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Flexibility and gender equality in housing

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Architectural flexibility and gender equality in collective housing



Josep Maria MontanerBarcelona City Councillor for Housing and Renovation

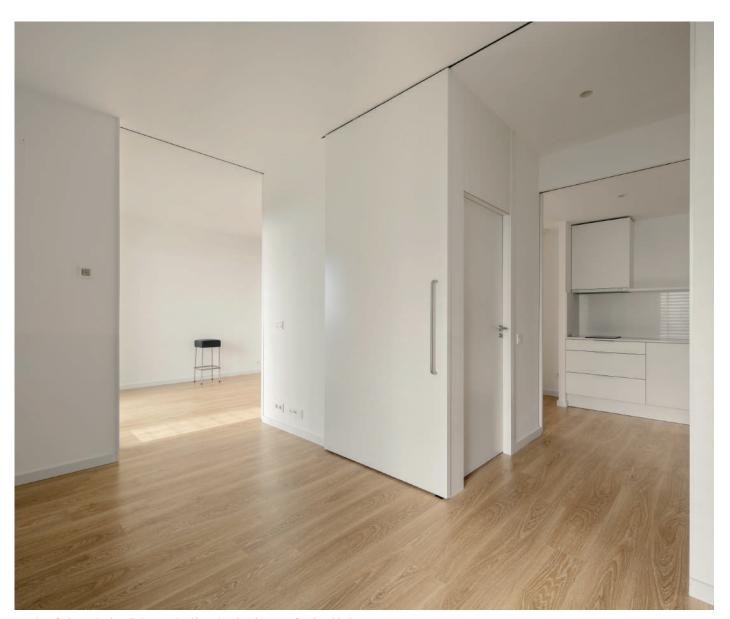
If modern collective housing can be defined by two concepts, these are flexibility and gender equality. In addition to their diverse nature, these two concepts are directly related to the changes currently taking place: on the one hand, the possibility of change and evolution of housing in a dynamic society that sees several different family structures over its life cycle; and, on the other, the contributions of the modern feminist struggle that demands gender equality on the basis of justice. They are therefore two closely related concepts.

The concept of **flexibility** first emerged with modern architecture, in relation to the open plan layout promoted by the two new construction technologies of the 1920s: reinforced concrete and steel structures. Flexibility was reinforced in the early $20^{\rm th}$ century by the new families composed of two women or women at the head of the family – in summary, independent women that made flexibility make sense from a social point of view.

Flexibility brings with it a variety of possibilities for internal mobility (such as the designer Truus Schröder's home in Utrecht, designed with Gerrit Thomas Rietveld in 1924) and the ability to transform components based on the existing needs at any given time.

The practical concept of *perfectibility*, championed in Barcelona by Ignacio Paricio, appeared decades later. The British experts Sarah Wigglesworth, Tatjana Schneider and Jeremy Till have also written about, and experimented with, this flexibility.

Through the theories on flexibility and the transformation ability of the work of architects and artists such as John Habraken, Jan Trapman, Constant and Yona Friedman, among others, the theory of supports and experimenting with growing megastructures was proposed. This is where the idea of the open building comes from, in which everything except for the structure and a few circulation elements can be transformed, including the façade and installations.



Interior of a home in the Glòries serviced housing development for the elderly.

Flexibility is related to measurements. The key measurement in this regard is the minimum of 2.8 metres per side for the various areas. It provides a threshold below which flexibility becomes subject to other things, particularly the different layout possibilities for the beds: it addresses the need for 2 metres for a bed and 80 centimetres to go past comfortably and is defined by a theoretical cube of 2.80 x 2.80 x 2.80 as a minimum area. Rooms that are too small or too narrow thus have less functional capacity and must therefore be avoided in projects.

Gender equality seeks to break with the traditional division of gender roles in domestic spaces and, thus, with the rigid dichotomy between private and public spaces. It aims to uphold spaces used for reproductive and care purposes. Based on this point of view, the lack of neutral elements in the home is demonstrated. This is particularly so in the case of the kitchen, which has encouraged the dominance of one gender over the other, the submission of women to housework. Because of all this, the kitchen must be in a central and visible position rather than relegated and closed off, and it should allow several people in the family to engage together in collaborative work, making housework visible and shared. In practice, it means that the home plan must take into account the entire laundry cycle and the provision of spaces for care; that each member of the shared-living unit must have his or her own space; and, in addition, that there must be suitable storage spaces.

In Catalan architecture, the defence of gender equality was started by Anna Bofill and continued by Zaida Muxí, the author of *Recomanacions per a un habitatge no jeràrquic ni androcèntric* (2009) and *Mujeres, casas y ciudades. Más allá del umbral* (2018)

The association Punt 6 – created as a result of the exhibition 'La casa sense gènere' ['The genderless home'] (2005) and which takes its name from the point at which the Catalonia District Plan established the compulsory nature of equality and gender perspective in all areas – has produced a number of educational publications on the various ways in which gender equality affects urban planning and architecture, public spaces and housing. Its publications include, among others: Dones treballant: Guia de reconeixement urbà amb perspectiva

de gènere (2014); Espais per a la vida quotidiana: Auditoria de qualitat urbana amb perspectiva de gènere (2014); Entorns habitables: Auditoria de seguretat urbana amb perspectiva de gènere a l'habitatge i l'entorn (2017). In these publications, these criteria are applied to housing, collective spaces, entrances and intermediate spaces between the home and the street.

In addition, flexibility and gender equality entail another element that is essential in modern housing: the removal of hierarchies. A non-hierarchical home doesn't have some rooms that are larger and have better qualities than the rest, or *en-suite* bathrooms that are exclusive to certain rooms and imply an internal hierarchy. Non-hierarchical homes are easier to sell on the second-hand market than rigid, hierarchical structures. They promote less specific areas and are therefore more adaptable to a variety of family groups and functions. The architects of the firm CIERTO ESTUDIO write about these matters based on their experience with the Glòries housing project.

In this issue No. 22 of *Qüestions d'Habitatge*, the articles written by Ana Paricio and David H. Falagán, who are very closely acquainted with the recent projects of the Barcelona Municipal Institute of Housing and Renovation (IMHAB), go deep into the conceptual, functional, formal and metrics implications of these two concepts. In addition, housing expert Max Gigling analyses the gender perspective in relation to access to housing in Spain.

All this takes place in a context in which these mechanisms are gradually being introduced into tenders and projects. It is also happening at a time of express commitment to gender equality at the City Council, with the Councillor's Office for Feminism and LGBTI Affairs led by Councillor Laura Pérez. In this context, the Gender Justice Plan cited by the Councillor has been reinforced by the Area of Ecology, Urban Planning and Mobility with a government measure for urban planning with a gender perspective.



Gender justice and the right to housing



Laura PérezCouncillor for Feminism and LGBTI Affairs of Barcelona City Council

ousing is a fundamental inclusion factor that transcends the boundaries of built space and also affects spheres such as sustaining life and caring for people. Furthermore, it cannot be separated from other rights such as the right to education, work, health or political and social participation. This is why it is so important to guarantee it effectively.

It is therefore no coincidence that, historically, housing has been the subject of claims, conflict and resistance led primarily by women. All we need to do is look back at the Latin American rent strikes of the 19th and 20th centuries or the Platform for People Affected by Mortgages (PAH) in the last few years of the economic crisis. At present, the pressures of an economic model based on the construction and financialisation of life has ultimately placed this right out of reach.

At Barcelona City Council, we have taken on the challenge of promoting the right to housing, the right to the city, and we believe that it is necessary for housing policies to take account of the gender perspective. And we have included this in the Gender Justice Plan, which has been drawn up by the Councillor's Office for Feminism and LGBTI Affairs.

This plan states that policies must be designed taking into account family and demographic changes, and the increase in single-parent and single-person families in Barcelona is a fact. Because of these households, as well as others, we must adapt the design of public policies to the specific needs of the families that live in them and which change over their life cycle. Furthermore, we need non-hierar-

chical and non-man-centred constructions and renovations in order to break away from binary considerations and from the traditional distribution of roles that continue to cause gender inequalities.

Another challenge is experimenting with new sustainable forms of occupancy beyond the market that protect women from the higher social and financial vulnerability to which they are often subject. Examples include housing cooperatives, guaranteed rental schemes or measures based on access to public housing based on gender criteria, such as in cases of people who are at risk of gender violence.

The Gender Justice Plan includes the contributions of feminism to overcome the strong dichotomy between private and public spaces as a transferred representation of that other unreal division: the one that distinguishes between the domestic world and the productive world. Homes must include community uses, both inside and in their immediate surroundings, and must be designed together with their surrounding public spaces. Renovating housing also means regenerating neighbourhoods and providing them with local services.

The matter of housing is central to this. We need to move away from standard, uniform solutions and add flexibility and creativity to policies in order to meet this requirement effectively. Increasing the amount of money spent on this is necessary but not enough. This is a time for diversifying solutions and experimenting with new designs and new tools in order to achieve a greater impact from housing policies. In addition, all this needs to be done at multiple administrative levels.



Flexibility and gender equality in housing



Flexibility and gender equality in housing

00. Introduction

In the introduction to *The image of the city*¹ by American urban planner Kevin Andrew Lynch who studied users' experience of spaces - Lynch described the city as an entity whose moving elements are as important as the unmoving physical parts. His point of view is easy to understand if you look at the movement of people, traffic or the activities carried out on the street as being as important as the city's buildings or fixed infrastructure. The perception of the city not as a physical item but as an organic one that is in constant evolution is very similar to the view we could have of any occupied architectural work, but more particularly of residential ones. In fact, one could define a home as a shared-living group that inhabits a place defined by a set of spaces. This means that spaces are as important in the definition of housing as the functions and uses given to them by their inhabitants.

This approach to housing is probably not an original one although, from the architects' point of view, research has often focused on more 'static' aspects. Some leading architects of the second half of the 20th century, such as Christopher Alexander and N. John Habraken, already developed theories

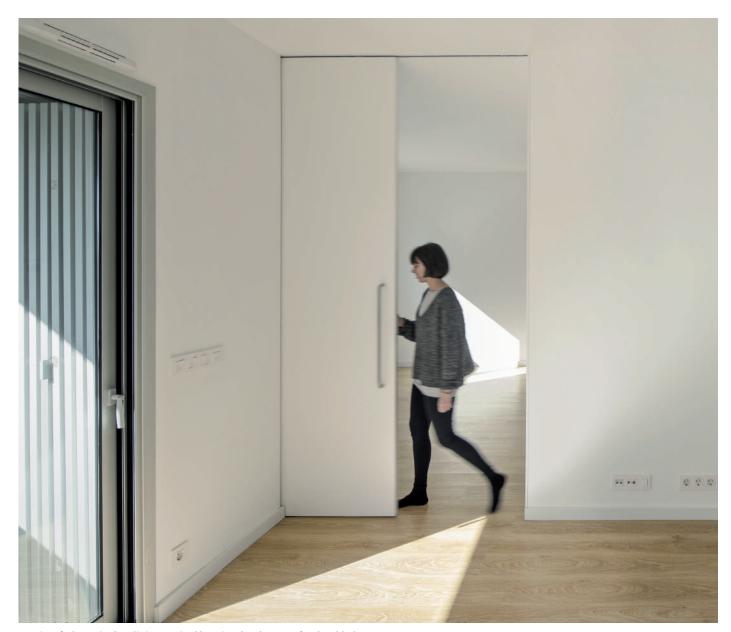


David H. FalaganDoctor of Architecture

of housing, precisely placing at their centre not the formal conditions of architecture but the uses and occupation of spaces. Alexander's design patterns or Habraken's theory of supports respectively can be considered two examples of this interpretation.

For this reason, in the next few pages we will seek to analyse housing from a dual point of view: paying attention to the easily recognisable spaces that make up a home on the one hand, and considering the more everyday functions and uses that take place in it on the other.

In the context of collective housing, it is worth remembering that, for years, successive pieces of housing legislation have been passed resulting in the definition of a set of minimum compulsory physical conditions of habitability. Despite this, legislative efforts have historically focused on a quantitative definition that could explain a set of dimensions regarding health and comfort requirements, adapted to the standard occupancy of a home. This legislation could be considered to be valuable at the times of highest speculative pressure on mass housing production , particularly in the first half of the 20th century but has proven to be insufficient at times, such as this, of demographic diversity, redefinition of shared-living models or a tendency towards the individual appropriation of spaces. As shown by all



Interior of a home in the Glòries serviced housing development for the elderly.

the available statistics, neither the family models nor the age at which people access housing, nor the number of occupants in each home, nor even the uses that we demand from current homes, are represented as such in the inherited legislative models.

In this context, the legal definition of specific rooms with concrete conditions inevitably leads to a pre-established use for, and appropriation of, each area. In spite of this, such conditioning can be minimised during the design process, and the dimensions and relationships between rooms can be reconsidered in order to give maximum adaptability to spaces and minimise hierarchies when occupying them.

For this reason, in this article we will define an interpretation of the concepts of flexibility and adaptability that will be useful when analysing housing. In the final part of this document, we will apply this analysis to a few projects developed in recent years (mainly between 2013 and 2015) by the Barcelona Municipal Institute of Housing and Renovation with the aim of obtaining a diagnosis of the state of this matter and make a few recommendations for improvement.

However, it is worth noting that, in order to carry out the analysis, we have had to accept some simplifications that must be mentioned. First, the observations have been applied to projects at different stages of development, which are therefore still subject to change. Second, the analysis focuses on the homes' given configuration, thus focusing on a specific approach to the interior spaces of each housing unit. Finally, the projects reviewed include housing with land usage rights, housing for people affected by urban planning, social rental homes and institutional housing for the elderly. In spite of the configuration differences, particularly in this last case in which there are considerable differences in surface areas and in the operation

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of the development as a whole, we have chosen to apply the same battery of questions to all projects.

In order to apply our method in this manner, the first element we will discuss is the capacity of a graphic assessment system that can convey a home's flexibility and equality conditions.

