Abstract: Among the borders separating men and women, architecture occupies a primary role on the reproduction of inequalities and tensions, by assigning roles and users to different spaces. Often, the studies focus on inequalities between men and women in the field of architecture; others have chosen an historical approach to reveal the participation of women in the history of art and architecture. However, it is also important to explore the gender differences inhabiting architectural spaces. Architecture reproduces and reconfigures subjectivities through asymmetries in symbolic space. This paper introduces the discussion on women and the structures of domination expressed in contemporary architectural work and its material realm. Two examples of housing design in Mexico are reviewed and analyzed, pointing at different ways in which men and women think, use and represent their daily spaces. The analysis is structured on a double component: the lived space and the typology of the dwelling. Then, a series of questions are established about the relationships between dwelling, the way of thinking and living of women, as well as the hierarchical and patriarchal horizon with the one that designs and builds the domestic spaces of contemporary Mexico.

Key words: architecture; inequalities; feminism; housing

1. Introduction

Although the consequences of gender differences in the whole art history and philosophy can be clearly determined, the study that specifically refers to architecture as the promoter and reflection of the social structure expressing these differences has been considered irrelevant (Hills, 2003:4). For example, in painting, the construction of female body and a series of related aesthetic and cultural values are the subject of multidisciplinary research. On the other hand, there is no theoretical platform to study the complexity of body and architectural space in the same depth, which has led to the question of male hegemony, not only in space design, but also in discourse construction.

The research between urban architecture and gender perspective is a novel research route, which has produced important reflections in different fields such as history, archaeology, art, anthropology and sociology (Martínez-López, 2016:11). When asked about the impact of architecture on gender, it should be said that "architecture has been used to emphasize social differences and establish identity" (Kuhlmann, 2013:202). Judith Butler discussed that the hypothesis of normative sex not only limits our description of human beings, but also limits our description of life (Butler, 1990:26). In this case, it is the description of habitability. The relationship between architecture and the theoretical methodology of architectural design will inevitably affect the way of thinking construction and the relationship between users' own
architecture and living space.

It is worth mentioning that most of the feminist reflections on the relationship between gender and architecture mainly correspond to the last decades of the 20th century. However, several authors put this serious defect in a tense state: first, they criticized the materialist feminists in the industrial revolution, and then they were the pioneers of the modern movement to reach the urban planning theory of the 1970s, such as Jane Jacobs or the outstanding Dennis Scott Brown. Recently, there are many initiatives that reflect and make proposals on gender architecture as a specific area of the theories of design and building, although it cannot yet be said that their discourses have been transversely incorporated into that of the official establishment of the discipline (Novas, 2014:12). Since the early 1990s, some of the most radical positions of feminism have emerged, calling for a reversal of the patriarchal model of the architecture profession to introduce a new and more feminine approach, which will be reflected in the design process (Rendell, 2011:18). However, as Novas indicates recovering Hernandez's voice, "not even the postmodern rancor towards the most disputed postulates of [...] great architects, would have allowed consenting, at the gates of the 21st century, the reckless hypothesis of admitting among architects and urban planners that the absence of gender reading is one of the greatest faults in the theory of architectural knowledge of this century (2014:11).

Until the beginning of the 21st century, the debate of feminism on architecture has multiplied, but so far, almost no architectural theory has incorporated the values of feminism into the discussion on the role of women in the whole art history and the low participation rate of women in the environment of contemporary professionals and famous architects. People are talking about the role played by the restoration of the female group, which accounts for half of the world's population. This group has been excluded from architectural practice and theory for several centuries as a basic requirement of a more equitable society (Novas, 2014:11). However, sometimes gender architecture is only seen as a redevelopment of social, cultural and spatial analysis from the perspective of women.

According to Kulhmann, this is because the architectural theory is supported by a set of values and standards. Although they have been modified in different times and styles, they still maintain the almost unchanged male tradition in terms of conceptual configuration. The most obvious evidence is that "the theory of proportion and aesthetic practices (until modern times) almost completely reflect the values of men" (2013:202).

If one of the great merits of feminism has been the rescue of the multiple social and political scenarios from the particular condition of women, it is not surprising that Marxist perspectives on systems of domination and the asymmetry of relations between men and women have gained importance as an explanatory framework and producer of new perspectives. On the other hand, "the influence of Marxist methodology on architectural history has played a key role in criticizing the role of designers given by art history, placing it at the center of the discipline" (Rendell, 2011:38).

