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THE SOCIAL-ECOLOGICAL POTENTIAL OF ARCHITECTURE: Lessons from Conversations
with Women Architects
in Contemporary Latin America
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List of Acronyms

FST   Feminist Standpoint Theories

ISS   Institute of Social Studies

Abstract

This study focused on exploring social architecture in the global south, led by women architects, specifically from Latin America. The purpose of this study is analysing Architecture through social-environmental lenses. The main question is how the design process of architects in Latin America using participatory methodologies contributes to creating future imaginaries that engage with social justice and environmental concerns. The questions are addressed by analysing feminist theories such as Feminist Standpoint theories, Conflict Analysis and Anthropology of Sustainability. Ten Latin American women architects were asked to participate in online interviews for the fieldwork. The findings of the study are in all the steps of the process of Architecture: research, design and building. One of the main aspects found was situated knowledge (Haraway, 2004) methodologies, entangled with various Negotiation techniques employing a basic needs approach (Galtung, 1979). In the design phase, expanding the creative mindset by connecting thinking with action; the awareness of enjoying daily ordinary routines was mentioned as crucial (Haraway, 2004; Puig de la Bellacasa, 2017), and narrowing the design with a conscious limitation of resources. Finally, the redistribution and recognition of invisibilized tasks was vital in the building phase.

Relevance to Development Studies

Architects must address the anthropological side of architecture, besides the technical, the functional and the aesthetical. In the same way, social sciences researchers need a hand in transforming those ideas and theories into design tools that potentially can make policy-making, laws and city planning, all of them coping with the idea of how to engage living "on a damaged planet" joyfully (Haraway, 2017; Tsing 2017). The in-tangible universe of vital relationships could benefit from learning tools to transform it into visible through pragmatic projects.

The need to convert theories into projects is an aspiration that has been requested from a diversity of fields (Anna Tsing, 2015; Donna Haraway, 2016; Puig de la Bellacasa, 2017; Pradanos, 2018; Bayes, 2023; Ursula LeGuin, 2014 and more). For example, Donna Haraway explores thinking/making projects engaged with arts and sciences. In her research about the Matsutake Mushroom, Anna Tsing mentions the need to wake up our vision to see the diversity of world-making-projects besides the ones created only as a product of capitalism. There are also imaginaries in literature like Bayes (2023), who argues that "environmental humanities have also found that new ways of thinking about the city are needed in order to account for the many varied ways that sociocultural and environmental entanglements come into relation". Finally, Puig de la Bellacasa (2017) says very clearly how doing is caring, emphasizing the "ordinariness, the uneventful connotation of this process" of making, to acknowledge the relevance of this matter for the social sciences scholarship in the current situation. This research intends to add information to the body of literature on feminist social and environmental sciences in the topics that engage with post-development or post-growth imaginaries, alternative modes of production of architecture, urban imaginaries and collaborative thinking-making processes in architecture.

Keywords

Chapter 1 : INTRODUCTION

1.1   Nature of the Problem

Geologists have begun to call this epoch the Anthropocene, meaning human disturbance is the main aggravating circumstance for ecological imbalances in our planet (Tsing, 2015). Architecture is not exempt from this discussion; it contributes, directly and indirectly, in large percentage to climate change in several instances such as resource extraction, emissions and energy use, caused by construction and urban spread (Nelson, 2019; OurWorldingData.org, 2020).

Figure 1: Technological innovation in south and north countries

ING Building, Netherlands, 2002   UNASUR, Ecuador, 2014
Source: Archdaily, 2023

In the case of buildings and cities, although many of the direct consequences are due to public policies and political lobbying; the figure of the architect is no less important. City's aesthetic influence people's imaginaries of progress. Society's aesthetic is very much guided by the canons of beauty and progress architects and designers create. Nevertheless, architecture's beauty canons, besides being predominantly hegemonic and patriarchal (Muxí, 2020), are also in contradiction to several environmental and social justice demands in contemporary society, south and north (Nelson, 2019).

In relation to how Architecture is learned, most architecture schools incorporate concepts of sustainability into their teaching criteria; encouraging students to direct their creative efforts towards an imaginary where technology solves environmental issues. Its main focus is to develop high tech materials and building techniques allowing people to keep dreaming with the standards of contemporary development; without questioning in deep the social status quo of architecture.

If architecture does not problematize the social impacts of its technological innovation, its primary purpose and usefulness are questionable. Means that it is not sensitive to matters such as the unequal international trading of the materials used, the potential increase of job insecurity in the construction sector, or their influence on the rise of the housing crisis, among others (Nelson, 2019). A high-tech architecture future without challenging its social impact is disappointing and does not attack the root of the problem.

Innovation in Architecture without embracing its social impact is problematic for the global south and north. Although they might have specific entanglements, they share the

same imaginary of future Architecture. The images shown in Figures 1 and 2 evidence how buildings in The Netherlands, Ecuador and Dubai share this similar vision of future Architecture, regardless of their specific social or environmental context.

Figure 2: Future Innovation in Architecture, Dubai's 93 km sustainable cyclist highway plan

Source: Dezeen, 2023

On the other hand, from the field of the social sciences, a social theory named Degrowth is questioning the reasons for continuing the building and expansion of the cities. Primarily directed to global north countries, Degrowth calls for downscaling the economy in industries that only focus on producing accumulation, meaning using fewer resources. Meanwhile, with the aim of improving human well-being, resource-use should be moved to maintaining and improving social outcomes like expanding universal public services such as healthcare, education, housing security, and public transit, among others. (Hickel, 2022). Architecture has mainly focused on theorizing about housing rights, land speculation and private ownership (Nelson, 2020).