01. Housing and representation

Architectural assessment mechanisms have become tools which, although occasionally seen with scepticism from a blueprint designer's perspective, provide objective information to people from outside this discipline. Their role must be particularly relevant for the assessment of the architectural design of homes, which few people design but everyone occupies.

For this reason, this analysis aims to define in a recognisable way the representation of the qualities present in housing projects. The analysis is thus useful in three different ways: it can provide a useful tool as a guide during the design process; it can provide a valid tool for adapting it to regulatory procedures; and it can be an essential way of conveying the most important qualitative features to be taken into account in a domestic environment.

Based on the need to set parameters for certain housing conditions, we consider what conditions should be taken into account in order to provide an appropriate representation of this analysis.

Nowadays, it would be unthinkable to buy a packet of biscuits in the supermarket without first checking the list of ingredients or the nutrition information on the label. No one would even think of buying a new car without thoroughly reviewing its power or fuel efficiency on the technical data sheet. No one would ever take home a fridge without checking the energy rating on the label. Not even when we buy the clothes we wear do we fail to first check their composition and washing instructions.

All this information enables us to know more about the products beyond their physical appearance: it is information that is directly related to a brand's use, comfort, energy consumption, health quality or even social value; for example in cases in which information on organic means of production or local trading is provided. This situation results in a paradox: it is easier to ascertain the number of cubic metres of storage in our car than those of our own home, or to establish the energy efficiency of a fridge than that of our home as a whole.

In the case of all these items – food, vehicles, clothing, household appliances, etc. –, these characteristics were taken into account during their production process. Assessing this process guarantees the characteristics of the products such that their final quality is reflected in a number of parameters that can be compared. These are explained to the people who buy them and use them by means of quality seals, labels or data sheets. There is therefore a triple process at play: the definition of the parameters, the assessment of their implications and the information provided to users.

Construction is clearly subject to quality controls: in relation to structural safety, to protection against the risk of fire, to a variety of health-related aspects and, particularly more recently, to energy performance. In addition, in the case of housing, there are often legal requirements as to habitability and accessibility that basically establish minimum (quantitative) dimensions that guarantee its use. In spite of this, there are a great many qualitative parameters that are often neither regulated nor assessed nor explained to users and which are crucial to the quality of a residential environment.

Any housing analysis must undoubtedly take into account both quantitative and qualitative factors, and we should look at them in

If you look at the majority of the current legislation, many of the considerations governed by it can be considered obsolete. Anyone can see that social, urban or technological changes take place much faster than regulatory or legislative changes.

combination with each other. The experiences of the successive residential assessment traditions of the 20th century show a gradual contribution of qualitative parameters which, although often not quantifiable, are identifiable. Identifying and defining such parameters and making them objective is thus the first challenge if we want to move towards assessing certain conditions of a home.

If you look at most of the current legislation, as mentioned in the introduction, many of the considerations governed by it can be considered obsolete. Anyone can see that social, urban or technological changes take place much faster than regulatory or legislative changes. Paradigms must be reviewed from various points of view, as well as from the various levels of approach to the residential reality.

In any case and along these lines, the assessment of housing is not aimed at regulating it but is carried out from an analytical point of view: one that allows us to identify the parameters that provide quality to residential actions, which makes it easier to consider the objective values it provides and makes it possible to convey them to the people who live in them, both now and in the future. It is an operational assessment, one that provides value as a project tool and as a tool for critical analysis. This is why our first task will involve defining the concepts of flexibility and equality that we will be using in these pages.

02. Flexibility and gender equality

In this analysis of housing, the concepts of flexibility and gender equality have been used as arguments relating to the aspirations of collective housing: maximum versatility of use for the people who use it and minimal hierarchical conditioning in its layout. It is worth briefly clarifying in this regard how these concepts are interpreted here and how they can be applied to our analysis.

Adaptability and flexibility

Although here we talk about *flexibility*, the term that best defines our conceptual approach is *adaptability*. In relation to this, we agree with the terminology used by professors Jeremy Till and Tatjana Schneider in their research on flexible housing².

According to their work, which uses the nomenclature previously used by engineer Steven Groák (*The Idea of Building*, 1992)³, a home is flexible when it can adapt to changing needs and patterns, both social and technological. In a way, he is referring to a home designed to permit physical modifications that will make it suitable for different configurations. On the other hand, by *adaptability* we mean the home's ability to accommodate a variety of social uses. In this case, without making changes to the layout, spaces can be considered to be adaptable when they allow very different functions and uses.

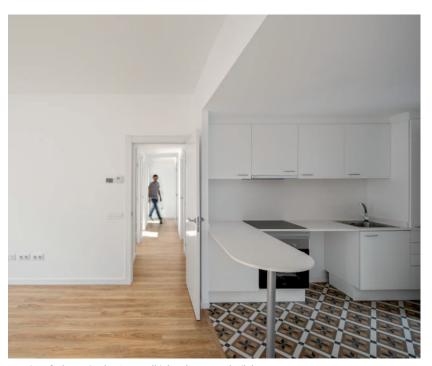
The term *flexibility* would thus be used very specifically to refer to the ability to change the physical configuration of the home. But, in general, we will use the word *flexibility* in a much more open way so as to include both abilities – adaptability too –, although giving priority to the soft concept of flexibility, the concept according to which a user is able to modify the appropriation or use of a space without any technological resources.

In this regard, the wish for flexibility has been found to be one of the qualities most sought after by contemporary architecture. Great masters of modern architecture have included this characteristic – albeit with different strategies – in their designs. And neither is our local tradition

of modern collective housing – originally represented by architectural projects as important as those of Francesc Mitjans, Francisco Juan Barba Corsini, Josep Antoni Coderch and Lluís Nadal, for example – a stranger to this desire for flexibility.

Space hierarchies

By including the gender perspective in this approach, the analysis of space hierarchies seeks to detect and raise the profile of situations of inequality, subordination or imbalance in the use of homes by men and women. It is worth remembering that the concept of gender perspective – or gender studies – refers to the category of analysis in which methods for detecting cultural constructions differentiated by



Interior of a home in the Can Batlló developments built by IMHAB.

^{2.} Jeremy Till, Tatjana Schneider (2007). Flexible Housing. London: Architectural Press.

^{3.} Steven Groák (1992). The idea of building: Thought and action in the design and production of buildings. London: E & FN Spon.

gender are developed. In summary, the aim is to unmask the hierarchies attributed by society to men and women.

In relation to this, the consideration of household tasks as a premise that must be taken into account at the design stage makes it possible to share and make visible certain functions that are erroneously assigned to women in the cultural context of the nuclear family. Achieving equal relationships without gender role conditioning involves identifying these activities and making them more flexible by involving everyone who lives in the home.

Spaces are never neutral, so it is not difficult to show situations of imbalance that can result in hierarchical uses. Bedrooms with a large difference in dimensions, kitchen or laundry spaces that are invisible to passive inhabitants, bathrooms that are tied or restricted to only some inhabitants and housework areas sized for only one person, etc. are typical characteristics of hierarchical homes.

In order to incorporate the gender perspective in housing policies, it is more important than ever to ensure the visibility of every area in which housework is carried out and ensure the participation of all users of the home in those tasks. It must also be taken into account that an exclusively structure-based view of the home could conceal architectural features that might help remove the hierarchy of the home. In a way, although these matters go beyond the scope of the analysis proposed here, the whole building designed – or neighbourhood planned – can include uses and facilities that facilitate equal opportunities from a gender point of view.

We know of some international homes that have really explored the removal of hierarchies. For this reason, we will seek to find those projects



Close view of the kitchen of one of the serviced homes for the elderly in the Glòries development.

that have been carried out either fully or partly on the basis of particular attention to the gender perspective. In summary, the most ambitious aim when designing a building or neighbourhood will be to propose a number of different strategies in order to keep spaces active and obtain an interesting range of degrees of privacy.

Related approach

Equality and flexibility are part of a mutually related approach: a space that is not very flexible will easily lead to a hierarchical use, just like a very hierarchical home is not a very flexible one.

From the point of view of method, in this article the approach to spaces and uses through the concepts of flexibility and hierarchy is carried out through a battery of analytical questions applied to a number of selected projects in order to detect their weak points and positive characteristics. Below are the aspects taken into account and the results of the analysis in projects that can serve as examples. By way of reflection on the graphical analysis, the conditions that can be improved will be indicated in red in each case.

It is worth clarifying that this analysis does not intend to define a closed model of housing. On the contrary, its aim is to virtually inhabit the projects from specific analytical positions in order to detect aspects that can be put into practice from both a configuration and a legislative point of view.

03. Flexibility of spaces and everyday uses

I. FLEXIBILITY OF SPACES

We will start by analysing the spaces that are commonly recognisable in any home. Bedrooms, lounges, kitchens and bathrooms on the inside, and terraces or balconies on the outside, are compartmented areas that predefine some of the Spaces are never neutral, so it is not difficult to show situations of imbalance that can result in hierarchical



uses.

functions carried out in them. We will see the great extent to which excessive definition, distinction or compartmentalisation (particularly in cases of small areas) limits a space's capacity for flexibility.

We will then review the conditions that should be analysed in each area and will identify from among the projects under analysis those that best exemplify the qualities sought.

Bedrooms

The number of bedrooms is usually seen as a defining quantitative factor of a home's dimensional capacity, regardless of the capacity (volume or surface area) of the bedrooms themselves. This consideration has resulted in the hierarchical configuration of bedrooms from the habitability regulations themselves (the maximum geometric requirement only applies to one of the bedrooms, which is automatically considered to be the main bedroom, thus favouring hierarchies inside the home). In spite of this, it would be more appropriate when defining these spaces to look at the number of people or inhabitants that compose the shared-living group and seek to avoid small rooms that preclude changes in use and appropriation.

From the point of view of a flexible appropriation of spaces, and considering that a bed can be as much as 2 metres long, we should define bedrooms based on the possibility of changing the layout of the furniture. Thus, a bedroom that is optimised from a flexibility point of view should have a minimum clear space of 2.8 x 2.8 metres and a minimum width of 0.8 metres between the bed and the dividing wall. This in no way means that this minimum surface area is enough. However, if you include a clear space of these dimensions, you guarantee the possibility of using the bedroom with the bed in at least two different orientations.

On the other hand, in order to minimise

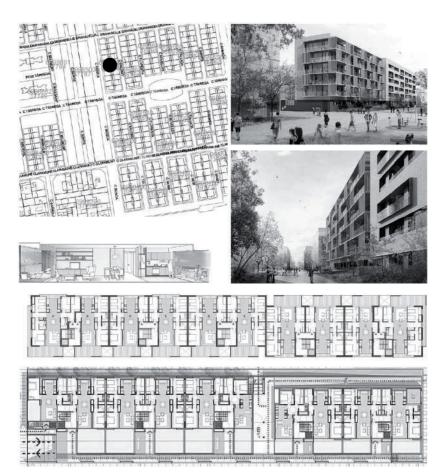
hierarchies and facilitate the interchangeability of uses and users as well as the appropriation of spaces by new arrivals, there should no significant differences in size between bedrooms. Finally, maximum neutrality can be achieved by planning all the bedrooms with equivalent quality conditions in terms of lighting, orientation and ventilation, etc.

In view of all this, we propose an analysis of the clear dimensions of spaces and their flexibility when occupying them, in order to establish the dimensional hierarchies that affect housing.

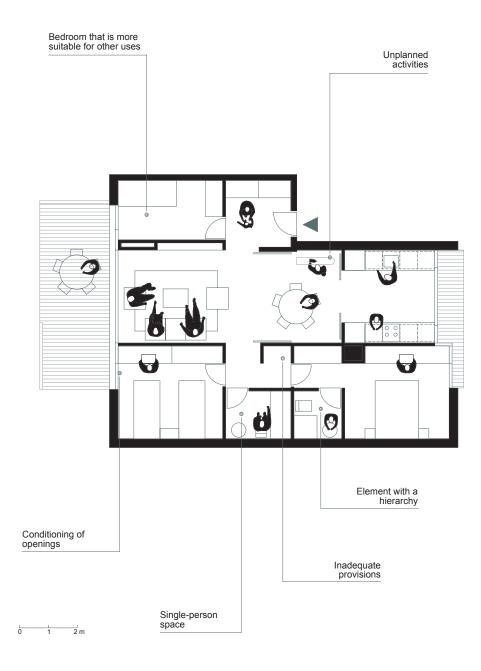
One of the projects that best treats bedrooms as flexible areas is Building G2 of Phase IV of the Bon Pastor development. Here, the TAC architectural team (Eduard Gascón) proposes two bedrooms that are almost equivalent as regards surface area and conditions and which can fit a circumference of 3.2 metres. In fact, the home in question has a third bedroom, but one that is clearly differentiated in order to encourage other uses.

Bon Pastor Phase IV - Building G2

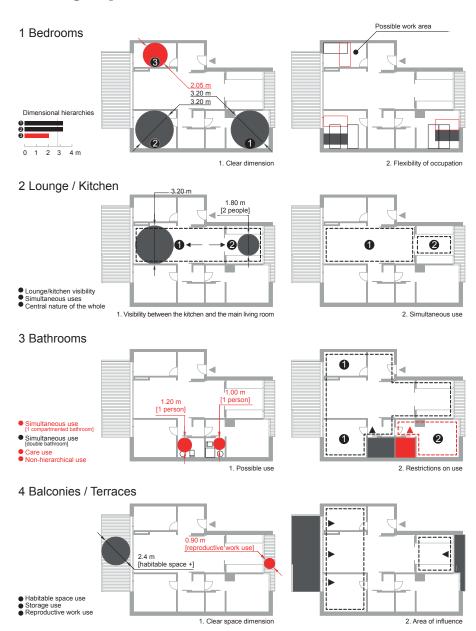
60 homes for people affected by urban development Architects: TAC (Eduard Gascón)



Configuration

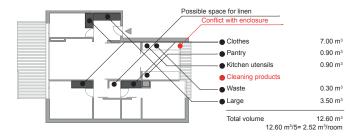


Flexibility of spaces

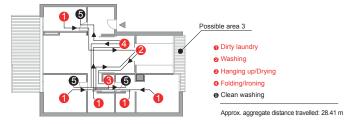


Everyday uses

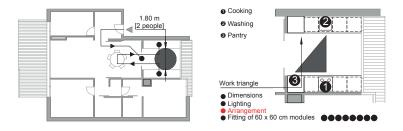
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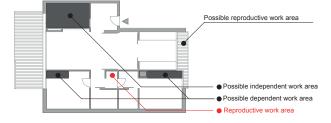
2 Laundry cycle



3 Food axis



4 Work spaces



Lounge / Kitchen

The main living room of the home is the space with the greatest size requirements under the current habitability legislation. It can be considered to be the area that is shared by everyone who lives there and, therefore, the place where a number of leisure-related options converge, but work activities (housework or other), which can be carried out at the same time, also take place here.

