

Small Scale Or “Smallness” As An Agent Of Post-Pandemic Change: Toward A New Housing Model Vision.

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Abstract:

Background: *Inhabiting the domestic space today is an increasingly complex daily task according to integral conditions of people's daily lives such as health, mobility or economy and even more so considering the lived experience of the COVID-19 pandemic as housing resilience, a situation that may be ephemeral but with lasting consequences. This work exposes two small-scale intervention strategies in housing based on habitability problems in post-COVID-19 contexts. What does inhabiting the architectural interior represent in people's lives today? And how does the interior scale participate positively as a modifier of post-pandemic domestic dynamics? **Housing, habitability and pandemic** exposes the possible effects of this study in aspects where changes can be proposed in the quality of life of human beings and in the resilience of homes in the face of future health crises, taking into account intangible factors of the habitable space, deriving towards habitability strategies on the interior scale.*

“Smallness” as a habitability strategy on a small scale or interior presents the idea of resuming the precepts of dignified, empathetic and viable architecture from two identifiable perspectives through hypothetical models of habitable space design with different configurations, the first presents a pre-existing home while the second proposes the modular and transportable configuration of the space that is inhabited.

Conclusion: *Regardless of the prototype of the living space, whatever the proposal, the design must consider being for “the man” and not for external agents (such as a pathogen) since the ideal is to preserve everyday dynamics and situations that are not so temporary.*

Key Word: *Architecture, interior, habitability, scale, post-pandemic, flexibility, micro habitability.*

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I. Introduction

(...) buildings are about people and people are about stories¹.

Living is an intrinsic right of every human being. Building a personal story represents the common thread of human life that manifests itself in the tangible and intangible of the daily and lived reality of people and that even allows the omnipresence of man through smells, images, sounds and objects that remind us constantly who we are and where we want to go.

Domestic architecture, the house, in itself is an essential human right, referred to both in the Universal Declaration of Human Rights of 1948, the International Covenant on Economic, Social and Cultural Rights of 1966 and the International Covenant on Economic Rights, Social, Cultural and Environmental (DESCA) of the UN in 1991, also legally established in Mexico in its Political Constitution as: “a right to an environment adequate for its development and well-being, decent housing” (reference) and the latter is perhaps the key axis in the articulation of the physical space, the home, with the human being and his habitation, since it is according to the subjective interpretation of dignity that we have been able to know throughout the history of architecture different models of housing and its ways of appropriation that allow establishing evaluation criteria around its relevance and sustainability in complex contexts of economy, health and well-being. If we carry out a general analysis of dignity around the concept of housing according to the premise of the universal and legal right to it from an architectural perspective, we will begin with the relationship that design has with the dignity of the living space and consequently with the habitability conditions; Housing is, “a permanent and safe place that every person deserves, where they can gather together with their family, recover physically and emotionally from daily work and leave daily rehabilitated to earn support for themselves and their loved ones”².

Initially we could say that design affects our daily lives unconsciously through messages about what to feel and what to desire; As stated by Cary in the publication “Design for good”, in an organic way man has different ways of processing the messages that design sends us and this is what environmental psychologists call

environmental identity, where the main components of our being integral have a close relationship with the places we inhabit. Therefore and as a premise, decent habitable space is that which the user identifies as their own according to their cultural, environmental and social conditions and in which it intrinsically generates channels of appropriation. Dignity is being aware of one's own values and having them reflected in the place where you live: “addressing every unimaginable aspect of life”².

According to the habitability conditions, we can refer to these identification characteristics in terms of the quality of life not only of the model and elements of the built space (dimensions, materials, equipment, etc.) but also including the immediate urban context and its characteristics. integrals such as equipment, density, mobility, and services. Ziccardi, in his study on how Mexicans live and the dimensions of habitability, states that:

*“Livability is a notion that contains multiple connotations and meanings. (...) the habitable quality that a home has, which is a function of the different characteristics it has, among which are: a) the material characteristics of the home, b) the size according to the family composition, c) access and quality of housing services, and d) legal certainty over ownership.”*³.