Interestingly, researchers from the global north are theorizing about Degrowth while some architects from the global south are doing degrowth projects, both questioning the validation of expensive resource-waste infrastructure. Some of these architects are labelled under the 'social architecture' tag, and to explain their design mindset, they use expressions such as *Doing more with less*, *working with the limitations* or *Working with the resources we have at Hand*. Both researchers and 'social architects' say that well-being is not directly related to growth, narratives of development, or excessive use of resources. Potentially, human well-being can be reached without causing such destruction to the environment by redirecting where we spend our resources to stop wasting vital reserves. It sounds logical that, as a society, we are rethinking our priorities, considering well-being, not necessarily a synonym for building infrastructure, cities or growing the economy.

Well-being narratives are about the in-material and intangible universe. They speak primarily about life and relationships that productive dominant imaginaries have underestimated. In the social sciences field, feminist theories and methodologies have analysed these matters. I mention some of them that will guide this RP: Haraway, 2004, 2017; Harding, 2004; Hilary Rose, 2004; Fraser 1998; Puig de la Bellacasa, 2017; Tsing, 2015; Ramazanoğlu, 2002.

As architects, it is challenging to draw with precision an imaginary of future urbanscapes based on well-being as a priority. How do we sketch future cities where materials or shapes do not matter? If the materials are not the main discussion, how do we draw urbanscapes of the intangible and immaterial? This RP will try to unpack creative strategies through conversations with women architects from the global south to find some clues.

1.2 Background of the proposed Study

A portion of architects is immersed in what some scholarships called 'social architecture' or 'public interest design architecture' where notions of resource consciousness, environmental care, collective work or social justice are implemented. Many of these architectures are produced on sites where scarcity of resources (and money) provokes a different approach to the dominant architectural narratives. Generally, these projects are localized in the global south or social-economic struggling areas in the Global North.

In Latin America, the leadership of women architects in this field is notable compared to mainstream architecture. Nevertheless, women's presence is rarely reflected when publishing and communicating the development of architecture as a study and profession. As architect Zaida Muxí (2020, p.33) explains, "giving visibility to professional women is a double-prolonged approach: the first, the necessary recognition of women's historical contributions, and the second, to acknowledge that same gender roles that exclude us as professionals make it impossible to recognize women's experience".

My area of expertise as an architect is in Latin America. Even though I have worked mainly in Ecuador, during these years, I have closely followed the work of other women colleagues, some of whom I collaborate with. We have often discussed design processes and the anthropological perspective of architecture (gender, class, politics, environment, etc.) mixed with technology and innovation as if they were woven together. Most of them have created strategies to put into practice this *social impact* in architecture using participatory methodologies. Knowing these women allows me in this research to analyse deeper specificities of their design, architecture and creative process of participatory design when asking the question. In the following images, we can see a participatory model of renovation of a public sustainable school in Chile, done in co-creation with the community. The last image shows one of the buildings finished, also built with the hands of the community.

Figure 3: Personal experience, Sustainable School Participatory Design Process, Chile

Source: Al Borde archive, 2019

Figure 4: Built with community, The Public Sustainable School, Chile

Source: Al Borde archive, 2019

1.3 Research Objectives and Question

Main question:

How do the design processes of Latin American women architects using participatory methodologies contribute to creating imaginaries that challenge traditional conceptions of future Architecture imaginary?

Sub questions:

1. What creative processes do Latin American women architects use to reflect socially just sustainable habitats?

2. How do Latin American women architects employ participatory methodologies to create new imaginaries that inform their architecture?

3. How do these architectural processes challenge dominant hegemonic, patriarchal, heteronormative models of architecture?

4. How are concerns of social architecture and feminist social justice relevant for issues of sustainability in development studies?

Chapter 2 : Positionality and Methods

2.1 Positionality

After finishing my bachelor's in Architecture, I waited for just over ten years to come back again to the University. I spent those years 'in the field' trying to practice what I believe architecture should pursue. I needed to explore and build an opinion from practice. This road was not done alone; during these years I have participated in different phases of the design-build process. During this time, I have developed different techniques for involving conventional people in the construction process and collaborative methodologies for designing Architecture.

Even though I feel confident in the experience -as an architect in the social field- I am aware of my lack of knowledge of the vast universe of theories and discussions in social sciences. I try to expand my knowledge to save this gap as much as possible.

Engaging with Feminist perspectives and approaches opened the opportunity to consider my voice as valid in science; it also challenged me most deeply, acknowledging that it took me a while to identify the voices and labour of women in my work.

Global Political Ecology brought back my deep love for nature since I was a little girl. I lost hope in the last years because I saw the same patriarchal structures being reproduced in alternative spaces over and over again, and it was exhausting. Reading all these fantastic women writing on alternative ways of thinking and doing was revitalizing.

My positionality is also a motivation for choosing the topic of this RP. I want women's voices in contemporary architecture in Latin America to be heard. I want their worlds to be seen and known by other people. I had the fortune to meet most of them during my years of work, and with some of them, we talked about similar things many times. I feel so lucky to have met them and want to share a small piece of their fantastic work in this paper.