This analysis is faithful to the methodology of historical materialism and allows reflection on architecture and gender from the social production of space. On the one hand, it focuses on the gender role displayed in the architectural cultural background, and on the other hand, it focuses on the performance and lifestyle in the family space. As a starting point, architects are considered to be the basic actors of social and cultural production in space. Instead of adhering to the hegemonic tradition and gender dichotomy, they can become the producers of new social and spatial structures, which link men and women from the perspective of fairness in culture, material resources and power management.

As early as 1990, Butler insisted on taking gender as a social structure, and raised a question, "Is gender a structure, and can it be constructed in different ways, or does its construction involve some forms of social determinism, denying the possibility of agents taking action and change?" (1990:56).
2. Methodology

Several methodologies have proposed an approach to inequalities between men and women with respect to built space. In this special case, the methodology consists of two main dimensions: living space and housing type (Lawrence, 1982). In this way, the symbolic space and architectural intervention are discussed based on the configuration of houses and the modulation of families. From this reflective theoretical perspective, we can compare and analyze the spatial structure of contemporary families from the perspective of women's roles, and then propose a more specific study of Mexican housing, which is part of the analysis of the spatial distribution of various housing types.

The main research object of this paper is the architectural design of Mexican housing, which is a factor of gender inequality. With the understanding that "all spaces are potential for gender discrimination because they can be mechanisms of exclusion, [...] and that] even an apartment or a single-family house constitutes a space that is characterized by gender differences that more or less control the behaviors of the occupants" (Kuhlmann, 2013:173), and the aim is to carry out an analysis that highlights the imbalances in the articulation of political and symbolic power deployed in the design, appropriation and use of the different architectural spaces arranged in Mexican housing in some specific examples, and from a set of more or less representative voices.

In this way, a double analysis is carried out: The first part reviews and discusses the assumptions of Mexican housing lifestyle, and refers to some literary works, which illustrate the expression of femininity and the role distribution of family space; The second part puts forward the analysis of housing types based on several consecutive social housing production cases: the residential area of Cañada del Real in León and the residential area of Las Anacas in Monterrey, Mexico. These multi-family projects completed in less than 10 years have been proposed as symbolic cases of contemporary housing space and configuration in the country.

Based on the analysis of residential space and housing types, this paper proposes the first method of using gender as an architectural analysis system to analyze the dichotomy of male/female and external/internal space, then conducts a genealogical review of the complex architecture and gender inequality, and finally explains the appropriateness of furniture and the distribution of roles and identities in the architectural space of the family environment.

3. Discussion

3.1 Gender and space dichotomy: external/internal, male/female

First, it is important to analyze the structure of differences between men and women from the relationship between the internal and external space allocated to the body. Therefore, we must pay attention to the performance of the main body and body in the building, deal with the design task from the perspective of social space, and consider the symbolic performance of different geometric and environmental elements in the design and construction space.

The construction of political theories that link women and families and men and citizens has a long history in architectural and urban planning theories (Hill, 2003:7). Since the last decades of the 20th century, feminism has always emphasized the allocation of women's images to "internal" space, and men as "external" independent residents ((Ríos-Llamas, 2018b). This way of distinguishing family space from women, on the one hand, is the result of the male-dominated and typical family structure imposed, but also the projection and concretization of family space from space allocation to furniture layout and task allocation according to the decisive factors of women's activities and remaining in the family. In this sense, it is necessary to vaguely exclude women's public and external space, and make critical use of intimate space in its scope for female emancipation.

In exercises of reflection on fear and spatial complexity, research on gender violence and the exclusion of female figures in urban spaces is often approached, and it is useful to think about places where women do not think they should be
alone or pass alone, such as uninhabited spaces, dark spaces, or spaces directly related to male activities, such as some bars and terraces, billiards, or gardens and public squares. In this sense, from the perspective of closure, intimacy is more like a female housing element, because it is contrary to the perspective of openness, which is understood as a stage of increased fear and violence. Fear (of the closed and the open) is experienced with greater intensity in the streets because subjectivities are expanded and diversified (Ríos-Llamas, 2018a). As for the internal and external relations transferred to the dualism of men and women, it is the male subject that poses a threat to the female subject, because the male carries out systematic attacks when using the street. Threats to women include whistling, praise, sexual contact, hostile eyes, and invasive physical behavior. The consequences of this series of actions are to exclude women from urban space and to strengthen the depiction of family space as a refuge for violence outside the city.