That is why to talk about quality (and not resilience) of housing as a right to an adequate and dignified environment, it is essential to establish criteria that address not only the quantitative factors raised by the author, but also to incorporate the identification of the self-value through design, according to the real temporal situation of the context and the actors that participate in them: economic, social, technical and technological, sustainable and environmental models that allow this appropriation of being with being through an empathetic and viable architecture. This is extremely important to be able to address the significance of the domestic space and its sense of post-COVID habitability, starting from the duality of living and inhabitant with a common thread called dignity: identification with its integral context.

II. Housing, habitability and pandemic

In Mexico, the problem of habitability in worthyhousing was accentuated and evident during the pandemic period. Studies on the vulnerability of human beings due to a so-called precarious housing situation (vulnerability factors due to deficiencies in water service, drainage, quality of infrastructure, public health services, population density, etc.) indicate the importance of an effective architectural space as a prevention and protection measure in pandemic situations: quality of life and architectural resilience.

It is important to cite the work done by Ortega; Armenta; García and García who specifically analyze housing in Mexico from its technical construction and equipment perspective in services by developing an analysis tool called “Housing vulnerability index against Covid-19 (IVIV-COVID)” and where they conclude that: “The possible effects of this study on habitability can bring important changes in the quality of life of people and the resilience of homes in the face of future pandemics”⁴. That is, in terms of infrastructure, there are determining manifestations and risks but, what happens with intangible factors of dwelling space?

The COVID-19 pandemic situation, like in much parts of the world, represents a re-significance around the relations between human being and the domestic space, especially the interior dimension, the scale of relationships and symbolism between man and his intimate and immediate environment in everyday areas, not only domestically but also educationally, recreationally, at work and even spiritually, etc.; It has left great lessons, among them that, without an adequate living space, it is unlikely to apply healthy social distancing and hygienic performance in activities, among other things. Confinement in the domestic space as an extreme temporary measure generated social controversy, especially due to the repercussions this generated on the interpersonal relationships of people.

*The restrictions and confinement caused the social dynamics around housing to go from “everyone's house” to “my house”, not only in a figurative sense but, perhaps, in the strict sense of the word, even among same members of the social structure of the house par excellence: the family. The reconfiguration of the home inside not only led to the improvisation or design of the space with a new distribution or the acquisition of required equipment but also to the functional and coexistence relationships between parents, brothers, children and couples.*⁵

It was necessary for all people to physically and psychologically redefine the domestic space. Homes, until now, were only home, but they were abruptly adapted into work, educational, entertainment, spiritual spaces, among other activities, and therefore, given these reinterpretations and meanings, an optimal design is necessary that considers the factors of intangibility that integrate all your needs. Farha (2020), rapporteur of the United Nations Organization, UN indicates that: “Housing has become the first line defense against Coronavirus. Home had never been a matter of life and death.”⁶

Given this, the question arose as to whether this health emergency situation has had repercussions on the comprehensive, physical and mental health of man. The confinement in living spaces generated in its inhabitants a sense of protection, a shield as a solution to concerns in terms of health, although it represented a challenge for economic subsistence that led to the need to adapt and complement their level of equipment for activities. work, educational and recreational, although this social isolation generated an increase in the levels of depression and anxiety.

And this is how, through time and the implementation of a new normality that has forced us to break all pre-established routines and design rules. Some of the manifestations of Post-Covid disorder that affect the daily experience of habitability, according to the British trends site and analytical data portal WGSN.COM⁷, are:

- Extreme concern and immediate response in an alert situation.
- Feeling of restlessness, few abilities to relax and therefore decreased ability to enjoy everyday life.
- Mood changes and failures in memory and prompt attention.

III. “Smallness” as a habitability strategy of small or interior scale

Due to the above, and as if it were a historical rethinking, a new condition of habitability for a new inhabitant, the idea arises of resuming the precepts of dignified, empathetic and viable architecture from an intimate scale of solution, identifiable to its conditions. cultural, environmental and social through appropriation scenarios. Higuera & Rubio (2011)⁸, when talks about how the demand for living spaces is increasingly complex according to the process of unsustainable growth of the world population over the years, adds the symbolic and functional changes that were given to the home. As a result of a new post-pandemic normality, opening a series of opportunities where the purpose would be to generate alternatives to cover these new requirements in the concept of housing and where perhaps the answer could lie in the relationship that the space has with the human being himself, building a discourse of significance through the study and design of the interior space that will be inhabited.