They shared with me vulnerable information, such as standing for care in violent construction spaces, talking about fear, economic struggles or being a woman in a patriarchal profession. I also shared with them my vulnerability; I have never felt comfortable when just one side shares.

My positionality about feminisms have gained strength. In my future, I will incorporate feminist lenses in all my battles. Besides that, I have a deep love for nature and architecture. Injustices touch me; Architecture is my tool to try to solve them. I will try to be literal and analytical, applying a reflexive approach for the sake of this research.

2.2 General Description of the Methodology

This research is focused on the participatory process of design-build social architecture projects in Latin America. The interest in analyzing and theorizing its methodologies is because it is a reflexive and transformative process for the communities that will use the project once built. Since the women architects interviewed have a strong posture of design from the action more than from the theory, the analysis of the processes will use theories that challenge the dominant visions of sciences and epistemologies and consider the personal experience a subject of knowledge; theories such as diversity of feminist theories (Haraway, Harding, Fraser, Puig de la Bellacasa, Hilary Rose, Tsing). These theories will be explained in detail in the next chapter.

To know in depth these particular design processes, the most appropriate for field work was to interview the women architects leading the participatory design-build process in Latin America. Since they are located in different countries, the research used on-line interviews. Feminist theories consider the subjects' experiences and make analyses that value their particularity and situated knowledge; therefore, it makes most sense that a qualitative methodology approach with semi structured interviews (from 27 July to September 2nd, 2023) was used.

The interviews were held in Spanish and on online with the architects from: Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, and Peru. I selected the interviewees based on diversity of scale, type and nationality. While all of them are architects, some developed a stronger connection with institutions, others focused on their independent practice, or urbanism, art, crafts, teaching, construction or mixed their practice with social activism, which allowed the opportunity to particularise the interview content.

To avoid expressing opinions or information that the interviewees do not agree with, they were asked to give their consent after the on-line interview. There were no comments on the consent document, when they felt something was sensitive, they shared during the interview.

The interviews lasted an average of 1 hour and a half. I asked four main questions to all of them. I had sub questions in case those topics didn't lead to conversation. I improvised other questions depending on the interviewee to get a deeper understanding of specific information. If after making the same questions in different ways, the interviewee didn't answer, I would leave aside the question. The questions asked are found on the Appendix.

2.3 Sampling

I chose to interview 10 architects. My main worry was to find substantial information about the processes of design, therefore I interviewed 10 women, to make sure at least I have an average of 7 processes. All the women shared with me their processes of design very generously.

I selected the interviewees based on my previous knowledge of their work, looking for diversity of countries from Latin America, years of practice, relation with institutions, and scale of the projects. What I didn't expect, besides the two Europeans, was the fluidity of some of them for moving around countries. I realized that the variable of migration was one important thing. Many of the inspiration and learning of these architects have been by visiting projects and talking to colleagues in other countries of Latin America, sharing similar social and environmental concerns. As an example, Ana V told me that when they began with the idea of involving students in the construction to do projects with communities, the professors of the University of Rosario, through a scholarship, organized visits to Chile to learn about similar experiences in that country. The scholarship was usually used to travel to Europe. However, they changed that for several trips to Chile; the local reality of this country was similar to that of Rosario, Argentina. The other interviewees shared similar experiences.

Figure 5: Migration paths of architects interviewed

The youngest is less than 30 years old and most senior is in her 70s. This allowed me to consider processes through time. All of them are (or were) university teachers, meaning they share with the students their particular process of design. Many of them have been involved in design-build studio when teaching or have proposed transformative methodologies of teaching to architecture students.

Source: author's own, October, 2023

One last characteristic all of them shared was referring to We rather than I when answering questions, emphasizing collaborative labour in all aspects: thinking, designing, negotiating, building and teaching. Finally, for this research, I find it relevant that we know the names and gender of these women architects and their processes of design. I decided to tell this story as She, with their names, recognizing the collaborative work they mentioned with their partners.

2.4 Limitations and Ethical Challenges

It is probably a virtue to come from another profession and try to engage with the social sciences. My architectural lenses are always questioning the pragmatic side of the theories. The How question is always present. How we make projects, buildings, cities with the theories learned? Being an architect has also helped me identify theories as tools, i.e., for using.

When I started this process, I felt the need to understand the link between social architecture and the current field of social-environmental sciences. To choose a direction to work I had first to speak with a several people. I had conversations with researchers and teachers from ISS and outside. Literature review from fields such as social architecture, participatory process in social architecture, Latin American participatory process in architecture as well as finding out research related with architecture-and-gender and architecture and design-build methodology. Finally, I interviewed on-line two female architects-researchers involved in social architecture, academia, urban planning and gender analysis, with a focus on Western architecture, that includes Latin America. One of them is the Argentinian-Spanish architect Zaida Muxí Martinez, author of the book Women, Houses and Cities: Beyond the Threshold, specialized in housing, urban planning, gender and participatory methodologies in research; the other is a German architect Hannah Klug, she lived and worked in Peru for many years in collaboration with one of the interviewees. She has experience in participatory

design projects as well as teaching. She is currently developing her PhD analyzing Design-Build[1] methodologies in social-architecture projects.

Another limitation I found is the language. Besides the fact that English is not the mother language of any of the interviewees, nor mine; all the interviews were in Spanish, even if for some of the architects their first language is not Spanish. This potentially could lead to a misinterpretation of some of the words; I double checked words or names after the interviews. In the RP, if there is any word that is not properly found in translation, I have quoted it in its language and give a short description as a footnote in English.