The kitchen, on the other hand, is the home's most specialised living space. It is a functional place, designed for carrying out all the tasks relating to the food axis, and is therefore a work area that requires a set of specific conditions.

The connection between the main living room (lounge/dining room) and the kitchen increases the visibility of the tasks carried out in the kitchen, prevents the person who carries them out from being excluded or discriminated against and fosters involvement by the other inhabitants.

On the other hand, when the lounge and the kitchen are integrated in a single area, there is a risk of interfering with the rest or leisure of the people who are most involved in kitchen tasks, for whom these tasks would be always visible. For this reason, we recommend an integration that can be modulated, allowing simultaneous uses and visibility of the work but also ensuring that users can rest.

One last factor to take into account is the central nature of the whole and its integration with the rest of the home, with different configurations so as to promote visibility and shared participation in its uses, parental control and even communication with outside spaces.

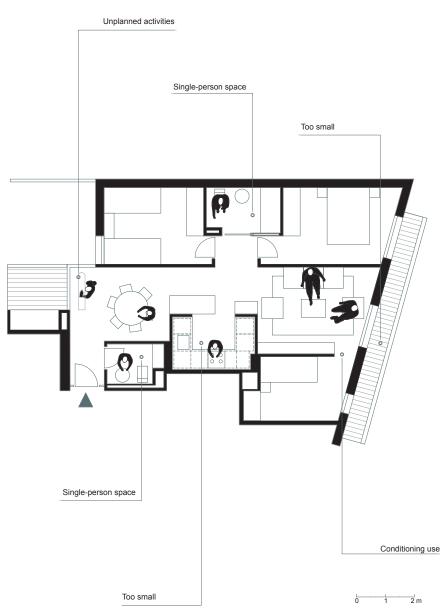
It is precisely this centrality that was beautifully achieved in Esteve Terrades' Via Augusta 401-403 project. The proposed configuration does not just involve the kitchen occupying the central space of the home: the way the dining room and the lounge are placed in relation to each other promotes maximum adaptability for relationships.

Via Augusta - Via Augusta, 401-403

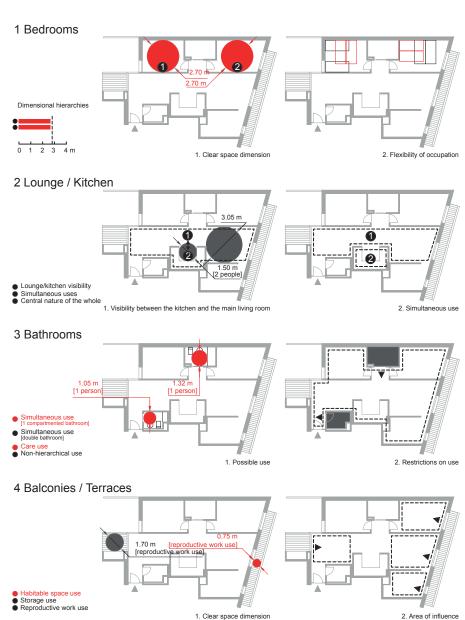
13 homes for people affected by urban development Architect: Esteve Terrades



Configuration

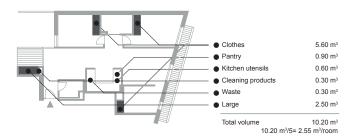


Flexibility of spaces

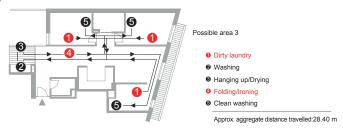


Everyday uses

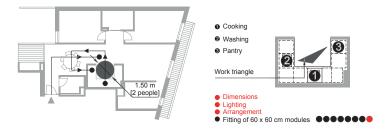
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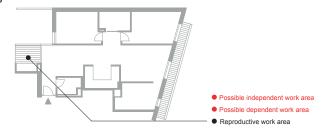
2 Laundry cycle



3 Food axis



4 Work spaces



Bathrooms

These too are clearly specialised areas whose regulation is practically restricted to the numerical definition of the hygiene-related devices included in them. However, bathroom layout can seriously influence the functionality of the home as a whole. The case that provides the clearest example of this is that of homes with two bathrooms of which one is *en-suite*. This inclusion of an *en-suite* bathroom clearly creates a hierarchy between bedrooms and leads to unequal occupation by the shared-living group.

For this reason, an analysis of the bathrooms leads to the conclusion that there are restrictions on their use by the inhabitants, which are usually caused by hierarchical layouts.

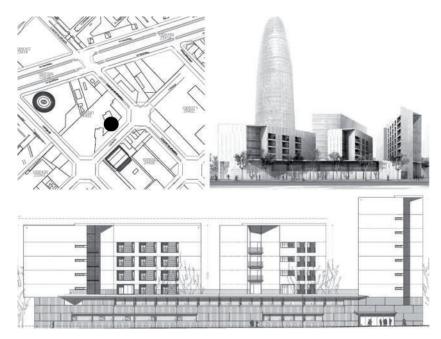
On the other hand, the bathrooms available must be related to the capacity of the home as a whole, taking into account that the simultaneous use of such facilities must always be possible. An efficient way to achieve this is by having separate bathrooms for different uses, permitting their simultaneous use without having to fully duplicate the equipment.

Finally, we must also take into account the size of bathrooms, which must fit more than one person in order to assist children or the elderly or for other situations.

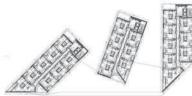
It is no coincidence that the configurations of institutional homes provided by the Barcelona Municipal Institute of Housing and Renovation often provide the best solutions to the conditions analysed here. Although these homes are small, the solutions designed usually aim to achieve maximum versatility and capacity for the provision of assistance in bathrooms. For example, the Glòries/Ciutat de Granada project by Esteve Bonell, Josep Maria Gil, Marta Peris and José Toral includes a central toilet sized for the provision of assistance and a sink outside that can be used at the same time.

Glòries Phase I - Carrer Ciutat de Granada, 147, 151 and 155

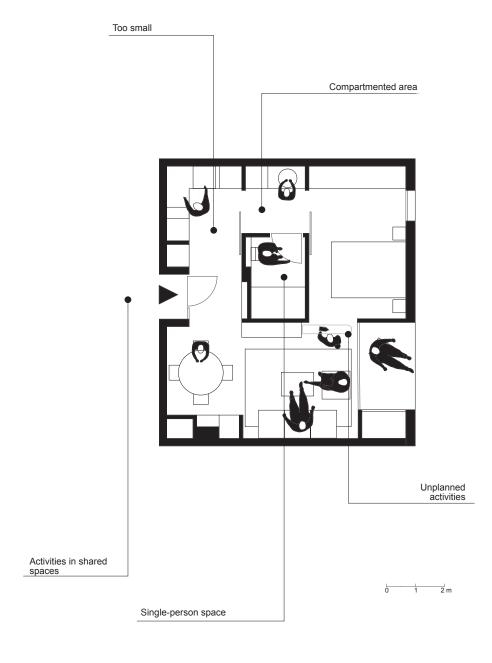
105 institutional homes for the elderly, primary healthcare centre Mental Health Centre and Cultural Centre for the Elderly Architects: Esteve Bonell, Josep M. Gil, Marta Peris and José Toral







Configuration



Flexibility of spaces

1 Bedrooms



1. Clear space dimension



2. Flexibility of occupation



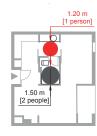


- Lounge/kitchen visibility Simultaneous uses Central nature of the whole
- 1. Visibility between the kitchen and the main living room



2. Simultaneous use

3 Bathrooms



- Simultaneous use [1 compartmented bathroom]

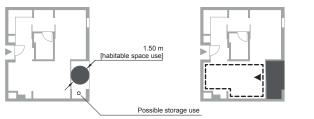
- Non-hierarchical use

1. Possible use



2. Restrictions on use

4 Balconies / Terraces



Habitable space use

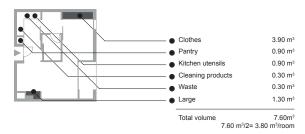
Storage use Reproductive work use

1. Clear space dimension

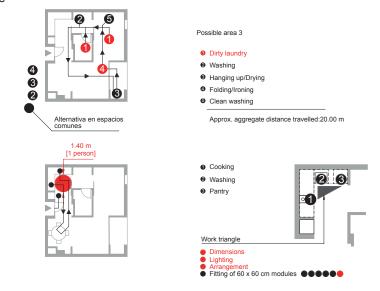
2. Area of influence

Everyday uses

1 Storage

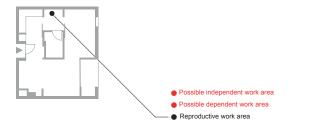


2 Laundry cycle



4 Work spaces

3 Food axis



Balconies / Terraces

We can also expressly look at the parts of homes that are most related to the outside environment. Balconies, terraces and galleries, among others, are intermediate spaces that connect the private activities of the home to the public circumstances of a place. They encourage the socialisation of the group of inhabitants on the one hand and spatial identification on the other. These are usually also spaces that facilitate the regulation of temperature in the home by means of shade, double glazing or other options.

In particular, the external spaces enjoy functional characteristics of indeterminate function that make them particularly suitable for flexible use. There are many possibilities, although they are mainly conditioned by their dimensions.

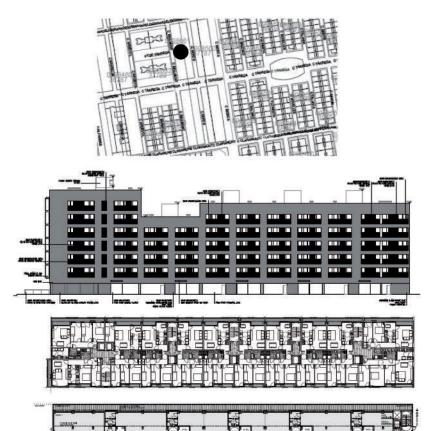
An outside area that allows for comfortable occupation by more than one person (the size of these spaces usually starts at 1.5 metres) can be occupied as a living space that can be used to supplement the indoor spaces. For anything smaller, possible uses relating to the laundry cycle (spaces for hanging up washing outdoors, sorting or storage spaces, etc.) can be considered. Even so, in such cases we recommend that they should be linked to a specific laundry area, something that is only very rarely proposed.

In summary, outside spaces belonging to the home are analysed according to their functional capabilities and the areas of influence of the home that benefit from these additional spaces.

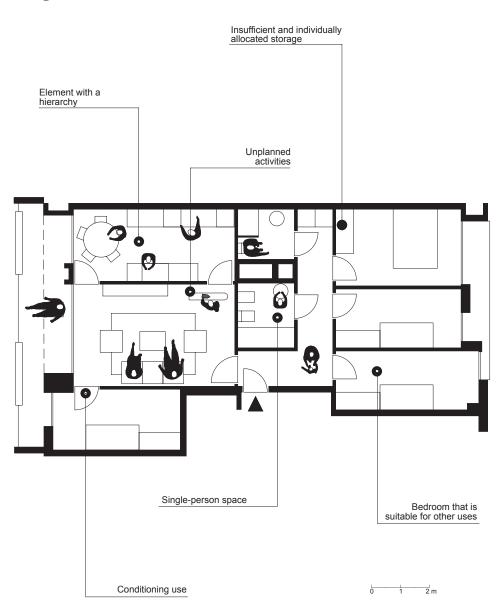
These outdoor spaces are very well dealt with in Joan Pascual's and Ramon Ausió's project for Building F1 of Phase III of the Bon Pastor development. Here, the architects work with various terrace formats and always qualify their dimensions and characteristics. The desire to use terraces for functions relating to the home's indoor areas is identified.

Bon Pastor Phase III - Building F1 - Carrer Biosca, 17-25

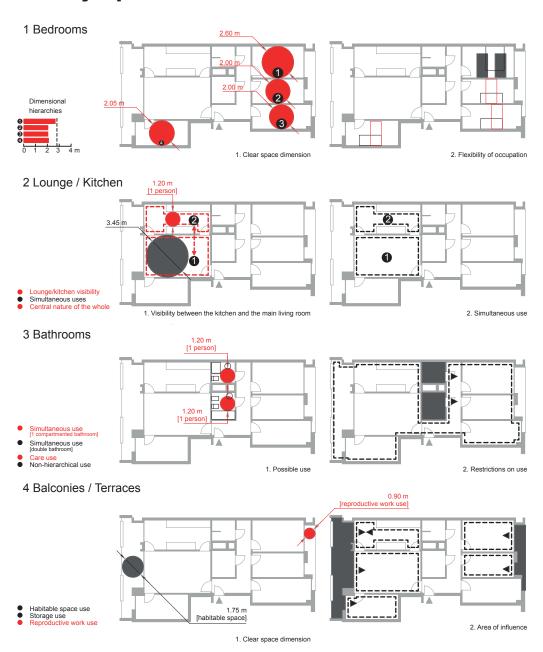
61 homes for people affected by urban development Architects: Joan Pascual and Ramon Ausió



Configuration

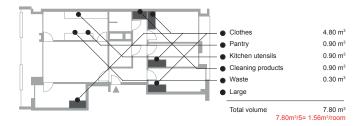


Flexibility of spaces

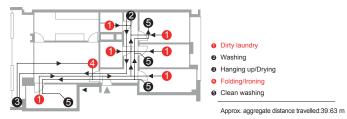


Everyday uses

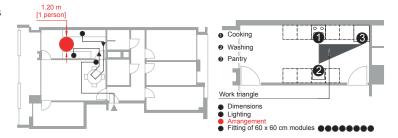
1 Storage



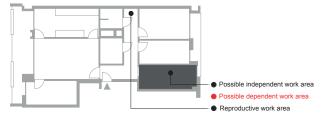
2 Laundry cycle



3 Food axis



4 Work spaces



II. EVERYDAY USES

In the same way as spaces, the uses and functions carried out in the home affect its flexibility. This is due to the failure to allocate specific areas to daily tasks. The main consequence of this is having to use some spaces for unforeseen activities, causing them to lose flexibility and the ability to adapt them to other uses due to the need to include unplanned activities with suitable quality and visibility conditions.