Given these details of habitability, the architect Paolo Giardiello already refers to the concept of “smallness” or living to a minimum, not as a reduction of living in poverty, conceptual lightness or reduced space, but in a sense of concentration, careful choice or selection, of what is necessary to build a living space, of the very principle that defines “the human capacity to transform a void into a space and at the same time to transcend the structural image of the architectural box and communicate, through it, history itself. of being in the world”⁹.

This is how architecture, on its minimal and interior scale, intervenes as a comprehensive habitability strategy and specifically in complex situations such as a pandemic; In order to live, humans need an environment to appropriate, identify with and belong to, in addition to the technical and technological physical conditions that this entails, a set of intangible environmental conditions that are contextual, social, cultural, economic, among others.

In order to establish an analysis of the experience of domestic space, it is necessary to highlight the different levels at which human beings develop this daily life, what concepts affect each of these scales of habitability and how the concept of “interiority” represents the common thread in it. The gradation of living resides in the structure of integral relationships that the inhabitant designs in accordance with his discourse of existence with the environment, which ranges from the city, the park or the square, the building, the room, to the equipment, to the which we will call the environmental scale.(...) The way in which the “interior” manifests itself, particularly in each of these dimensions, starts from the choice of functional or symbolic factors that respond to the very needs of man, such as identity, encounter, meeting, protection, appropriation or shelter, among others, and it is the same man who, in his action of inhabiting, internalizes the place by making it understandable and identifiable for him.⁵

Through the design of architecture in its intimate dimension (which we call interior design), the anthropization of space truly acquires its level of habitability, attending to the physical, emotional and spiritual needs in the system of relationships of man with his context. and equipment, an attention that starts from the un-activity, the micro environment, the ambit and ambit system as a level detail that Bachelard himself (2020)¹⁰, in his book *Poetics of Space*, would conceptually describe as a system of “structures within structures”; the user not only needs more space, but also quality and attention to the equipment and the environmental qualities of this space in its immediate atmosphere: the micro scale.

To carry out the implementation of these habitability discourses, two projects were developed in collaboration with students of the Bachelor's Degree in Interior Design at the Autonomous University of Aguascalientes through the institutional research project *The confinement within the confinement. Reconfiguration of the domestic architectural interior in times of confinement* in 2022 coordinated by PhD Mario Esparza; the first project within an architectural preexistence in a popular social housing model in the city of Aguascalientes,

México (A) and the second project developed as a hypothetical model of experimental solution (B), both as proposals for ephemeral situations with lasting repercussions of habitability.

A) The macro-object as a micro habitability strategy.

With this first case, located at 1305 Arroyo Street in Lomas del Chapulín subdivision, located south-east of the city of Aguascalientes, Mexico and carried out in collaboration with the student Bryan Humberto González Esquivel, it is intended to incorporate two concepts: macro-object concept, understood as the integration of a single element capable of housing different types of equipment to satisfy the needs required in the project with the aim of making the relationship between space and the inhabitant more efficient in a limiting spatial context, speaking constructively; and the concept of micro-habitability, which refers to the scale of the relationship between the inhabitant and his basic needs to be able to experience and appropriate his habitat after an extreme habitability situation such as the Covid-19 pandemic. (Figure 1)



Figure 1. Architectural preexistence of the case study. Source: own elaboration (2022)

The central objective was to be able to meet all the needs of the inhabitants based on their poor proxemic relationship, establishing strategies that would avoid social discrimination in the quality of living as a result of extreme overcrowding during the pandemic health crisis manifested in developed countries.

The proposal establishes perfectly defined zones according to the level of integral functionality (activity, symbolism, scale of relationship) in the appropriation of the home: zone 1 that incorporates a series of micro environments with various proposals solutions that allow attention to the specific needs for cooking, storing and socializing; Zone 2 addresses the privacy of users in their needs for rest and individualized work. The design solutions incorporate the macro object as guiding axes of composition and therefore environmental reading, in addition to focusing attention on the close relationship between the user and the uni-activity. (Figure 2)



Figure 2. Intervention project in case study. Source: own elaboration (2022)

The rest areas of zone 2 were solved through the design of the equipment that we will call “macro-object”, a system for grouping uni-activities to enhance micro habitability in spaces with reduced dimensions that encouraged the disorderly behavior of its members: the “macro object” as individual habitability modules to carry out multiple activities: sleeping, storing, working. (Figure 3)