In addition, one more limitation is how to communicate architecture to non-architects. It is a constant exercise I have to acknowledge each time I write a paragraph or explain an idea. It makes me reflect on similar struggles when combining fields of research, and how urgent it is to engage in it for interdisciplinary collaborations.

Finally, one last limitation I found was the lack of diversity in my interviewees. Most of them are mestizo and white women. Probably this is evidence of how elitist architecture careers are and how difficult it is for an indigenous or black woman to access these positions in Latin America. Having said that, I appreciate the constant awareness of these women from their privileged position and the strong collaborative incentive they have built into their projects.

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[1] In the academic context, this concept is used to explain a methodology of designing and building together with students. Generally, this method involves the community, students, teachers and other stakeholders.

Chapter 3 Meeting of the Two Worlds

3.1 Introduction to the Theoretical Framework

The philosophical perspective of this research is framed with theories and concepts that call for change in matters of social and environmental justice, inviting readers to exercise action, i.e., to make change. The theories and concepts resonate in spirit and meaning with the work of the women architects interviewed. Even though scholars and the architects I interviewed started their path in different contexts, they have arrived at similar conclusions on matters such as Feminist Standpoint Theory (Harding, 2004), Situated Knowledge (Donna Haraway, 2004), Strong Subjectivity (Harding, 2004), Care as Doing (Puig de la Bellacasa, 2017), Redistribution-Recognition (Fraser, 1998), Degrowth (Nelson, 2019; Kallis, 2010; Hickel, 2021) and several concepts from Anthropology of Sustainability (Anna Tsing, 2017).

The confluence of these two worlds between social theories and social architecture methodologies benefit each other. In the case of social theory, it helps to explain intangible processes that from the practice of architecture can be seen as irrelevant. In the case of architecture, its quality of transforming abstract concepts into design and then buildings, could be used as a tool to transform well-being concepts and social theories into pragmatic built realities.

3.2 Anthropology of Sustainability

I want to open the possibility of expanding our understanding of architecture's *modes of production*, beyond the study of material flows, technical innovation or aesthetics. Anthropology of Sustainability is a discipline that can help link the social and environmental, by analyzing human interaction not as separate from nature, but as an active and engaging ecological component. In many cases, these field already uses architecture metaphors for explaining itself:

> "World-making projects emerge from practical activities of making lives; in this process these projects alter our planet (...), we must reorient our attention, (...) they show us how to look around rather than ahead." (Tsing, 2015, p.22)

This framework will help rethinking 'the making', redefining nature and human dynamics, integrating both built environments and humans' communities (Bayes, 2023). Participatory processes of design that are built by re-negotiating humans and living environments, finding its own way while existing parallel to conventional models of development in Latin America.

Tsing's description of forests interactions reminds me how cities and buildings should work in order to be part of nature's ecosystem. How they should be designed to flow naturally instead as separate. This allegory comes as inspiration from other scholarships such as Arch Ana Maria Duran (2019) who is studying how ancient civilizations in the Amazon forests left no footprint, performing a sustainable behaviour similar to forests, architecture left no trace of big civilizations. Similar research is shown in this year's Architecture Biennale di Venezia (2023) under the name of *Nebelivka Hypothesis*. The team Forensic Architecture argue they have found similar evidence in Ukraine's agricultural fields of 6000-year-old settlements similar in scale to early cities of Mesopotamia, without trace of palaces, temples or ruling classes. Once more, we are talking about in-material worlds.

For explaining the intangible relationships between architecture, sustainability and social matters I will focus in four concepts.

In ecology "*disturbance* is a change in environmental conditions that causes a pronounced change in an ecosystem" (Tsing, 2015) meaning it can "renew ecologies as well as destroy them." (Tsing, 2015). Therefore, disturbance does not always have a negative output. Disturbances happen in natural environments, they bring heterogeneity to the systems and might initiate a story of life in the forest (Tsing, 2015). This means that human agency is not necessarily negative for nature, it depends. As will see in participatory architecture processes.

Another idea present in Tsing's (2015) forest narratives is the variety of strategies trees and other elements have to organize and coordinate its functions without losing diversity, promoting **heterogeneity** while performing in different rhythms and scales. She summarizes this behaviour calling it unintentional design (Tsing, 2015). Probably one the most complex to achieve as humans. For example, urban policies tend to homogenize, construction materials tend to standardize avoiding complexity, mainstream design the same. Controlling tasks also can lead to a certain type of organization that loses diversity. How admirable nature is by managing to create a sort of mix between organized-spontaneous systems. I bring this concept because I perceived those architects interviewed in this research were looking for making space to heterogeneity in every step of the process of design, reason why they keep modifying their methodologies constantly.

Another concept helpful in this research is **scalability**. Tsing (2015) argues that scalability is one of the main ideas that has shaped capitalism. "It is the ability to expand without changing their framing assumptions" (Tsing, 2015); for that scaling up, meaningful diversity is banished.

Finally, one last concept is **mutualistic collaboration**, meaning elements of the forest have interconnections that carry information across the forest (Tsing, 2015). The information transferred allow mutual vital linkages interspecies. Of course, there are divergent ecologies, "every instance of collaboration makes room for someone and leaves out others" (Tsing, 2015). This concept is important to the discussion because while making room for diversity, these architects also promote the expansion of mutualistic interconnections.