In addition, the private sector, as a social representative system, is reflected in the form of architecture and becomes a tool to oppress women. This oppression is expressed through living spaces such as the living room, garden and kitchen. In these living spaces, the passage for women is designed from the inside (enter the room, enter the terrace), and the passage for husband is designed from the outside (enter the room, reach the terrace). Although these living spaces are responses to the model that cannot be generalized, the space concept of architecture gives priority to certain roles and the way of living space according to the gender of family relationship and its projection in family space. However, like urban space, the male-dominated model has also shifted to the daily housing field. Its potential for conflict and violence shows that "the family field is nothing but a peaceful and heavenly space" ((Kuhlmann, 2013:174), and the internal space is far from a safe, comfortable and protective world for women.

Rendell said that, contrary to the dualistic approach of external-internal and male-female, it is necessary to rethink architecture from "other less dualistic and hierarchical [concepts] such as edges, gaps, daily, heterogeneous and despicable" (2011:28). Among other things, this is a problem beyond the assignment of gender roles to architects' professional practice, but these dichotomies are used as the starting point for rethinking the whole architecture. It is here that the analysis of gender boundaries can become a special tool to rethink the concepts and advertising practices in the knowledge system, and to deal with socio-political joints according to the status of women in the hierarchical structure, mainly patriarchal.

3.2 Architectural genealogy and gender roles

Housekeeping is a kind of architecture in the 19th century, referring to a series of ideas developed according to the division between the workplace and the family (Heynen, 2005:7). As mentioned in the exterior/interior - male/female dichotomy, the gender division of space results in a public sphere associated with the masculine, and a domestic world associated with the feminine. In this traditional definition of two universes, one is defined by paid, productive and masculine work, and the other is defined by domestic, reproductive and feminine work. We find that women perform service tasks for their families. Activities such as laundry, cooking, management, transportation, accompanying and caring for children and the elderly are always attributed to family space, and therefore to women: "Reproductive work refers to work aimed at meeting family needs. Although it is a necessary dimension of social reproduction, its development has been limited to the private framework, mainly in the family field, which is why it is also defined as "domestic work" or family work"(Larraña, 2004:32).

Then, we find that although the spaces related to the domestic sphere refer to the feminine, once entering the family, it is the space related to work, service and care activities, in which the role of women is represented: kitchens, laundry rooms, cupboards, children's rooms, etc. It is the kitchen that is the biggest reference we can find about the historical space with feminine significance. In addition, social transformation and its direct expression in the family spatial structure clearly prove this point: "In general, the organization of space and gender may change its meaning over time, which depends on
the changes of environment and metaphor, and these changes can only be linked with these changes” (Hill, 2003:5).

Although kitchens are related to the ideal of family, warmth and reunion, they are also the space for work and for women to conquer. Just look at Mexican literature and you can notice this: Tita is the protagonist of Laura Esquivel's novel Como agua para chocolate. She presents to readers as a role related to cooking and feeding behavior from birth. On the kitchen table, in the smell of noodles and spicy soup: "This unusual birth determines the fact that Tita is full of great love for the kitchen, and most of her life has been spent in the kitchen, almost since her birth..." (Esquivel, 2016:5).

Esquivel presents, through Tita, the main character, a symbol of woman as healer and giver of food. However, it is also the symbol of the woman oppressed by a family tradition that denies her aspirations, and that designates the kitchen as the stage of a life limited to satiating others: "Tita lowered her head and with the same force with which her tears fell on the table, so did her destiny fall on her. And from that moment she and the table knew that they could not modify even a little the direction of these unknown forces that forced them, the one, to share with Tita her fate, receiving her bitter tears from the moment she was born, and the other to assume this absurd determination" (Esquivel, 2016:7).

Although women's life is closely related to the kitchen, in contemporary society, it is not women who decide the space configuration, but the architectural designer, who acts according to the previous concept assigned to women's roles. In this way, from the design of the projects and the establishment of typologies, taking into account women's space, the position of houses is allocated from the patriarchal discourse inherited by tradition and custom. In this way, the conditions set by ideology and lifestyle are transferred to family space by determining their architectural characteristics.

The position of the kitchen in the home itself is a response to these ideological concepts. These ideological concepts no longer only represent a service space, but an exclusion space: "For a long time, people have restricted women in the home because of their service in the family space and the pressure on the dirt that must be hidden from the public (Kuhlmann, 2013:177). Indeed, many architects' design is mainly based on their corresponding interest in climate conditions, the relationship between housing and environment, and space functions. However, it is necessary to go beyond this objective and instrumental view of residential space in order to reflect more profoundly socio-cultural process in the process of architectural thinking and materialization, which not only involves the material arrangement of housing geographically, but also involves the technology and mechanism that enable it to live according to the specific era and society.