Storage, the functions of the laundry and food cycles and work at home (including productive and other work) must be considered so as to increase the flexibility of the home.

As in the previous case, we will look at these functions and illustrate them with some of the projects under analysis.

Storage

One of the best known 'ideal homes' conceived by British architects Alison and Peter Smithson was the 'Everything in its Place' house⁴, designed in response to the excessive domestic consumption of the 1990s. The architect team proposed the need to reorganise conventional homes to make room for the various types of storage space needed at the time. According to their work, brooms, party dresses, a set of chairs, a workbench, a scooter, a folding ladder, tools, a bicycle, curtains, tablecloths, an old pram, a folding bed, luggage, shelves, towels, shoes and clothing can take up 22% of the total volume of a house. This accumulation undoubtedly keeps growing, although regulatory requirements still consider storage as a minor function of rooms.

The fact that things are stored mainly in bedrooms is not a positive aspect, as it reduces the flexibility of their occupation and even of daily activities. Neither is it recommended from a health point of view to sleep next to storage spaces, as they have been identified as possible sources of allergies. For this reason, storage spaces should always be in the shared areas of the home.

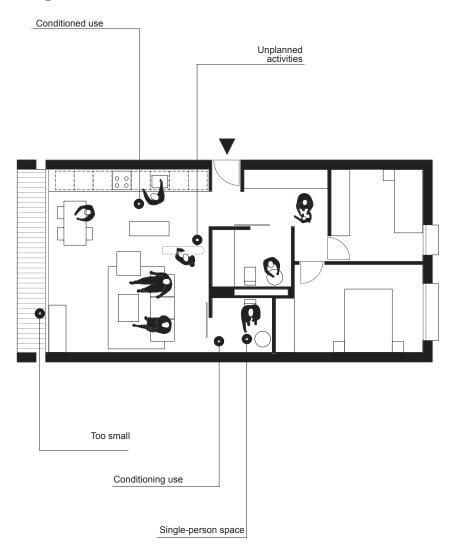
Bon Pastor Phase IV - Building H1

42 homes for people affected by urban development Architects: Alonso, Balaguer, Riera i Arquitectes Associats



^{4.} Dirk van den Heuvel, Max Risselada (2007). Alison and Peter Smithson. From the House of the Future to a house of today. Barcelona: Polígrafa.

Configuration



By observing the activities that usually take place at home, we can identify the main types of storage required, although subject to adding large spaces or storage rooms that can be used for any kind of storage.

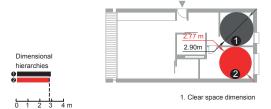
Without reaching the percentage suggested by the Smithson's, in order to carry out this analysis we have assumed that each inhabitant could need a minimum of approximately 2.5 cubic metres for storage, spread out among the various areas based on function.

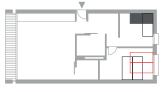
A good example of planned storage can be seen in the project for Building H1 of Phase IV of the Bon Pastor development designed by Alonso, Balaguer, Riera i Arquitectes Associats. This project envisages a large storage space located in a shared and central area of the home, near the entrance. The amount of storage space is supplemented by wardrobes in the bedrooms and over four metres of kitchen cupboards. It is easy to see how this amount of storage space makes it easier to distribute and store things.

0 1 2 m

Flexibility of spaces

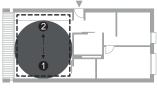
1 Bedrooms



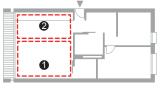


2. Flexibility of occupation

2 Lounge / Kitchen





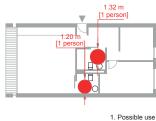


2. Simultaneous use

3 Bathrooms

Lounge/kitchen visibility

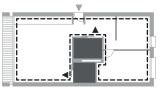
Central nature of the whole





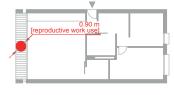
Habitable space use Storage use Reproductive work use

- Care use
- Non-hierarchical use

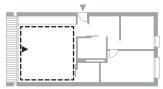


2. Restrictions on use

4 Balconies / Terraces



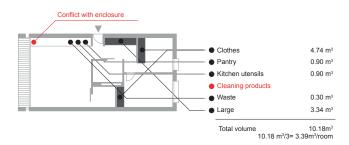




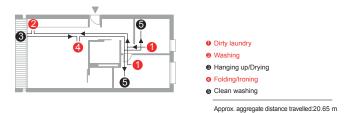
2. Area of influence

Everyday uses

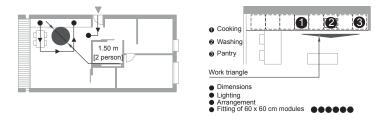
1 Storage



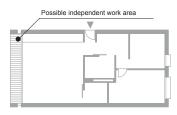
2 Laundry cycle



3 Food axis



4 Work spaces



- Possible independent work area
- Possible dependent work area
- Reproductive work area

The laundry cycle

The laundry chain or cycle is the set of stages and functions involved in the management of clothing, including garments, linen and home textiles. Together with the food axis, it can be considered one of the most important sets of household tasks linked to the home. However, many of the activities involved occupy residual spaces and are not adequately provided for.

From a legislative point of view, the habitability decree includes not just storage spaces but also spaces for washing and drying clothes. However, a specific allocation of space is not required, which usually means that these activities are not prioritised when designing home configurations.

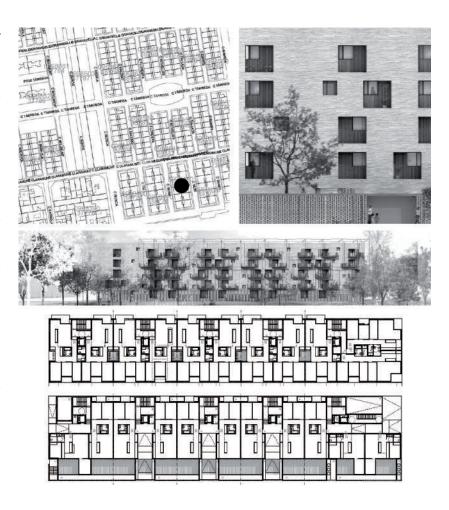
The laundry cycle involves a variety of moments, functions and spaces in the home: from storing dirty laundry to folding, ironing and putting away clean clothes, with the washing and drying stages in between. Various spaces for storing clothes, open areas for drying them outdoors, laundry areas to minimise the routes taken and increase efficiency, and spaces envisaged for ironing or for clothing maintenance work are some of the needs that are rarely fully covered.

The analysis aims to identify these failings and interpret the possible solutions in each case.

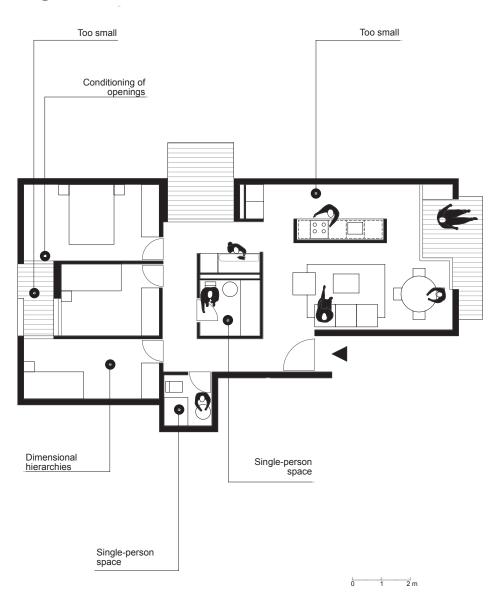
In fact, from among the projects analysed, no proposal that could be considered fully exemplary in meeting all the needs identified was found. However, what we *can* do is identify a few examples in which some spaces for clothing-related tasks have been taken into account. This is the case of Building L1 of Phase IV of the Bon Pastor development, where the Peris, Toral i Eletresjota Técnics Associados team has provided enough spaces to carry out the tasks included in this cycle.

Bon Pastor Phase IV - Building 11

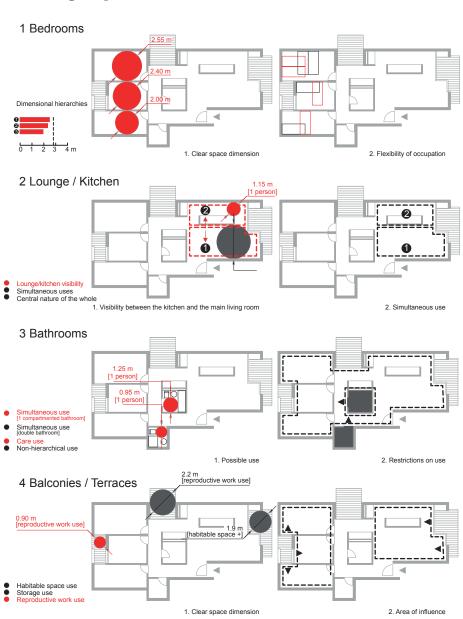
55 homes for people affected by urban development Architects: Peris, Toral i Eletresjota Tècnics Associats



Configuration

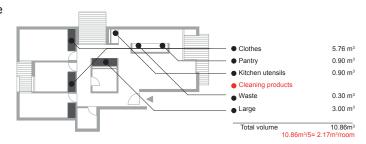


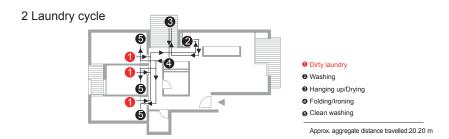
Flexibility of spaces



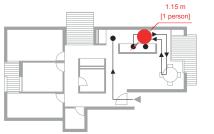
Everyday uses

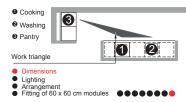
1 Storage



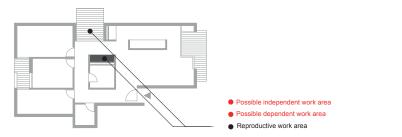








4 Work spaces



Food

As discussed above, the food axis identifies the other system of housework-related functions with the most significant daily implications in the home. This term, which is translated from the concept analysed by American professor Elizabeth Collins Cromley ('the food axis') ⁵, identifies the spaces and activities relating to food at home.

As in the previous case, the route taken by food in the home involves a variety of moments, functions and spaces which usually revolve around the kitchen area. In this case, as this space is covered by specific regulations – which we have also analysed – we should study some aspects of its functions in some detail.

When food is brought into the home, it requires specific spaces for safe storage, particularly in the case of fresh food. Two more activities – cooking and washing before and after eating – complete the work triangle. This is the area of maximum functionality, and its dimensions and conditions must be given the fullest possible attention in the design.

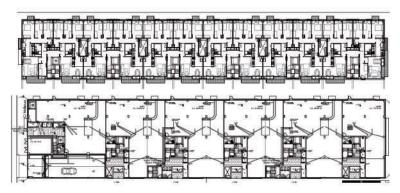
The connection with the eating area, the kitchen's size and equipment (6 to 8 modules of 60×60 cm each, depending on the number of people living there) and the ability for more than one person to work in it at the same time are other qualitative considerations we have analysed in homes.

A project that proposes a very good solution for the functions involved in the food axis is Building E2 of Phase III of the Bon Pastor development, where Lalinde-Labarquilla propose a long kitchen linking the storage and eating spaces by means of a kitchen of variable width and with good lighting that facilitates simultaneous work and provides visibility of the route taken by food.

Bon Pastor Phase III - Building E2 - Carrer Alfarràs, 30-38 and Passeig Mollerusa, 20

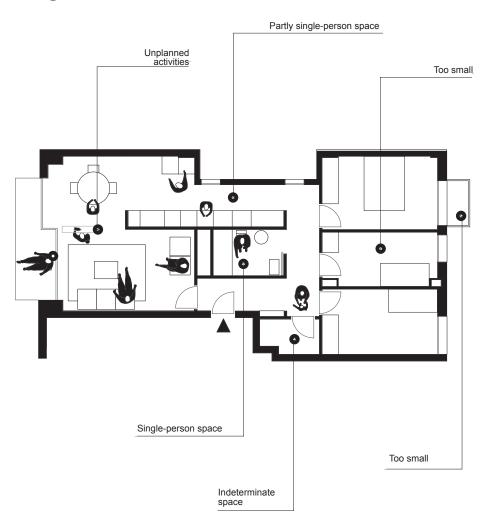
60 homes for people affected by urban development Architects: Lalinde-Labarquilla (project)/Marc Seguí (site management)





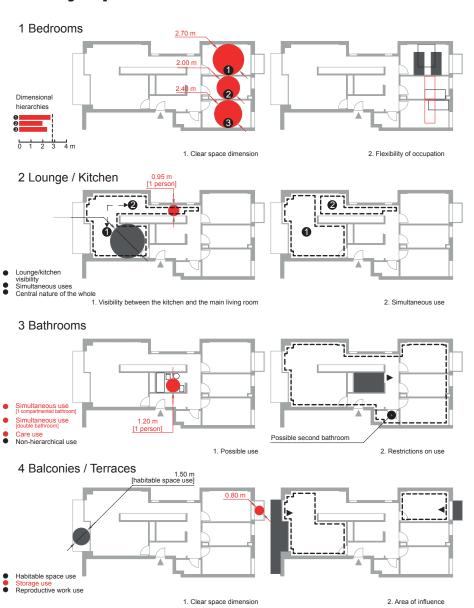
5. Elizabeth Collins Cromley (2010). *The Food axis: cooking, eating, and the architecture of American houses*. Charlottesville: University of Virginia Press

Configuration



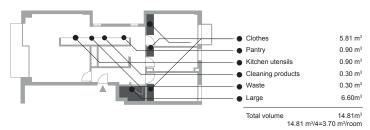
0 1 2 n

Flexibility of spaces

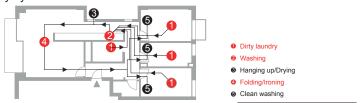


Everyday uses

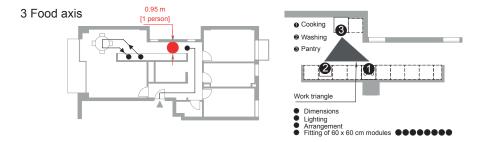
1 Storage



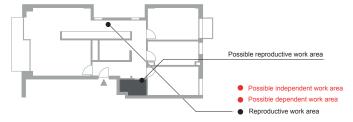
2 Laundry cycle



Approx. aggregate distance travelled:29.28 m



4 Work spaces



Work spaces

To complete our analysis, we looked at the ability of homes to host work activities. In this regard, we must make a distinction between paid work, which we will call 'productive work', and work that can be considered to be the tasks of everyday life related to the maintenance of the home, its functions or the care of one or more of its inhabitants, which we will call 'reproductive work'.