The framework wouldn't be complete if we do not add the social component. Zooming into the process of research, design and build participatory methodologies in architecture, the following theories will help explain in-material interactions in social matters.

3.3 Feminist Standpoint Theory

The vision of the women architects I spoke and learned from, questioned the utility of Architecture as the dominant imaginary which "has constricted our aesthetic-political possibilities, confining us in an epistemological trap where we reduce our creativity to the iterative task of arranging different ways of growing the economy." (Pradanos, 2018). Therefore, standpoint projects are characterized by being outside the realm of the true from the perspective of those dominant disciplines and institutions (Harding, 2004), which is why FST will help analyze the information in this research.

Feminist Standpoint Theory is about critically analysis of "relations between the production of knowledge and practices of power" (Harding, 2004), being useful for acknowledging narratives of oppressed groups by gaining a public voice (Harding, 2004), recognizing them as scientific sources of knowledge (Haraway, 2004). Characteristics that the interviewed architects mention as main points in their architecture process.

The diversity of perspectives FST presents on science, technology (Haraway, 2004), ecology (Mies and Shiva, 2004) and epistemology (Hilary Rose, 2004) will help analyse in different angles the complexity of Architecture's creative process.

This research will use ***Situated Knowledge*** (Haraway, 2004) concept, which argues that there is no such a thing as universal objective knowledge; it always depends on the gaze of the observer, its positionality and context. Science has not been neutral, by looking for universal, it has never care for the insider's perspective, seeking power rather than the truth (Haraway, 2004). As an answer for this dilemma, Haraway (2004) proposes to situate the knowledge, arguing that "only partial perspectives promise objective vision" (Haraway, 2004). Architecture made by these architects' evidence that they shared a situated knowledge approach. They will create methodologies for discussing specific perspectives and stories from particular communities; adapting their methods to the number of people and their requirements. They are aware that this is the information they need, with the point of view of the community. They don't go to the books; they go to ask the people.

Strong Objectivity (Harding, 2004) is another concept this RP will work with. It argues that "socially situated grounds and subjects generate stronger standards for objectivity" in science (Harding, 2004). By contemplating partial perspectives with limited location as scientific knowledge, the scientific field will be built by heterogeneity of knowledges, the opposite of neutrality, transforming it into a "systematically available scientific resource" (Harding, 2004). This situated knowledge generated by reflexive participatory sessions of design is a tool communities can use after architecture sessions are done. Ecosystems that provoke heterogeneity is also a characteristic Tsing mentions in her research as a main strategy of mutualistic interconnections in the forest; similar performance we will find in the process of design of the architects interviewed.

Situated Knowledge perspective will help see "from those points of view, which can never be known in advance, which promise something extraordinary, that is, knowledge potent for constructing worlds less organized by axes of domination" (Haraway, 2004, p.89). Helping understand the work of these architects has been done in the margins of the conventional development model, building around the universe of the in-material.

Another concept used here, developed by Hilary Rose (2004) is connecting ***Hand, Brain and Heart***, a feminist epistemology for Natural Sciences. She explains how science and technology not only have been under capitalist domination but also patriarchal domination. Science has been indifferent to the sexual division of labor, arguing neutrality, by paying attention only to the system of production, excluding the reproduction, therefore caring labor mainly attached to women's experience (Hilary Rose, 2004). She argues that women experience is the way for making science serve. Including women's experience, social and biological, is no longer separate for scientific construction of knowledge. It will make possible to make science a helpful tool for women, showing how "feminist knowledge of the natural world offers an emancipatory rather than an exterminatory science" (Hilary Rose, 2004).

Hilary Rose (2004) also reflects on how separation of intellectual and manual labour on industrialization processes has "alienated knowledge in the production of things", something that Architecture is not exempt from. A fact that could change if women's experience influences the terms of this scientific knowledge. She continues by arguing that caring labour is not only about physical work, it is also emotionally demanding labour, involving dealing with feelings, intimacy and the building of relationships (Hilary Rose, 2004), meaning the labour of love.

Consequently, "without **justice** there can be no love" (bell hook, 2018). For truly satisfactory intellectual, productive and caring relationships, we need to ban power and violent agreements. We need reparation and recognition in many layers of the mental and manual modes of production as well as epistemologies of science and technology. The link between justice and love is important for this research because it makes emphasis on love as an action. They nature of the bond is expresses physically by exercising a reparatory action in the process of thinking and building architecture by redistributing tasks and recognizing

knowledges that have been invalidated. Arguments that lead to the following concepts of justice (Fraser, 1998) and care (Puig de la Bellacasa, 2017) that will also help unpack findings in this research.

3.4 Social Justice and Care

For Nancy Fraser, social justice requires both emancipatory processes of social equality and the recognition of difference. The principal task of this framework is to engage in the relations between gender, class and status (Fraser, 1998) which is one of the main re-orientations of the design-build processes from the architecture examples in this research. One of the reasons the architects state that the process is the most important thing is because is where the changes happen, changes that can be theorize by ***redistribution and recognition*** narratives. Particularly when Fraser mentions parity of participation in distribution of material resources as well as "equal respect for all participants ensuring equal opportunity for achieving social esteem" (Fraser, 1998) seems like she would be describing the intentions from these architects for making design a participatory process.