In an analysis of domestic space, Gutiérrez de Velasco studies the spatial conditioning factors of the Mexican kitchen as symbols of gender, based on a reading of her maternal and paternal grandparents' house. The kitchen is described as a small space, without light and located at the back of the property: a place that people wanted to hide because of its continuous use, its lack of cleanliness, its multiple odors and waste; and where an entourage of enslaved women worked together with the grandmother. This kitchen is also considered as an isolated place for the intense and hard work of daily preparation and cleaning cooking work. In this place, besides hiding the building space itself, it is also necessary to hide the shame and uncleanliness of women's work (Gutierrez de Velasco, 2017:252).

Similarly, together with Gutierrez de Velasco, in the structure of the grandparents’ house, the house is villa-like, with a garden around it, and a kitchen behind it, separate from the room. Despite the fact that this division is not very functional in terms of the climatic conditions of the site, "the ideological forces of class and separation of activities were stronger than the rational logic and function" (2017:255), seeking, once again, to hide service activities, i.e., women's work.

Therefore, from a historical perspective, the discourse of family architecture predicted women as a category of housing allocation, and established a space that took it for granted to assign them to specific roles. From the perspective of the dominant social space structure, these architectural forms correspond to the completion of other activities that oppress
women, and are also predetermined by tradition.

3.3 Gender construction mode in architecture

As we reviewed in the previous sections, the distribution of gender roles is closely related to their relationship and performance in space. In this understanding, architecture contributes to a certain distribution in which women's roles are oppressed by traditional considerations that require them to perform certain activities, responsibilities and attitudes. "According to their own hierarchical relationship, such as social class or health and religious status, these institutions help to regulate thought, body and emotion. Power is exercised through the classification of body" (Hill, 2003:16). In this case, the hierarchical relationship is the role of women, that is, institutions: buildings.

Especially in the family environment, we find that narrative and ideological discourse are directly reflected in the distribution of women through architectural configuration: the historical positioning of important elements from interior decoration to kitchen. It is in these spaces that a classification of exclusion is well known, in which the female space is isolated in a traditional way: "The exclusion of women begins in the family. After all, the spatial connection with the family, usually coupled with the economic dependence on the partner or husband, has lead to a very small social impact" (Kuhlmann, 2013:175).

This is why I am particularly interested in analyzing contemporary housing as a form of expression of a basic system and a kind of power discourse, in which the distribution of space is just another way to structure according to the existing norms and systems. "The consequences are particularly profound, because architecture and architectural environment are the product of strategies (conscious and unconscious) aimed at satisfying material and symbolic interests and providing social, economic and political status" (Hill, 2003:6).

Considering the valuation of housing as a spatial statement of a series of social ideologies and the imminence of the development of social housing in the face of population growth, cases of housing developments in metropolitan areas will be analyzed according to the criteria of the Architectural and Urban Design Diagnosis of the Housing Cluster of León, Guanajuato: "The sale date of the housing development analyzed is 2013, costing between 250,000 and 350,000 pesos, and it is in the process of construction and has not yet been delivered to the municipality" (Housing Cluster, 2015). (Cluster de Vivienda, 2015). Although this standard is in line with the specific objectives of the above diagnosis, from the perspective of the large number of people entering this type of housing, the study case is effective for this study. These people are constrained by the pre-configuration of the tandem building system, which in turn respond to the prior considerations of designers and builders on the use and lifestyle.

- The first case: Residential complex of Cañada del Real in León, Guanajuato

![Figure 1. Typical floor plan of the Cañada del Real residential complex in León, Guanajuato. Diagnosis of architecture and urban design. Source: Housing Cluster (2015:44).](image)
On the typical floor of the 56 m² apartment, the new location of the kitchen in the contemporary residence first attracted people's attention. Although in the historical route of previous development, the kitchen was degraded to hide a "dirty work" space, while in this case, the kitchen is located next to the main passage of the house, and no wall can prevent the visibility of the house (Figure 1).

![Figure 1. Typical floor of the 56 m² apartment.](image)

Figure 2. Family spatial relations. Source: Self-prepared.