The first case relates to the fact, encouraged by the current labour market, that many professionals can work online without having to travel to a specific work place. Based on the structural configuration of homes, areas that make these activities possible, sometimes independently (without affecting the use of the home), and other times by means of a shared room or space, but temporarily affecting the natural use of that space, can be identified.

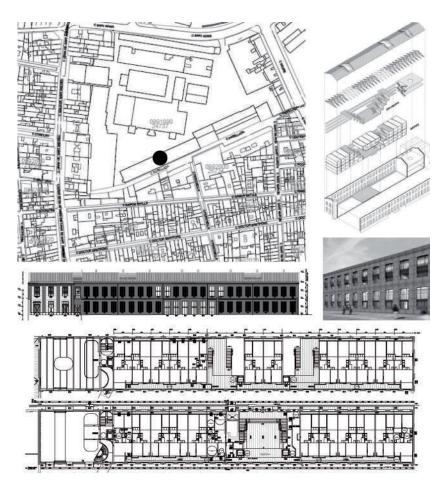
In the second case, it is a question of identifying the specific areas of the home expressly designed for reproductive activities, such as a laundry area that is closely linked to all the parts of the laundry cycle, a small additional space for maintenance, or even a small facility related to a specific space that enables these functions to be carried out.

Some spaces make it possible to identify these areas when they have been designed without fully determining their function.

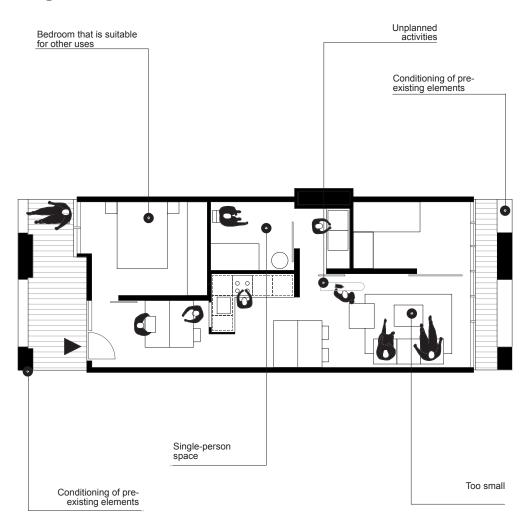
An interesting example of this is the Can Fabra housing project, where José Miguel Roldán and Mercè Berenguer propose an original configuration that adapts to the building's pre-existing constraints. Thus, the spaces as laid out make it possible to interpret areas suitable for independent work in the home (including the possibility of a separate entrance). Areas for housework and reproductive work are also envisaged.

Can Fabra - Carrer Parellada, 9

46 rental homes and premises for *Castellers* Architects: José M. Roldán and Mercé Berenguer



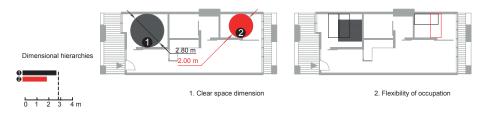
Configuration



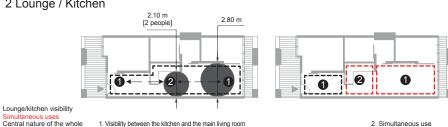
0 1 2

Flexibility of spaces

1 Bedrooms

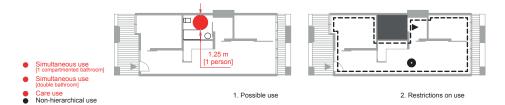


2 Lounge / Kitchen

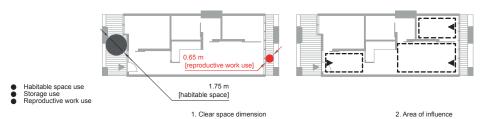


3 Bathrooms

Lounge/kitchen visibility

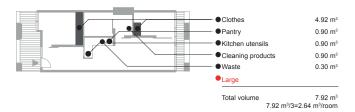


4 Balconies / Terraces

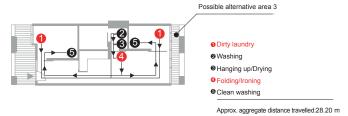


Everyday uses

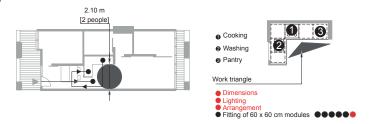
1 Storage



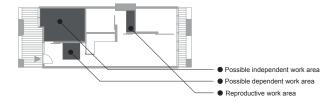
2 Laundry cycle



3 Food axis



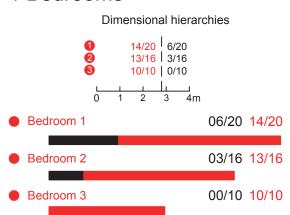
4 Work spaces



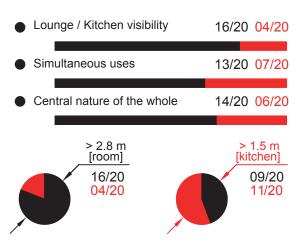
04. Summary statistics

Flexibility of spaces

1 Bedrooms



2 Lounge / Kitchen



Everyday uses

1 Storage



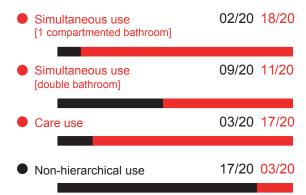


2 Laundry cycle

Dirty laundry	00/20 20/20
Washing	16/20 <mark>04/2</mark> 0
Hanging up/Drying	19/20 01/20
Folding/Ironing	05/20 15/20
Clean washing	20/20 00/20

Flexibility of spaces

3 Bathrooms

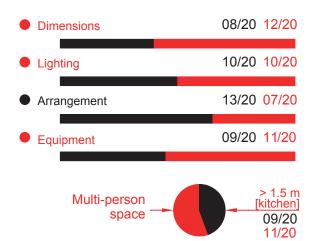


4 Balconies / Terraces

	Habitable space use	10/20 10/20
•	Storage use	17/20 03/20
•	Reproductive work use	15/20 05/20

Everyday uses

3 Food axis



4 Work spaces

Independent work area	04/20 16/20
Dependent work area	03/20 17/20
• Provided to a selection	16/20, 04/20
Reproductive work area	16/20 04/20

05. Recommendations

Following a broad look at the results of the analysis conducted in this work, we have reached some conclusions that can be translated into recommendations to improve flexibility and reduce hierarchies in the residential configurations of new projects.

In this regard, we must emphasise the specific nature of the analysis, which is specifically aimed at residential units. The building as a whole includes critical aspects that have not been analysed here but which have a relative impact, an impact that isn't as directly relevant to the flexibility and hierarchies of space. In any event, the architectural approach to collective housing makes it possible to make configuration contributions that are beneficial to residential units. This is why the first recommendation affects the building as a whole.

Recommendation No. 1: Shared spaces

In view of the limited and sometimes very reduced dimensions of home configurations, the surface area and functional capacity of a home can be supplemented by shared spaces in the building reserved for use by its inhabitants. Their uses can be varied: compartmented or shared storage areas, areas for relaxation and leisure, communal outdoor spaces such as an accessible rooftop, or even small co-working spaces or small workshops.

This could have multiple benefits. On the one hand, the functional capabilities of the home are expanded without affecting any dimensions in its own configuration. On the other, it proposes uses that can reinforce involvement in the community and emotional ties between the building's inhabitants and neighbourhood.

The feasibility and appropriateness of this proposal are demonstrated in the experiences of institutional housing that can be seen in some of

We recommend the inclusion of multiuse supplementary spaces, whose use can evolve over the useful life of the building.



the projects analysed.

With regard to the characteristics of the spaces analysed based on flexibility, we can identify two recommendations that summarise the answer to the failings detected.

Recommendation No. 2: Proposal relating to dimensions

The results of the analysis clearly show that the layouts most commonly proposed in projects coincide with the regulation of minimum surface areas stipulated in the habitability decree in force from time to time. This results in great dimensional diversity between bedrooms and in kitchen and bathroom spaces that are often intended for use by a single person with no ability to be shared or used simultaneously.

In order to avoid this, we recommend the inclusion of an additional sheet of technical specifications in bidding documents defining surface areas in accordance with flexibility criteria and the removal of hierarchies: bedrooms that are equivalent in terms of surface area and qualities, kitchens where two people can work and bathrooms that can be divided or converted into assisted spaces in future; and all this always from a housing perspective identified based on the number of inhabitants rather than the number of bedrooms.

Recommendation No. 3: Neutral and versatile spaces

The spaces with the least functional conditioning are the most suitable ones for individual appropriation by each inhabitant. Regardless of their dimensions, these areas are suitable for supplementing any use of the home (such as work, storage, provisional bedroom or laundry).

We recommend the inclusion of multi-use supplementary spaces, whose use can evolve over the useful life of the building. In relation to this,

we also recommend that its own outside spaces (balconies, terraces) have adequate dimensions for use as living spaces.

Finally, this set of recommendations can be supplemented by two aspects that can improve the functionality of homes in relation to everyday uses.

Recommendation No. 4: Spaces for reproductive work

A large number of the homes analysed lack spaces specifically intended for the laundry cycle. Only the drying area, which is governed by the habitability decree, is identified in most projects. In relation to this area, a specific surface area should be allocated to the other activities (collection of dirty laundry, washing and ironing) in order to increase its efficiency and visibility.

Storage spaces are predominantly individually allocated in bedrooms. They would be much more versatile if they were located in the home's shared areas, where they can perform a variety of functions in a more flexible manner.

Recommendation No. 5: Identification of functions

In terms of the methods used for this report, we looked at housing configurations with a common criterion that permitted the identification of uses and functions. In spite of this, residential floor plans often fail to correctly identify all everyday uses.

We recommend the possibility of a requirement for a floor plan identifying all storage devices (up to the requirement of approximately 2.5 cubic metres per inhabitant) and spaces for the laundry cycle and food axis (specifically indicating the work triangle). The aim is not only to ensure the recognition of these spaces by regulatory bodies but, primarily, to use architectural representation also as a form of communication between

 \rangle

Storage spaces are predominantly individually allocated in bedrooms. They would be much more versatile if they were located in the home's shared areas, where they can perform a variety of functions in a more flexible manner.

blueprint designers and users.

We can conclude by adding that these recommendations can be interpreted as a useful tool (that could well be a collaborative and participatory one) during the home configuration design process. In short, their aim is for the blueprint designer to identify with the many possible inhabitants based on the virtual and daily occupation of developments.



Interior of a home in the Glòries serviced housing development for the elderly.



O_{2}

Inclusive habitat

Rethinking spaces to facilitate the socialisation of housework/ care work and the integration of all groups from all sources of inequality: gender, origin, age, class and abilities

Housing and gender: shall we extend the kitchen?

On reading the new requirements of the Barcelona Councillor's Office for Housing and Renovation for the building of social housing in accordance with gender criteria, some architects first raise their eyebrows and then wonder if the idea is to *make larger kitchens*.

The liberal heteropatriarchal culture has given priority to the market economy and given it preferential treatment in the public sphere. Meanwhile, housework and care work – traditionally assigned to women – has been devalued, made less visible and relegated to the private sphere. By 'housework and care work', we mean objective tasks such as food or cleaning, as well as subjective tasks such as emotional and relationship tasks. This dual worldview has conditioned the entire social structure. The classic separation between the public and private spheres has been called into question by feminists for a long time on the basis that it is an exclusive view of 'everyday life'.

The commercialised view of the world seems to

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With the collaboration of Ignacio Paricio, Sonia Ruiz and Pep Vivas.

forget that we are all interdependent beings and that, at some point in our lives, we all need each other (e.g. during childhood, illness or old age). The design of habitats, which includes both housing and public spaces, should facilitate the activities that sustain life and meet the daily challenges faced by people, whether they are caregivers or the recipients of care. An inclusive habitat integrates all groups regardless of the various sources of inequality in our society, such as gender, origin, age or different abilities, and adapts times and spaces to their needs.

The patriarchal model results in a housing design that follows the rules of the game and expects each unit to be formed by a traditional nuclear family that does not change over time. But the appearance of new family models, new living arrangements and their evolution over time make it necessary to rethink the design of homes.

The constant evolution of living arrangements and the search for greater fairness and shared responsibility in housework and care work lead to the definition of new spaces to make all kinds of relationships and shared-living units possible. There is a need for **greater flexibility** of spaces – meaning the capacity of a space to accommodate different uses at different times – and the **removal of hierarchies** in the design of homes – such as

^{1.} Pateman, C. (1983). 'Feminist Critiques of the Public/Private Dichotomy.' *Public and Private in Social Life*. S. I. Benn and G. F. Gaus (ed.). New York, NY: St. Martin's Press, p. 281-303.