As mention before in FST, care labor is not only invisible as unpaid work, but also by underestimating its transformative potential and contribution to scientific knowledge. By considering women experiences (Hilary Rose, 2004) as sources of scientific knowledge, due to the sexual division of labor, care work is in center of the conversation for rethinking science with a feminist perspective. Reflections about ***Care as disruptive doing***, as well as opening possible reconfigurations engaged in contemporary problematics (Puig de la Bellacasa, 2017) can help argument the reasons why these architects remade the design processes to be participatory, increasing complexity; apparently seeing them as inefficient or useless at the eyes of capitalist system. It could be Care the one that activates this reciprocal thinking (Puig de la Bellacasa, 2004), that engages curiosity (Haraway, 2004) in order to find paths for designing and making actions of redistribution and recognition, therefore justice. Perhaps is this care the one that makes a human disturbance an action that renews (Tsing, 2015) ecology instead of destroys it. Nevertheless, it is not a smooth task, we must ask "how do we build caring relationships while recognizing divergent positions?" (Puig de la Bellacasa, 2017, p.83) For building new imaginaries without oppressive structures, conflict and negotiations will arise as primarily topic, that has been the experience of the architect I learned from.

3.5 Conflict Analysis Theory

The moment these architects stop being the only ones that designs, they break hierarchical structures and share leadership and responsibilities; they turn into facilitators of the process of design. They become mediators of a complex collaborative participatory process where many 'ordinary' conflicts will pop up.

Conflict analyst Johan Galtung (1979) argues, in relation to Development Studies, that the negative portion of -what he calls the 'dominant approach'- fails to ***make development human***, meaning that the idea of progress as we mainly refer to, is disconnected with the most basic human needs. He continues by saying that development fails because it has only focused on studying how social structures produces (and modifies) nature and culture (Galtung, 1979), but it has no connection with matters of human self-realization or liberation.

He argues that basic human needs are ***subject-needs***, different from 'national needs' that we tend to associate with the vague definition of 'mainstream progress'. If we are not aware of the specific -he continues- we might fall into listening the types "of collective needs

that usually express wishes and wants, the desires and demands of the ruling elites" (Galtung, 1979). He mentions the lack of attention of the non-material sphere of necessities such as love, empathy, mental-spiritual health; associating social disintegration with lack of participation in a society, apathy and over activity. In a way he is talking about theorizing conflict with a feminist perspective, using situated knowledges (Haraway, 2004) that will generate strong objectivity (Harding, 2004) in relation to subject-needs that general conflict theory cannot address. Bell hooks mentions how much of the lying people do every day is caused because they want to avoid conflict (bell hook, 2018).

Doing care labour, involving relationships, emotions and practicing redistribution and recognition frameworks is difficult. As the work of these architects shows us, it involves much negotiation in a daily workday; most people try to avoid conflict. Therefore, they keep in oppression structures that are not satisfying (bell hooks, 2018) or leave but do not engage in the conflict. To find ways of *Doing with a Staying with the trouble* perspective (Haraway, 2016), instead of running away, it seems necessary to learn negotiation skills to transition to an 'ordinary living' (Haraway, 2016).

3.6 The process of Architecture: Relevant Concepts

Initially, an architect has the capacity to turn any idea into reality. The purpose of this research is to analyze How these specific projects are designed and built. Projects whose processes focused on involving epistemic, racial and class justice while reflecting on resources. Its aesthetic outcome is different. With the aim of contextualizing this research, a few concepts and definitions must be explained.

Architecture is visual, but it is also action, material, space. It involves creating something and then building it. It has the tools for transforming abstract thinking and theories into a tangible project. As Latour (2011) explains "Architecture is building, taking building literally. Social theory is just metaphors about the idea of building. It's very interesting to discuss real buildings with architects. You realize how weak the metaphors are relative to actual building."

Generally, Architecture has two main processes for making a project: design (creative process) and building (making architecture). In the diagram below, three main components are shown. The fact that the women architects interviewed made an exhaustive research process make the possibility of including *Research* as a single category, previously the design phase.

Figure 7: Basic Step of the Architecture Process

Source: author's own, October, 2023

3.6.1 A Creative Process

In mainstream Architecture, generally, is purely analytical (Latour, 2011). It presupposes reflexive observation (Kuyuwama, 2019). The design phase is most value, therefore publications, prizes and recognitions focus on the design, without paying too much attention to construction. The intellect is valued over the manual labor (Hilary Rose, 2004). Most of the time architects taking part in designs are not the same people involved in building. Another characteristic is that the architect can make a design that is built anywhere in the world, using

local resources or technologies is not a demand. In this research, architects involved will consciously reflect on local materials and techniques.

3.6.2 Making Architecture

In Architecture -most of the cases- will be argued as non-reflective, but practical action (Latour, 2011). "Making requires hands-on action. It has physical movement as well as a physical result. There is thinking and planning involved in the making, but only insofar as it is necessary to build." (Kuyawama, 2019) On the contrary, in this research, many of these architecture making processes, involve an analytical and reflexive mindset while they are making architecture. Their analytical and reflexive thoughts are related with social and environmental narratives, conditions generally architecture has underestimated and neglected in both, designing and making of architecture. We will see in this research how combining designing and making, while having a reflexive and transformative approach, help visualize the in-material relationships. These projects have break "the binary thinking that characterizes western attributions of superiority and inferiority" (Ramazanoğlu and Holland, 2002), by proposing a complex methodology than not only reflects on the making of Architecture, but also opens the design to the collective, designing with more people.

