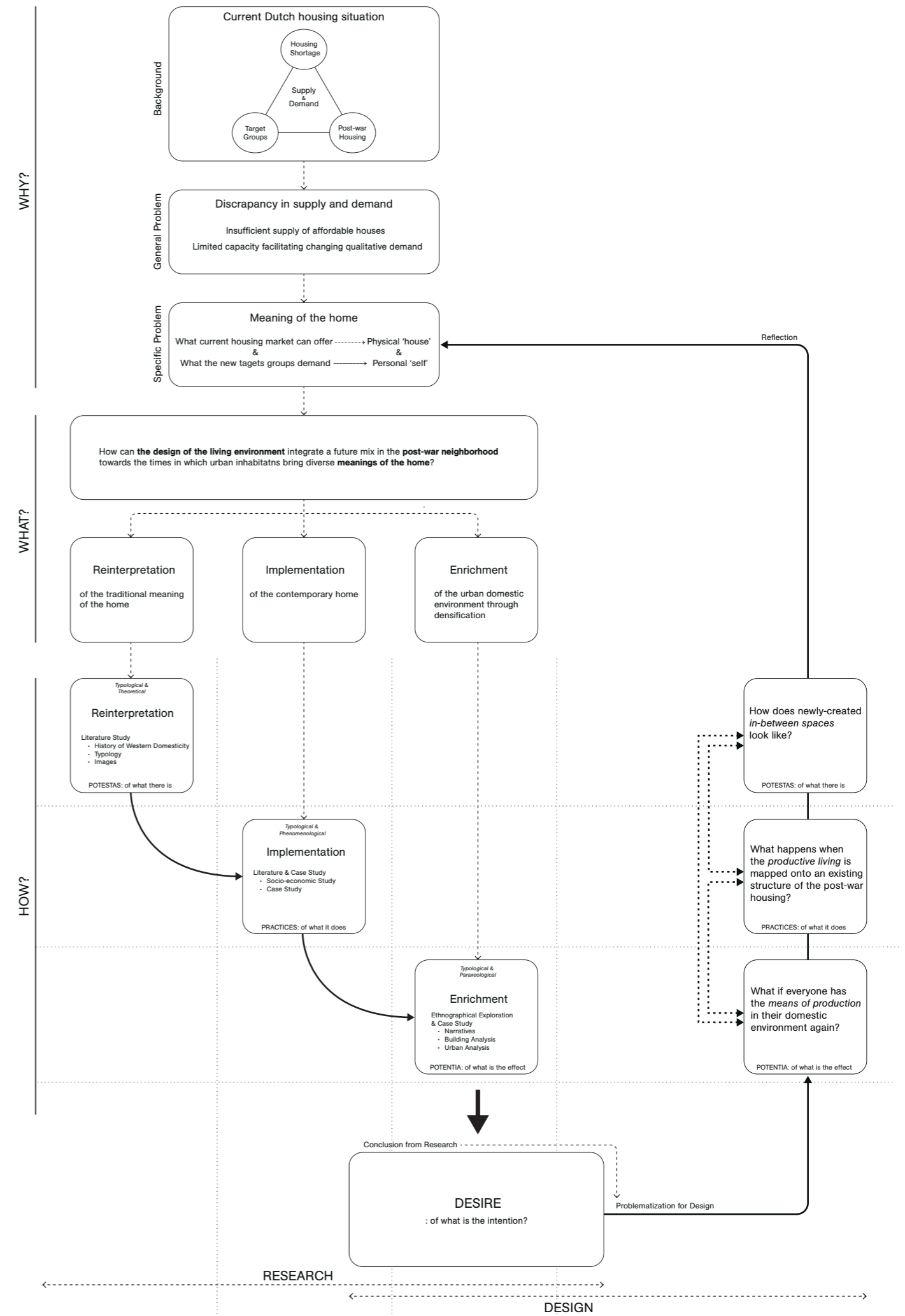


Figure 2. Research Result, by author.

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