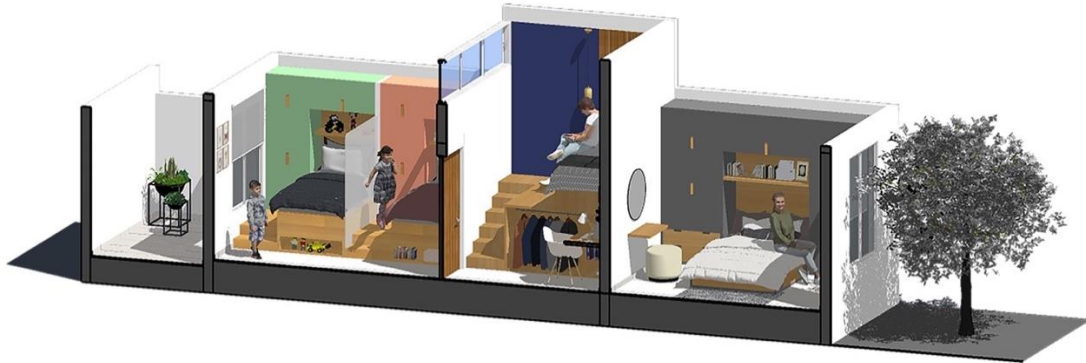


Figure 3. Intervention project in case study: zone 2. Source: own elaboration (2022)

The uni-activity represents the central axis of micro habitability that will be integrated at the level of the design of the equipment through the macro object. This as a proposed solution to the complex physical and constructive dimension of architectural pre-existence, a strategy that encourages the individual experience of space without the need to physically subdivide it, in addition to granting not only functional qualities but also the motivation of symbolic appropriation in addition to significantly care for environmental qualities. (Figure 4)

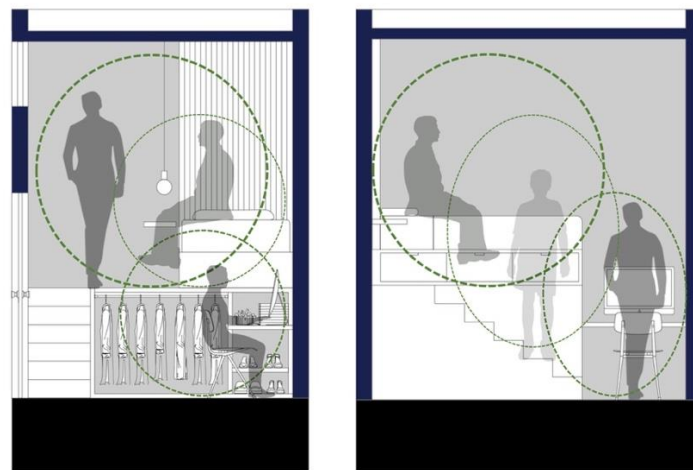


Figure 4. The detail of the small scale: the macro object as habitable space. Source: own elaboration (2022)

B) Housing as a flexible model

In this case, carried out in collaboration with the students Eduardo Díaz Velasco, Eli Olvera Silva, and Janeth Martínez, a flexible design proposal is presented on the interior scale through a housing space module that seeks to solve the problem of static densification since it can be proposed in any context, favoring the hierarchy of the intimate conditions of habitability over its aesthetic-architectural characteristics.

Through the consideration of new trends of the WGSN⁷ platform applied around the living space such as *Protect & Conect*¹¹ focused on products, spaces and/or objects that feed our sense of well-being and security; *The new Chinese living room*¹² where forced by the pandemic situation, consumers seek to prioritize rethinking and maximizing functionality and comfort in limited spaces, and *The dynamic home office*¹³ which raises the search to achieve the best work/living environment through dynamic, flexible and comfortable designs.