3.6.3 Participatory Process of Design

Means involving people in the designing and making of architecture. As Luke (2018) explains "Architects practicing today engage people in design processes in different ways and at different scales of future-making." Depending on the project, the level of people's involvement, stakeholders or other institutions modify the phases of design and construction. It can fluctuate from listening to the needs of the people to invite them to the reflexive and analytical stage of creating.

Consequently, the women architects of these research open the design phase by inviting diversity of communities to participate. Splitting the intellectual part with many people from different knowledge background, not necessarily academic (Hesse-Biber and Leavy, 2007) is a challenge in these processes. A risk they are willing to take.

In the case of the participatory design processes, people that is going to use the project is also part of the creative phase. The design methodology is created to take into account practical experience from users and, depending on the case, builders as well.

3.7 Chapter Conclusion

In the examples chosen for this research, creating and making processes of architecture will be considered -both- reflexive and analytical. After framing both theoretical context from the social and environmental sciences with specific architecture concepts from the process of design, the next chapter will describe the conversations with the women architects interviewed.

# Chapter 4 The Conversations: Knowing the Design Processes

The most interesting conversations with the women architects' participants turned around the questions of *why they do social architecture and how will they do it*; followed by the description the process of design of a specific project they chose. *How is the process of making a project with participatory methodologies/alternative materials/local technologies?* In fact, it was the question they took the longest to answer, occupying -in some cases- more than half of the interview's time. For some of the interviewees it was easier to answer when they mix the why and how questions together, since their personal motivations where the reasons to make the projects. While describing their specific process and project(s), they were also describing relations that connect their practice with their beliefs (positionality), context, political situation and people's needs. Each of the design decisions have a reason based on solving a social concern, looking for narrowing down, they will identify particular characteristics related with a specific location, resulting on finding 'the practical' solution. They will do a sort of anthropology of architecture. They got passionate and effusive when telling how they managed to make those projects and the social transformations as a result of them.

To deepen the analysis, this research has grouped the conversations in four categories according to the relevance the interviewees gave to certain steps of the process: Art of Noticing, Reorganizing Power, Reconceptualizing Architecture Teaching Methods and Creative Negotiations with Institutions. Each category has a specific diagram that shows the particular emphasis the architects put on each of the categories.

4.1 Art of Noticing

I borrow this expression "Arts of Noticing" from Anna Tsing (2015) for explaining the main characteristic that stands out from the process of design from these architects. Architecture is not exempt from following the same patterns and techniques of alienation, produced by the rise of capitalism and the idea of progress (Tsing, 2015). The creative process of architects generally is influenced by Progress ideals, reason why we use words like materials or resources, we validate a process by its efficiency, low maintenance or cost. Things, concepts, ideas that are out of this mindset, most of the time we don't see them as possibilities.

Figure 8: Art of Noticing diagram
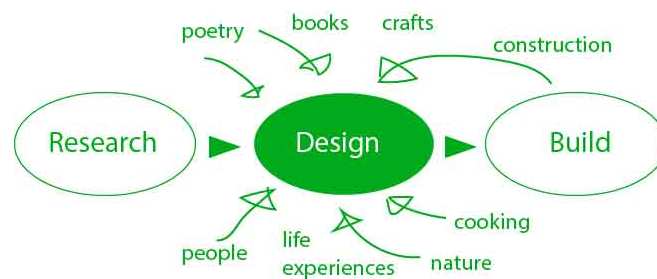
Source: author's own, October, 2023

Nevertheless, these architects seem to be able to see beyond this framework, as if they were able to escape from progress dominant imaginaries. For designing, these architects take into consideration parameters that would generally be considered impractical, perhaps

useless or naive, and yet they build comfortable, sustainable and poetic worlds. With them I talked about the limits of imagination, craziness and questioned concepts such as why we are obsessed with being the inventors of something, or at what point we start thinking that the earth was dirty? For both architects everything is a potential source for amplifying the imagination. They search with the purpose of designing something. I resume the main points in the following conversations.

Marie Combette defines herself as architect, builder and artisan. Originally from France, she graduated from the *Ecole National Supérieure d'Architecture* de Grenoble; moved to Latin America nine years ago; now based in Ecuador. She co-founded with her partner La Cabina de la Curiosidad (Curiosity Cabin). A space for experiment, play and reflect around materials, resources, local techniques, with the aim of enriching the box of tools for the creative processes. She has taught architectural design at PUCE University in Ecuador and as invited professor in workshops in Peru, Colombia, Mexico and Argentina. She has published and collaborate in several books and exhibitions.

In relation with her philosophy, much of her reflections comes from the practice of architecture. She is familiar with many craft techniques such as weaving, knitting, jewelry, ceramics, and painting; which she incorporates in her creative processes of making architecture. Part of her philosophy is exploring common points between architecture and craftsmanship. For example, she argues that the main difference is scale; architecture contains people, while crafts are mainly objects that we manipulate with our hands. Both worlds are made by hands, but most of the time we do not acknowledge that. It is the hands of the builders, mostly men, who construct the buildings that surround us. She defines herself not as a craft expert, but she knows enough to solve her day-to-day problems, or as she says, to increase her quality of life. She reminds me of Haraway's (2016) "Stay with the trouble" expression, when describing what means **increasing her quality of life**. She says that we humans all have responsibilities in our daily life, what is better than to address those responsibilities with joy and make it a pleasant journey? Following the conversation, it is also curious to me that, even though she seems not a fan of capitalism, she uses some of its concepts for explaining her design process. Words like efficiency in the process of making, or industrialization and time saving. I perceive that she is trying to find a balance between craft and industry. She is excited about the idea that everybody should enjoying the process of thinking and making. I wonder if this could be an imaginary of the future.