^{2.} Carrasco, C (2001). ¹La sostenibilidad de la vida humana: ¿un asunto de mujeres?'. *Mientras Tanto*, no. 82. Barcelona: Icaria Editorial.

those that hide certain uses and exaggerate others – as well as for **the socialisation of these tasks**.

This article seeks to incorporate feminists' criticisms of the patriarchal and liberal model into the urban habitat. The proposal is to build an inclusive habitat that breaks with the private/public dualism and (re)socialises housework and care work.

Many housework and care tasks were traditionally open to the group and carried out in public spaces and have only recently become individual and private activities. It is a broad evolution process: these tasks are thus no longer carried out by the group or the shared-living unit but by isolated individuals.

For example, the preparation of food and washing of clothes are two activities that were formerly carried out in groups and have now moved into the private and individual sphere. Fire was the centre of many domestic activities, and exchanges and affections flowed around it. The public lavoir was also a very active space in terms of relating to others.

These original arrangements have evolved many times throughout history, but they are definitely dying with mechanisation and its use by the so-called 'modern movement' which is so influential on the approach to housing and the world of architecture. Le Corbusier, who led this movement in the 1920s, saw the home as the 'machine à habiter', minimising sizes and reducing gestures as part of a simplified and functional idea of the occupants' relationship with their environment.

At home, better in a group than alone.

In the kitchen, the rules are clear. Modern architecture has chosen to reduce kitchen space and bring machines and storage spaces closer together around a single person that needs to reach everything without walking. The result is a kind of u-shaped floor plan with a person working at its





centre. And it can't be two people: they won't fit. That's not what it's intended for. The most ridiculous situations have been caricatured by films showing people trying to work together getting their limbs into a knot. The kitchen from Charlotte Perriand and Le Corbusier's *Unité d'Habitation* in Marseille is an example of this reduction. The girl looks at her mother through a hatch, which is designed to place more things within reach.



Fortunately, a new movement in the opposite direction seems to be emerging. A fairly wide-spread option is to place the cooker with perhaps an attached work surface such as an island or linear appendage perpendicularly to the wall. This allows two or three people to work on either side of this island, or peninsula, at the same time and facing each other. It is a radical change: from person-centred to work-centred kitchens.

It is all about rethinking food preparation as a group activity and designing kitchens as spaces that can host this group activity.

Another troublesome *circuit* ³ is the laundry cycle. In conventional families, where one person is responsible for all housework, there is a complex strategy for the laundry cycle. One person collects

the dirty washing and checks it. Depending on its condition, he or she sets it aside for sewing or washing, and piles it in a place close to the washing machine. He or she washes it and puts it in the dryer or on the line. He or she then folds or irons it and finally puts it away in each family member's wardrobe.

It would now be difficult to recover the old lavoirs where the group socialised and female residents exchanged gossip. It is not possible for the whole group to stand around the place where clothing is washed, but this process *can* be arranged in a suitable space where any member of the group can go and drive the cycle. It is a single space that can be either inside the home or in a communal space, where dirty laundry is piled, washed, ironed, dried and stored as clean clothing.

We can't find a place to meet in the building

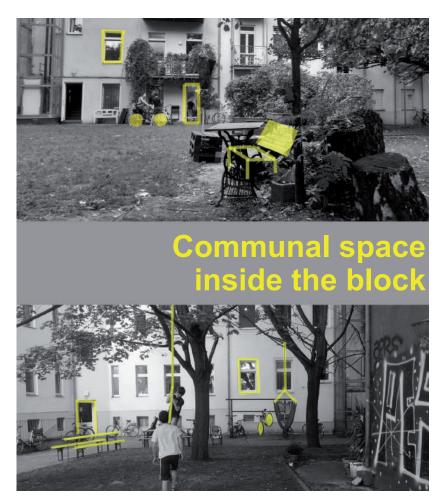
From this new, broader perspective focused on housework and care work, the home can no longer separate the building from the street. The two spaces now form a continuum that blurs the lines between inside and outside.

If we analyse, for example, what is involved in preparing a meal (buying, carrying, storing, preparing, dealing with waste, cleaning...) or looking after children (feeding them, accompanying them to and from school, sharing their upbringing), the lines between the private and public spheres become very fluid. In this continuum between the two worlds, communal spaces, intermediate spaces and ground floors are very important for facilitating the execution of these care tasks and increasing the inhabitants' quality of life.

Communal spaces inside the building but outside the home, such as kitchens, living rooms, storage spaces, rooftops with washing lines and corridors, become an extension of the home. Not only do they give us more square metres to use: they are also spaces for meeting and socialising, spaces for sharing housework and care work.

These shared spaces also allow reduced size requirements within the home. If you can cook or wash clothes in a communal part of the building, perhaps you will no longer need to have these spaces inside your home, or at least their requirements will be minimal. A private or shared space, such as a bathroom, can also be designed with a separate entrance so that it can be lent or rented out for temporary use.

Another meeting place can be provided by internal courtyards or communal gardens. A place for children to play, for citizens to take a stroll or for residents to meet. A good and attractive design of such places will include spaces and facilities to meet basic needs: a nearby toilet, a water fountain, seating, good lighting, visibility and accessibility.



Finally, ground floors open to the street and linked to the home are a key connection to community life. When the home also performs other functions, the domestic activity lends its energy to workshops, offices and services.⁴ Small local shops, workshops, work spaces and neighbourhood bars or cafés perform this dual function of meeting the residents' basic needs while provid-



Communal lounge in the Torre Júlia development.

ing meeting spaces and anchorage points for the community.

In public spaces, capital or life?

The urban fabric and public spaces are at the end of this continuum. Cities and public spaces may, by definition and as opposed to private spaces, seem open to everyone but, in reality, they are not always accessible and inclusive.⁵

4. Habitar, UPC research group (2010). Exhibition 'Rehabitar' ('Las plantas bajas', 4). Ministry of Housing.

5. Fraser, N. (1992). 'Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy'. A: Calhoun, G (ed.). *Habermas and the Public Sphere*. Cambridge, MA: The MIT Press.

Social (re)production activities (such as buying food, going to the doctor, looking after children or people who are ill, playing, socialising or being involved in the community) should be translated into space and time. Depending on how cities organise these tasks and activities, they will be easier or more difficult to carry out and share. At the same time, cities will provide citizens, to a greater or lesser extent, with quality of life. The capital vs life conflict is also represented by cities' streets and buildings.

Big western cities show some symptoms of exclusion: children are not allowed to play in the streets, benches disappear for fear of being occupied by the homeless, streets are designed to move





around and buy things but not to spend time in, and pavements are used for private interests (such as tables and chairs for cafés or advertising).

As proven by thousands of years of experience, some compact and diverse Western cities (ones that combine residential buildings, offices, industries and services) work much better for citizens than more scattered cities zoned by activity, which rely on having a car and use up time and resources.

Inclusive public spaces make care and reproductive tasks compatible because they combine a mix of functions (playing, shopping, socialising or caring for others) and services (e.g. the museum square, the school playground, the library garden, the local shop or the care home for the elderly).

Public spaces should cover new and unexpected activities beyond moving between places and shopping. An open city should make it possible to hold a party or exhibition on the street, a meetup for teenagers, a dinner for local residents or a political protest, thus allowing citizens to appropriate the space.

Design is not enough

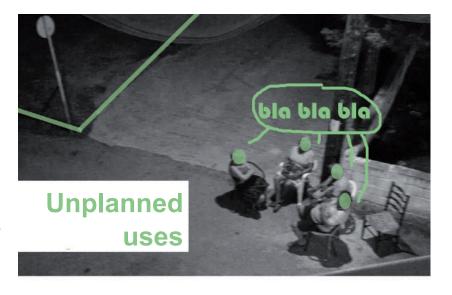
However, the design and planning discussed so far do not guarantee success. This is particularly so if by 'success' you mean having a space or housing that results in the socialisation of housework and care work and to generational and cultural exchange. Generalist solutions don't work. Something that produces good results in a given place or at a given time may not do so later, in another place or in different circumstances. People and their relationships are the differentiating factor that cannot be ignored, controlled or predicted. The social fabric concealed behind the physical structures is what gives meaning to shared and public spaces.

Observing this social fabric will improve the results of any habitat-related action. We must collect information on users and the social networks they belong to and ascertain their profiles, relationships, time and needs. The first option for intervention is the **renovation** of housing. This is the easiest option, because the shared-living units that inhabit it are already known. In addition, it is the most sustainable option.

Another good opportunity for this task is provided by **social reports**, both in relation to housing and in small urban projects. By going all the way down to the micro scale and collecting both quantitative and qualitative physical and social information, we can obtain a better knowledge of the current and future inhabitants and carry out actions linked to the territory and the citizens who live in it. Along the same lines, work on the social report was carried out in the terms and conditions of the tender of the Housing Innovation Committee promoted by the Barcelona Municipal Institute of Housing and Renovation.

Finally, it is very valuable to incorporate the people living in the shared-living unit into the design and **construction** process whenever possible. This will be easy with cooperative experiences (such as the one currently being developed by Lacol) and more complicated in the case of housing intended to go on the market, but it will always be a good idea to address people's daily needs, the various family units and the ways they inhabit space

To the extent that the focus of attention is placed on ascertaining the life processes of the various groups that inhabit and share cities and that we seek to find a way to meet their needs and support them from the point of view of space and time, we could say that we are getting closer to achieving an inclusive habitat.







The gender perspective in housing in Spain

1. Introduction

Discrimination towards women is a cross-cutting social problem that demands cross-cutting responses. Thus, there is general consensus that political action needs to take gender into account, systematically and in all spheres, in order to change the structural inequality between men and women that characterises society.

A variety of forms of discrimination have been described in the field of urban planning and housing. For example, women are underrepresented in politics and in home development and design. Similarly, urban planning and housing fail to adequately meet the needs arising from the everyday reality of women.

Regarding access to housing, the law ensures the full equality of women. In spite of this, there may be other forms of inequality, particularly in the financial arena, as there is still a significant salary gap between men and women.

In Spain, under Organic Law 3/2007 of 22 March for the effective equality of men and women, housing policies must include measures aimed at enforcing the principle of equality between men and women.

Article 31 of the said law specifies the measures that must be included in urban, territorial



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planning and housing policies. The following are the measures relating to access to housing:

- 1. Public administrations' plans and policies on access to housing must include measures aimed at giving effect to the principle of equality between men and women. [...]
- 2. The Government must, within the scope of its powers, promote access to housing for women in situations of need or at risk of exclusion, and those who have been victims of gender violence, particularly and in either case if they have any children under 18 under their sole charge. 3. [...]

There is also an obvious need for measures to support women who have been victims of gender violence, and this necessarily includes priority access to housing.

We will now examine the data relating to possible inequalities between men and women in access to housing outside the more specific field of gender violence.

2. Access to housing from a gender perspective

The main source of data for assessing differences in access to housing is the Survey of living

conditions carried out by the National Institute of Statistics (INE). The data in the European Union Statistics on Income and Living Conditions (EU-SILC), published by Eurostat, is also calculated based on this survey.

The percentage of income spent on housing is established in relation to a household's total disposable income; i.e. based on the sum of all its members' incomes. In order to carry out an analysis based on individual characteristics – such as gender or age – this percentage is then attributed to each member of the household. For example, in a household composed of a couple and a young girl in which housing expenditure accounts for 10% of household income, that 10% is attributed to all three people, regardless of whether or not they have their own income. This percentage provides a first indicator for the assessment of the conditions of access to housing.

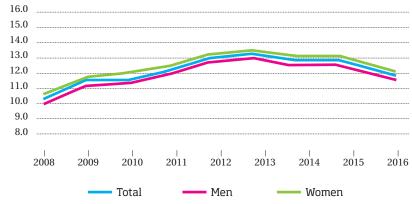
If housing expenditure accounts for 40% or more of household income, it is considered high or excessive. The percentage of people in households with excessive housing expenditure provides a second indicator.

2.1. Housing expenditure for men and women

The percentage of income spent on housing expenditure in the family economy is slightly higher for women than for men. In 2016, housing expenditure accounted for 12.2% of income in the case of women and 11.7% for men. The same difference, with little variation, can be seen throughout the period 2008-2016.

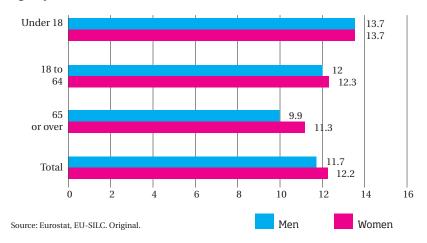
This difference between men and women is not evenly distributed in all age groups. Thus, no differences by gender were observed in 2016 in people under 18, and there was a difference of 0.3 percentage points between men and women aged 18 to 64.

Fig. 1. Average percentage of income spent on housing, by gender. Spain.



Source: Eurostat, EU-SILC. Original.

Fig. 2. Average percentage of income spent on housing, by gender and age. Spain, 2016



A clear difference between men and women can be seen only in the case of people aged over 64. In this segment of the population, in 2016 men spent an average of 9.9% of their income on housing, as compared with 11.3% in the case of women. In other words, women spend 14% more of their income on housing than men.

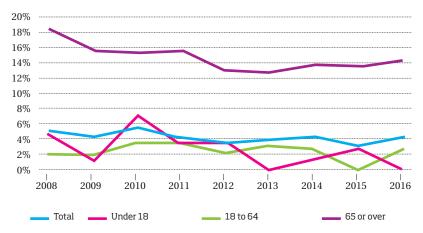
Although these differences fluctuate by year, there was a significant difference between men and women in the over-64 age group in all years, and a small or inconsistent difference in all other age groups.

The figures presented so far show the percentage of household income spent on housing. Below is the data relating to the second indicator, which shows the percentage of people living in households in which housing expenditure is an excessive burden because it accounts for 40% or more of household income.