This is how this model aspires to be developed as a project with quality interior environment, inspired mainly by urban cabins, generating a design proposal that takes up the qualities of simplicity in spaces, reconfiguration and use of spaces creating an orderly home. investing in simplicity, but also in multifunctionality

through two concepts: modulation as the foundation of flexibility with spaces capable of adapting and transforming, using independent foldable modules in both structure and furniture; and secondly, the loft concept highlighting the creation of open-plan environments, few interior divisions, abundant lighting and efficient ventilation. (Figure 5)

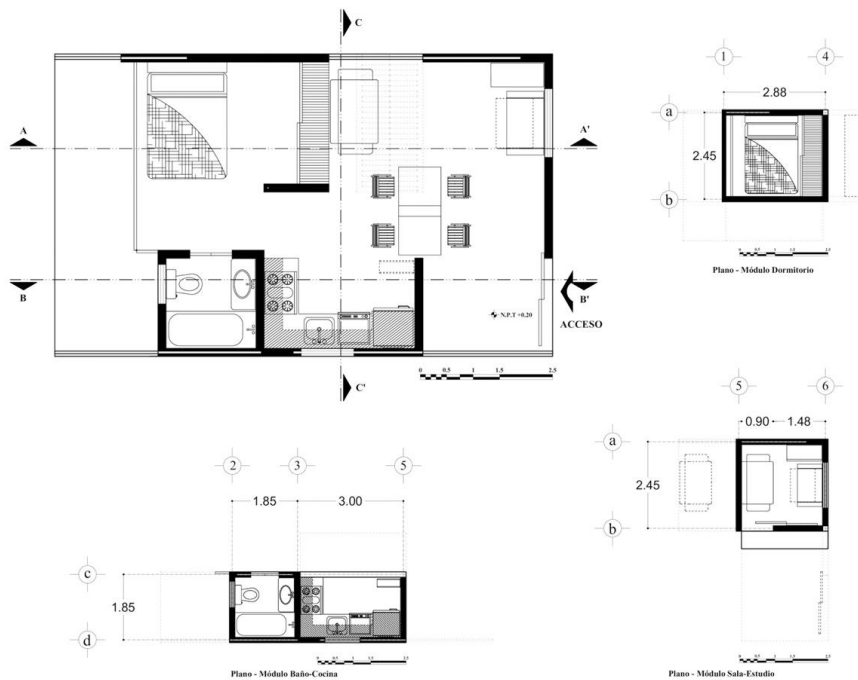


Image 5. Modular housing design (MODU-LOFT): Overall plan. Source: own elaboration (2022)

The proposal presents the sum of each module with a total area of 24.86 m², however, once assembled together and applying the extensions when unfolding each module, the project grows to 53.58 m²; It also raises the possibility of not being static, that is, it can be transported to provide a response to providing housing in areas or communities that require it. (Figures 6 and 7)



Figure 6. MODU-LOFT: Expansion of the bathroom, kitchen, bedroom and social area modules. Source: Own elaboration (2022)



Figure 7. MODU-LOFT: Digital images of interior views. Source: own elaboration (2022)

IV. Preliminary Discussion

The confinement to which humanity was subjected as a result of the COVID-19 pandemic has generated new ways of experiencing space, significantly transforming the needs of the population forced to carry many daily activities inside their homes, making adjustments of all kinds. (from conditioning and making the entire space more efficient to the improvisation of equipment and segmentation into schedules in its use), but above all to reflect on habitability in domestic interior architecture,

Through small-scale design, micro habitability or “smallness”, it is possible to generate a permanent change within the space, offering the possibility of doing many and varied activities in the same place, a sense of spatial flexibility hardly carried out, especially in social housing proposals. Think about an architectural future on a small scale, an interior space with everything necessary to live without having to leave home as a consequence of restructuring the meaning of daily life and therefore of the home itself as the first line of defense against a future complex health situation.

It is important to understand that the intimate vision of the solution (smallness) depends more on the particular attention (concentration) or narrow choice of focus on the habitability needs of the architectural space and not on a matter of dimensioning or structural proportionality. We must think about design where we can “protect ourselves”, that is, be within ourselves without leaving aside all our meanings beyond our functions. The future of interior space scale intervention is seen as a process of re-adaptation in the way we experience and connect with our reality, urgently adding sustainable methods and innovations never seen before.

V. Conclusion

The events that humanity has gone through have highlighted the importance of habitat and how it is too valuable not to be adaptable and more efficient. Being aware that environmental scenarios can change unexpectedly, we invite to reflect in promoting the desire to optimize spaces for the good of their inhabitants. Thinking about the home of a not-too-distant future will have to consider the premise of being more efficient and flexible than before, where interior spaces become scenarios primarily designed for a new human being “surviving” a pandemic situation, that is, design for man and not for the pathogen since this temporary habitable emergency situation resulting from the pandemic, perhaps preserves dynamics and everyday situations that are not so temporary.

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