Facing the new premise, the space has been redesigned: the use of technology. For example, suppose a kitchen with a gas or electric stove is dirtier than a firewood or coal stove (not so "hidden"). But the most important thing is that this new space layout reminds us of the necessity of seeing from the kitchen. People (women) working in the kitchen can at least control other activities in other public spaces. Women have always been associated with the idea and implementation of multiple tasks. Therefore, she is not only required to complete a series of family activities, but also required to complete all these activities at the same time (Figure 2).

- The second case: Las Anacuas residential complex in Monterrey, Nuevo Leon

In the example of this house, 40m² were built at the time of delivery. The kitchen was placed at the bottom of the house again, but not in the sense of isolation. On the contrary, it is as the main visual highlight of entering the house. Once again, the functionality of the space and the belief in the cleanliness of household appliances (both characteristics inherited from modernity) determine a kitchen open to the rest of the public area (Figure 3).

![Figure 3. Standard floors of Las Anacuas residential complex in Monterrey, Nuevo Leon.](image)

Figure 3. Standard floors of Las Anacuas residential complex in Monterrey, Nuevo Leon. Diagnosis of architecture and urban design. Source: Housing Cluster (2015:183).
What is more obvious is that we should continue to discuss the visibility of the family space, from the inside of the women in the family space, that is, the ability to monitor the kitchen itself. In addition, the existence of laundry space is strategically combined with another service/work area to be handled, together with the bathroom area, to separate the private area/rest area from the busy housework (Figure 4).

![Figure 4. Family spatial relations. Source: Self-prepared.](image)

- The third case: Real Solare housing development in El Marqués, Querétaro

![Figure 5. Floor plan of the Real Solare housing development in El Marques, Queretaro. Diagnosis of architecture and urban design. Source: Housing Cluster (2015:190).](image)

The house area in this example is 47 m², which is developed from a partition. In this partition, although the kitchen will not appear directly next to the corridor or as a visual highlight of the corridor, it is visible and can monitor the service in the dining room and living room area at the same time (Figure 5).
It may be strange or even considered as uncomfortable to connect the washing and laying area directly to one of the rooms (Figure 6). In our view, this situation may seem like an invasion of privacy by family activities, which is an inconvenience to residents. There is always an understanding that some of them have a quiet rest in the room, while women's family activities must be excluded before they can leave this field. However, by analyzing this special situation, we can have a different understanding of the family activities that all spaces and residents participate in.

This reminds us again of Judith Butler's thought that "The internal characteristics we think are actually what we expect and produce" (Butler, 1990:17). Isn't this what happens when buildings build space to make it work in the way we think it should? Giving space gender roles is an unconscious exercise. We must pay attention not to participate in a ruling system. Although this system develops with the new way of life, it still appears in construction projects.

4. Conclusion

The relationship between architecture and the boundaries demarcated between men and women is one of the many social mechanisms that approve male domination by assigning roles and maintaining gender differences. The role of architecture is crucial to the construction of gender roles and the discourse outsourcing of organizing space according to gender differences. Beyond the analysis of domination systems in new territories such as family space, it is important that, similar to the new structure of contemporary families (single-parent, childless, separated parents, composite, extended), new approaches to conventional architectural programs are also proposed, with a reinterpretation of space as an alternative to the mechanisms of oppression and violence determined by traditional architectural design practices. This new approach opens the possibility of presenting an architecture with a new role of experimentation and openness, rather than a building that is understood as a regulatory practice, which inscribes gender differences to ratify the political and social order.

As long as contemporary Mexican houses continue to be considered, designed and materialized as female spaces, the control and oppression of women will continue to be recognized in architecture. The dominant system of materialization in architectural space not only replicates the differences of roles, but also provides a space for deepening and maintaining the roles allocated in the daily living ability of family space. Therefore, the architectural space is more critical of reproducing the inequality between men and women than the continuous differences in the performance of the body in art, or the reduction of the existence of women in entertainment in contemporary architecture.
Conflicts of Interest
The author declares no conflicts of interest regarding the publication of this paper.

References

Notes: It is worth mentioning that George Veorelló's works have had a great impact on the representativeness of the body in different periods, as well as the difference between the company's femininity and masculinity. This can be seen from his work Correcting the Body: The History of Pedagogical Power (2005a [1978]), The Clean and The Dirty. Physical Health Since the Middle Ages (1991 [1985]), Healthy and Unhealthy: From the Middle Ages to the Present Day (1999 [1993]), History of Rape, XVI-XX (1998), and History of Beauty (2005b [2004]).