An analysis of this second indicator confirms the above results. In the population of young people and the 18-64 segment, there is no significant or consistent difference between genders. In contrast, for people over 64, the percentage of women affected by excessive housing expenditure is clearly higher than the percentage of men in this situation, for all the years analysed. In 2016, the percentage of women (4.4%) was almost twice that of men (2.3%) in this age group.

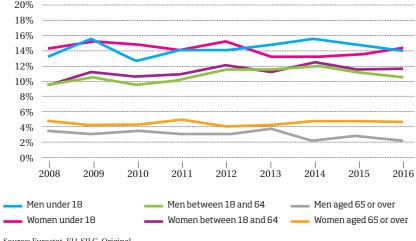
In summary, a small difference, albeit a consistent one, was found between men and women in relation to the proportion of household income spent on housing. This difference is mainly due to the over-64 group. In the population aged up to 64, the difference by gender is less significant or not consistent.

Fig. 3. Difference in the proportion of income spent on housing by men and women, by age. Spain



Difference, as a percentage, in the average proportion of income spent on housing by men and women. Source: Eurostat, EU-SILC, Original,

Figure 4. Proportion (as %) of households with excessive housing expenditure, by gender and age. Spain



Source: Eurostat, EU-SILC. Original.

2.2. Household income and quality of housing

The difference between men and women with regard to housing expenditure as a proportion of the family economy is small when compared to the difference in earnings. For this reason, we have examined below whether men and women bear similar housing expenditure because they have a similar level of household income or whether there are indications suggesting that women live in lower-quality housing.

The average equivalent income for men and women is calculated based on the Survey of living conditions. It reflects the household income divided by the number of consumption units of the household and is allocated equally to all its members.

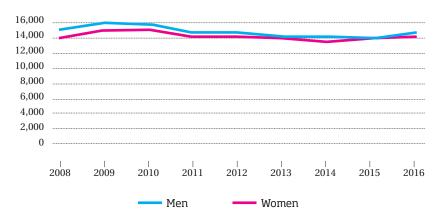
A difference in average equivalent income was found between men and women. But this difference, which in 2016 was 3%, is smaller than the difference detected between men and women in the proportion of income spent on housing. It seems that the household economy reduces the differences in income between men and women and therefore reduces the gap between men and women in the proportion of income spent on housing.

In addition, the various housing quality indicators assessed don't show any differences by gender.

Thus, a very similar percentage of men and women live in homes with problems such as leaks, damp in walls, floors, ceilings or foundations, or rot in floors, window frames or doors. In 2016, 15.8% of women and 16.0% of men lived in homes affected by problems of this type.

The percentage of men and women living in homes that were too small was also very similar. In 2016, 5.5% of women and 5.3% of men lived in homes with insufficient space for the household.

Fig. 5. Average income per household consumption unit, per gender.



Consumption units (UC) make it possible to compare incomes from households of different sizes and with different compositions, as they take into account the economies of scale of multi-person households. A single-person household is equivalent to one CU. In a multi-person household, each additional person adds 0.5 CU if they are over 14 or 0.3 if they are younger.

Source: National Institute of Statistics (INE), Survey of living conditions. Original.

Fig. 6. Population (as %) living in homes with problems, by gender.



Problems are deemed to include structural issues such as leaks, damp in the walls, floors, ceilings or foundations, rot in floors, window frames and doors.

Source: National Institute of Statistics (INE), Survey of living conditions. Original.

Finally, no difference in overall satisfaction with housing was found either. This aspect was included in a well-being module of the 2013 Survey on living conditions.

Average satisfaction with housing in 2013, on a scale of 0 (not at all satisfied) to 10 (fully satisfied), was 7.3 for both men and women .

In summary, the indicators assessed show no signs of differences between men and women in the quality of housing.

3. Specific groups: elderly people, nonemancipated young people, singleparent households

After examining access to housing for all men and women, three specific groups are analysed below from a gender perspective: elderly people, single-parent households and young people.

3.1. Housing expenditure for elderly men and women

The data has shown a difference in the percentage of income spent on housing by men and women over 64. Below is a more detailed analysis of the situation of this segment of the population in order to establish the possible reasons for this difference.

The possible reasons include, on the one hand, the significant differences in pensions between men and women and, on the other, the higher proportion of women over 64 living alone.

According to Social Security data from 1 April 2018, the average pension for women over 64 is Đ729.52, 37% less than for men of the same age, which is Đ1,152.55.

This pension inequality on the proportion of income spent on housing should result in visible differences in single-person households in particular. In the case of households composed of a couple, both pensions contribute to housing expenditure.

Fig. 7. Population (as %) with insufficient living space, by gender.



Source: National Institute of Statistics (INE), Survey of living conditions. Original.

Fig. 8. Population aged over 64 (as %) with excessive housing expenditure, by gender.



Source: National Institute of Statistics (INE), Survey of living conditions. Original.

According to data from the Survey of living conditions, there is indeed a difference between male and female single-person households for people over 64, with women spending a higher proportion of income on housing. In 2016, the proportion of women living alone with excessive housing expenditure was 7.8%, as compared to 4.7% in the case of men.

On the other hand, there is a higher proportion of women over 64 living alone. Since the burden of housing expenditure is greater in single-person households, this uneven distribution results in an increase in the average burden for the women's group, which is not due to a difference by gender but to the size of the home. It is thus a statistical effect rather than a difference by gender.

Both factors (the difference in pensions and the statistical effect due to the higher number of female single-person households) must be taken into account when explaining the different proportion of income spent on housing by gender. There are undoubtedly other factors at play too.

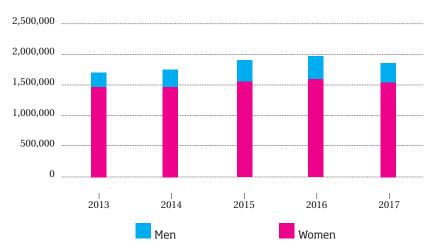
In terms of gender policy, it would be interesting to examine in greater detail the possible discriminatory effect of pensions on access to housing for women over 64.

3.2. Access to housing by single-parent households

Over 80% of single-parent households are headed by women, and data from the last five years does not suggest that this imbalance is changing. It is therefore a group that must be taken into account when analysing access to housing from a gender perspective.

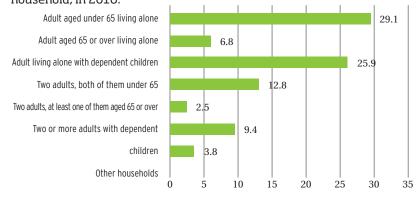
In 2016, the percentage of the over-16 population with excessive housing expenditure living in single-parent households (25.9%) was only surpassed by the proportion of single-person households in this same situation (29.1%).

Fig. 9. Single-parent households, by adult's gender



Source: National Institute of Statistics, Ongoing Household Survey, sample for one year. Original.

Fig. 10. Population (as %) with excessive housing expenditure, by type of household, in 2016.



 $Source: National\ Institute\ of\ Statistics\ (INE),\ Survey\ of\ living\ conditions.\ Population\ aged\ 16\ or\ over.\ Original.$

There was a similar percentage of people with excessive housing expenditure in single-parent households and in single-person households under 65 for all the years examined.

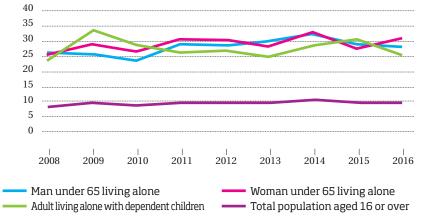
On the other hand, no clear or consistent differences were found between men and women living alone. This result contrasts with the clear salary gap between men and women, which should be analysed in greater depth.

Another aspect that is directly related to housing expenditure is overcrowding. The highest percentages of space shortages affect people living in households with dependent children, including both single-parent households (8.7%) and households of two or more adults with dependent children (8.4%).

Thirdly, people living in single-parent households are more likely than any other type of household examined to live in homes with structural problems. In 2016, this situation affected 20.8% of people living in single-parent households with dependent children.

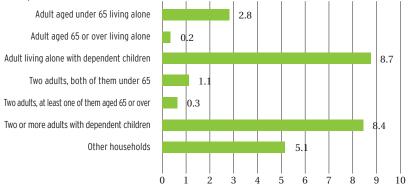
Finally, single-parent households have a lower average equivalent income than any other type of household.

Fig. 11. Population with excessive housing expenditure, by type of household.



Source: National Institute of Statistics (INE), Survey of living conditions. Population aged 16 or over. Original.

Fig. 12. Population (as %) with insufficient living space, by type of household, in 2016.



Source: National Institute of Statistics (INE), Survey of living conditions. Total population. Original.

In summary, single-parent households suffer from a combination of higher household expenditure (which is typical of single-adult households) and a higher frequency of shortage of space (more common in households with dependent children).

This is compounded by the fact that the homes of single-parent households are in worse condition and that their households have the lowest incomes.

There are certainly other difficulties that particularly affect these households, such as greater difficulty combining work with childcare.

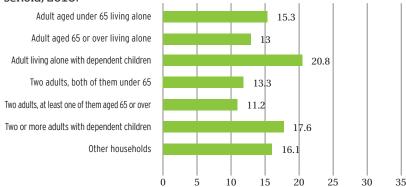
All this clearly points to the need for public authorities to pay particular attention to single-parent households.

However, regarding access to housing, it would be interesting to examine in greater detail the specific characteristics of the housing situation of single-parent households in order to design more suitable policies. In particular, the lack of data has made it impossible to compare the housing expenditure of male- and female-led single-parent households. However, given that no significant difference by gender was found in the under-64 population, we cannot rule out the possibility that the proportion of income spent on housing is also similar for men and women in the case of single-parent households.

In this case, it might be more appropriate for housing benefits not to be given to female-led single-parent households but to single-parent households as a whole, such as through a housing policy aimed at low-income households. These benefits would automatically help a higher number of women than men heading a single-parent household, because most single-parent households are headed by women.

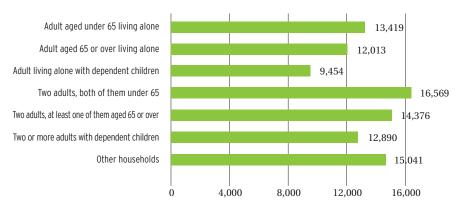
A benefit policy focused on female-led singleparent households would risk creating better

Fig. 13. Population (as %) living in homes with problems, by type of household. 2016.



Source: National Institute of Statistics, Survey of living conditions, 2016, Total population, Original.

Fig. 14. Average income (as %) per household consumption unit, by type of household, 2016.



 $Source: National\ Institute\ of\ Statistics, Survey\ of\ living\ conditions, 2016.\ Original.$

conditions for women than for men heading a single-parent household. In addition, it would create an incentive for women to head single-parent households, which would go against a broader gender equality perspective that aims to balance the number of men and women at the head of a single-parent household.

3.3. The emancipation of young people from a gender perspective

According to the available data shown above, almost no differences in housing expenditure were found between young men and young women.

However, the salaries of young women are lower than those of young men, which should affect their possibilities of emancipation, shown, for example, by women leaving home later.

However, according to the data provided by the Active Population Survey, daughters leave their parents' home earlier than sons. The following graph shows that, after the age of 20, the number of daughters living at home falls more rapidly or, in other words, the percentage of sons with respect to daughters increases.

Despite lower income levels from work, daughters therefore leave home earlier than sons. This result shows the need to examine the emancipation of men and women from a gender perspective in greater detail.

4. Summary and proposals going forward

The analysis of the differences between men and women regarding access to housing and remaining in such housing is considerably complex.

First, the household should be considered as the unit of analysis in order to establish relative housing expenditure, even though this expenditure is then applied individually and

Fig. 15. Average annual earnings per worker, by gender and age, in 2016.

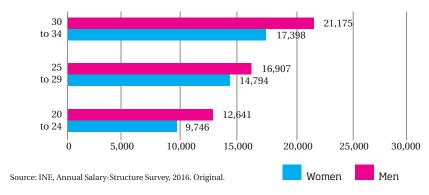
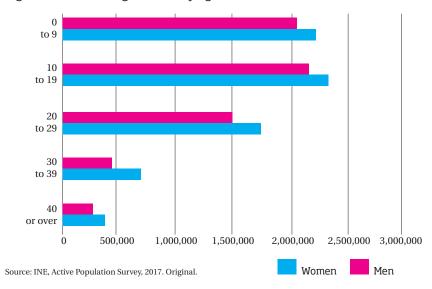


Fig. 16. Children living at home, by age, in 2017.



attributed to all members of the household. To a great extent, this necessary use of the household as a unit of analysis blurs income inequalities between men and women.

We must also take into account other factors that are closely linked to housing expenditure, in particular age and type of household.

By analysing access to housing for men and women, we can see that housing expenditure as a proportion of the family economy is slightly higher for women than for men. In 2016, housing expenditure accounted for 12.2% of income in the case of women and 11.7% for men. The same difference, with little variation, can be seen throughout the period 2008-2016.

An examination of a variety of housing quality indicators (problems with the home, lack of space, satisfaction) does not show a difference in quality in the homes inhabited by men and women.

An analysis by age shows that the differences between men and women with regard to housing expenditure are mainly found in the over-64 group and is barely noticeable in the over-18 or 18-to-64 groups.

The difference in housing expenditure as a proportion of income between men and women over 64 appears to reflect both their pension inequality and a statistical effect caused by a higher proportion of female-led single-person households. There are undoubtedly other factors at play too. The above results suggest that this group should be included in a housing access policy designed from a gender perspective, although they also suggest the need to further analyse the situation in order to provide a suitable policy.

Women head more than 80% of single-parent households. The data shows a clear need for public authorities to pay particular attention to such households, of which a significant percentage

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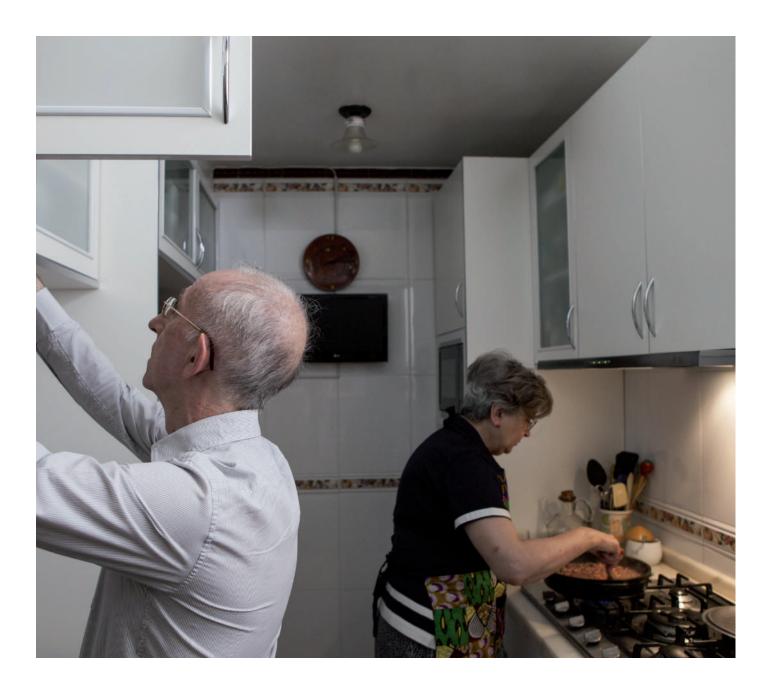
have excessive housing expenditure, a lack of space or problems with the home.

However, we could also consider it more appropriate to meet these households' housing needs from the point of view of a housing access policy aimed at low-income households. These benefits would automatically help a higher number of female-led single-parent households, which are the most common ones.

A housing access benefit policy focusing on female-led single-parent households might result in better conditions for women than for men at the head of a single-parent household. This could create an incentive for women to head single-parent households, something that goes against the broader gender equality perspective that aims to balance the number of men and women at the head of single-parent households.

In the young people group, the data examined does not suggest any greater difficulty accessing housing for women than for men. The obvious contradiction between this result and the fact that young women have lower income from work than men shows the need to further study the housing access situation of young men and women.

In general, it can be stated that the data examined provides a fixed image of the situation of women with regard to access to housing but fails to capture the evolution that has led to this situation and that may conceal a history of discrimination. For example, it may be that the residential journey of women is determined by the need to compensate for insufficient personal income by associating with another person more than it is for men.



The Glòries serviced housing development for elderly people is composed of three connected buildings.



The Housing Community', blurring the lines between public spaces, collective places and domestic activities

Presentation

CIERTO ESTUDIO is a team of six constantly experimenting young architects who work in the fields of architecture, design, culture and research. The study is a joint proposal in which various visions merge into a very personal project. The team, founded in Barcelona in 2014, is composed of Marta Benedicto, Ivet Gasol, Carlota de Gispert, Anna Llonch, Lucía Millet and Clara Vidal.



The essence of the firm is the joint conceptualisation of proposals and their development in smaller teams in the framework of a fully horizontal structure. This helps us 'infect' each other to achieve the best results, both aesthetic and functional.

Background

'The housing community' is the proposal of Cierto Estudio and architect Franc Llonch that won the first prize under the 'Illa Glòries' tender, with the ensuing commission of the urban planning for the complex and the construction of one of the four project units composing the block. The residents' associations were involved in the tender, which was international and received about a hundred bids, as members of the jury. The other three winners were the team formed by the firms Haz Arquitectura, Bayona Valero Arquitectes Associats, Cantallops Vicente Arquitectes and Ensenyat-Tarrida Arquitectes; the tandem formed by Pau Vidal and Estudio Vivas Arquitectos; and the Sevillian firm SV60 Arquitectos.

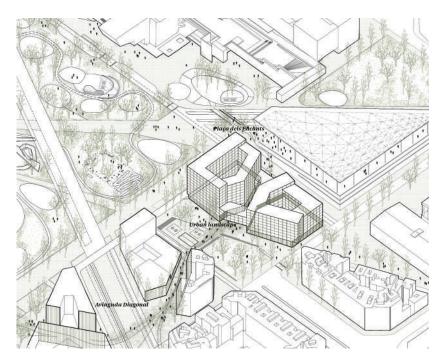
The exceptional nature of the tender demonstrates that changes in the way housing is conceived are taking place. Even the public administration has included new criteria in its approach to future developments in line with current social models. The diversity of family circumstances clearly results in different living styles and arrangements, and architecture must be able to meet the needs of the current times.

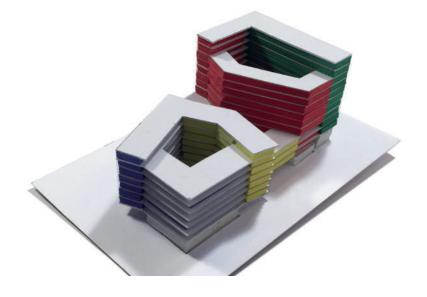
Local urban planning

Housing is not built only from the inside out: it is also built through the city and the urban spaces it provides. The transition between public and private spaces provides a broad range of situations ranging from the most exposed spaces to the most intimate ones, and shared spaces must take a more prominent role in today's cities.

This group of homes is designed as an urban transition block such that its residential status does not preclude it from taking an urban role that is relevant to the city. The design thus gives continuity to the consolidated weave of L'Eixample while generating a new frontage on Plaça de les Glòries, as well as providing several degrees of intentional permeability in its contact with the street. At urban level, a new pedestrian crossing crosses the block and extends an emerging route that starts on the Diagonal and ends at the main entrance to Els Encants market. Secondly, new passageways provide access to two large communal courtyards protected from public view and for the use of residents, providing an entrance hall to the buildings' core areas. While these passageways are for residents, they are still part of the urban façade of the complex and blur the lines between public and collective spaces. In addition, their balanced arrangement results in a natural split of the ground floor, where small and medium-scale commercial activities are carried out.

On the other hand, the block's configuration, which brings four project units together in a single complex – unitary in volume but heterogeneous







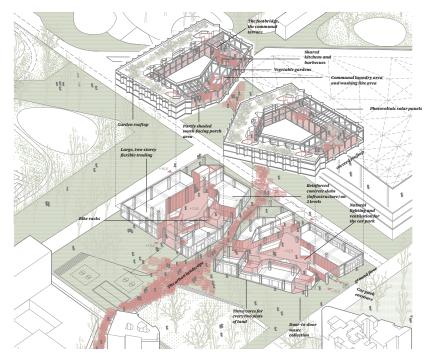
in the composition of its parts – itself helps contribute to a pluralised idea of the city. The contact between housing developments that share patios, entrances, walkways and rooftops creates a rich and cohesive community in its diversity. Finally, all this melting pot of urban relationships described above, both domestic and collective, is conveyed with the building's façade, which reveals its status as a container of urban biodiversity.

When collective spaces meet domestic spaces

Pursuant to our commitment to collective housing, we propose a home entrance strategy that fosters a community feeling. As explained in the urban strategy, the two courtyards shared by the four project units can be accessed from the adjacent streets and the urban landscape. The relationship between the various developments that share leisure spaces with benches, children's play equipment, bike racks, etc. through the courtyards is thus promoted. Relationships between neighbours are also encouraged by means of large walkways that connect all the residential floors to each other, regardless of each development's occupancy regime, and lead to the development's rooftops. Depending on

their position and orientation, the rooftops are either used for solar power panels and technical elements or reserved for the use and enjoyment of residents, with vegetable patches and leisure and relaxation areas.

The walkways, somewhere between a community space and the home environment, have been given generous dimensions and the best orientation in order to promote their use. The role of walkways as a collective balcony means that they are watched by everyone while respecting the privacy of the homes thanks to the gaps that make it impossible to get too close to the inner façade. Far from forming a linear route, the walkway expands at the entrances to the homes, where the kitchens come out to meet it. This highlights the importance of the home environment in the community. From now on,



this outside space is part of the home too: it is a place to eat, read, chat or relax. The conquest of common spaces has begun!

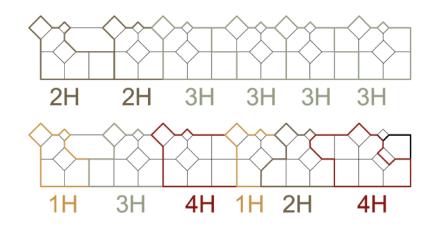
A dynamic housing aggregation system

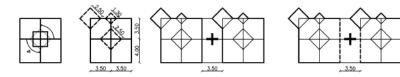
A dynamic housing aggregation system has been designed in order to accommodate a variety of living arrangements and meet the changing needs of society. 'The Housing Community' project is based on a blank slate of rooms where, conceptually, the limits of each flat are not preestablished and several different layouts are possible. Thanks to the duplication of entrances and the room addition approach, each floor of the building can have a different configuration regarding the number of bedrooms per home. Configurations are thus not fixed: the simple action of opening or closing a door results in a new configuration. Although this adaptability is inherent in the residential structure of the project, it is also true that the legal and regulatory situation makes it much more difficult to put into practice.

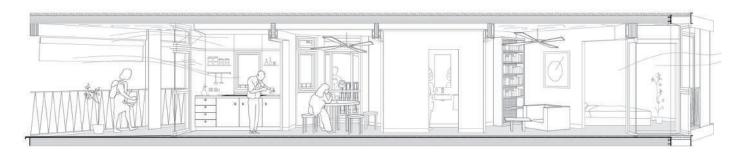
Housing as a series of rooms without a hierarchy

Society has evolved and broken with the monopoly of the traditional nuclear family. There are currently many more realities that have moved away from conventional patterns, such as single-parent families, independent elderly people, young people leaving home late or sharing flats, and many more. The home must provide a sufficiently flexible and comfortable starting point to adapt to the relevant circumstances. 'The Housing Community' homes are based on a simple design which, among other things, aims to break with stereotypes and common hierarchies. It aims to provide versatile homes that can adapt to the tenants' changing needs in a simple and reversible way.

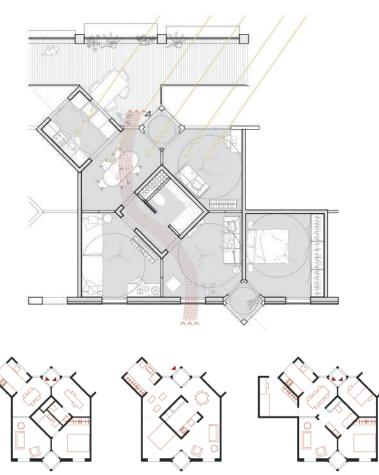








As shown in the diagrams, spaces are arranged and connections multiplied, by means of a square divided into four parts with a central connecting room placed at a 45° angle. The south façade contains the kitchen and the entrance, giving dignity to spaces that are usually condemned to a lack of natural light or ventilation. We believe that there must be quality in every space. The serving space (kitchen, bathroom, laundry area, etc.) requires the same good conditions as the space served (such as living rooms and bedrooms). Household tasks occupy a significant proportion of the time spent at home, and it makes no sense to carry them out in unhealthy parts of the home. 'Ironing while looking out the window becomes a much more pleasant task than doing so relegated to a tiny room without natural light'. We propose that the kitchen should be located on the south facade and that it should have one of the best views in the home. Thanks to its position, it enjoys the long view that crosses the flat, goes through various spaces and looks out on two sides: the walkway and the street. An open-plan kitchen is part of the other spaces and activities of the home. This is one of the main changes to this new approach to housing. The kitchen is a room that is significant in itself: it is not a just bar attached to the living room due to lack of space. In spite of this, it is not isolated but connected directly to another shared space in order to promote companionship of any kind.



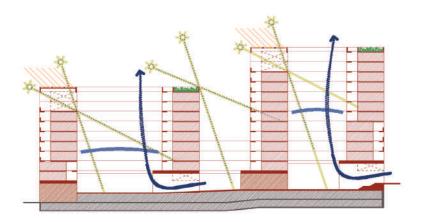
The structure of the home is composed of a series of interconnected and connecting rooms. The central connecting room's position in the middle of the home confers independence on the rooms it surrounds. The connections at the intersections make it possible to multiply the connections and views diagonally and result in an independent room, an appendage to the home that promotes flexibility. This is an opportunity to lend freedom to another space that is part of the home as a whole, a tool to generate new modern nuclear families that will gradually become more conventional. It is a resource of the home that can meet the needs of late home leavers, freelancers working at home, those who are only there at the weekend or shared flats where the independence of a room can be crucial to the success of the living arrangements.

Removing hierarchies between bedrooms is another key aspect of the project. The ambiguity and equivalence of bedrooms is relevant. The desire to find a suitable surface area for both living rooms and bedrooms makes it possible for different functions to fit in the same space. This blank slate allows each person to decide how to use the space available, maximise the number of bedrooms, reserve a room for working at home, have a playroom for children, set up a dressing room or, in summary, be flexible and adaptable in a reversible manner.

Energy and environmental strategy

We propose a comprehensive and global environmental strategy. The project addresses four main areas: energy efficiency, the water cycle, the life cycle of materials and the health standards of the building.

One of our aims is for all homes to go through the entire building (they reach both sides). This allows their inhabitants to look in opposite directions from inside the flats and enjoy the sunshine from two different orientations. In addition, in the hot seasons, which in



Barcelona are more than half the time, it guarantees a certain degree of comfort from a temperature point of view without the use of additional devices.

We propose that the structure of our project unit be made of wood. This is one of the key points in the reduction of the ecological footprint of the construction of this building. Using wood as a structural material reduces the building's overall weight and the size of the foundations. It also results in a significant water saving in the construction work, which is carried out using the drywall method. In addition, rubble is minimised as the drywall is cut in the factory, and the construction is completed in a shorter time. It has many benefits for the environment and its durability is guaranteed.

The project, which is complex and unique, can become a model for development in a variety of aspects: the construction of a development designed by two people, the incorporation of the gender perspective, the application of sustainable reference solutions and the break with many deeply rooted ideas. As blueprint designers, we want to ensure the architectural quality of homes, the comfort of the people who will live in them and the aesthetic harmony of the whole.