She is strongly interested in connecting the building process with the design stage, she argues that acknowledging building changes the way you design. Also, it is important for her that production is made with hands, it produces adrenaline and joy. People can learn during the process and that learning-while-doing can modify the final object. Even though the industrial process is efficient, if there are hands involved every object is different, it has a portion of uniqueness. Tsing (2015) explains that "Scalability banishes meaningful diversity, that is, diversity that might change things." In architecture modes of production, Tsing's expression of might change things is exactly what Marie is provoking by describing the capacity of learning while making, improving it, enriching the universe of nature-cultures (Haraway, 2016). By been able of modifying while doing, she is also **Reproducing diversity** in the ecosystem (Tsing, 2015). The opposite of standard modes of production in Architecture, where everything is previously planned, and the process of making does not allow any change while doing. Marie says that taking responsibility for what you build, having the consciousness of how hard it is, provokes a feeling of pride when you are capable of building your own. To explain this, she told me how she designed a curtain for her room. She couldn't sleep well because of the sunlight, she picked the materials she found at hand, an old bike

wheel, some screws, cables and a piece of fabric. The project was named *Mi cuarto, mi templo*[2]. She reminds me the words of Tsing (2015) when she explains that "neither tales of progress nor of ruin tell us how to think about collaborative survival", meaning this survival "might open our imagination." Marie doesn't mind **transgressing** architecture rules. She is in a journey of opening its creative universe with stimuli that comes from observing and enjoying the 'ordinariness' of daily life proposing ways to "stay with the trouble in order to nurture well-being on a damaged planet" Haraway (2016). Another project she mentioned is Roof-viewpoint that we can see in the image below. A small renovation in a private house in Quito with recycled materials. It was only six stairs we put up, but the client said: you gave me the possibility to watch the universe.

Figure 9: La Cabina de la Curiosidad Project, Roof Viewpoint

Source: Andres Villota photograph, 2019

Gloria Cabral is an architect and builder manager based in Paraguay and Brazil. She studied at University of Asunción in Paraguay, after that she partnered with the studio *Gabinete de Arquitectura* (Architecture Studio) from 2004 to 2020. Her work has been internationally recognized, winning the Golden Lion at the Venice Architecture Biennale in 2016 for Best Participation in International Exhibition. In 2014 she was chosen for the Rolex Mentor and Protegé Arts Initiative, with Pritzker winner Peter Zumthor as her mentor. In 2018 she received the Moira Gemmill Prize for Emerging Architecture. She has been an invited lecturer and professor in many countries. Currently working independently, we talked about her latest work at the Architecture Venice Biennale of this year.

Her work is mainly concentrated in exploring the immense possibilities of brick building with low-cost technologies. Brick is one of the cheapest and most common material in Paraguay. Along with other members of the studio, her explorations have always been aligned with a doing more with less perspective. Experimenting brick technologies that challenge engineers' calculations and conventional use of the material in order to make brick-building an easy and replicable technology. Following the conversation, the first thing she explains to me about the Venice biennale project is her collaboration with the African artist Sami Balogi. She combined knowledges in the construction. Despite the skepticism of the Italian engineer,

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[2] My Room, my Temple. In Spanish rimes. It is an allegory of the expression Mi cuerpo mi templo, Meaning my body, my temple; comes from the feminist Latin American contemporary movements. Same idea is in English speaking feminists, another US version is my body myself.

she built a very tall and thin wall made of recycled brick and included the light flashes of the glass of Balogi's work. What most caught my attention was understanding how important was for her to provoke a pleasant construction process; enjoyable for all involved. Her designs come from her vast knowledge of the material and the techniques she learned managing the construction process. Below we can see a couple of images showing the process of construction at the Venice Biennale of Architecture, 2023.

Figure 10: Gloria's experience at the Venice Architecture Biennale, 2023

Builders and architects during construction   Brick wall, Venice Biennale, 2023

Source: Gloria Cabral archive, 2023

Construction is a very masculine territory. As any other industrialized area characterized by important money and power flows, it is very resistant to feminist reconceptualization (Hilary Rose, 2004). Nevertheless, Gloria enters this territory, with a proposal that questions the conventional modes of production of the architecture. First, she chose to work with a small builder business instead of a big company. With that decision, she assumes all the risks, but also gains personal and direct contact with people. For her, having this personal contact with the builders, is what Haraway (2016) will call as 'worlds that are worth fighting for". By building in-material connections (Tsing, 2015), they had a pleasant process of construction while performing their duty. They finished earlier than expected. Italian builders made delicious dinners. When they felt tired, they stop, other days they will work more hours than expected; she will build as well. They spent time exploring with ten different tools until they found the proper one for placing the colorful glasses and in the panels for the wall. Her notion of time and efficiency of the process is also beyond the imaginary of progress. Working while enjoying the process with the whole team. Including some of the invisible tasks such as meals or relationships of care, transcending the sexual division of labor set up between hand, brain and heart (Hilary Rose, 2004). Far from the shouting, the violence, and the abuses that are usually normalized in the construction; Gloria is contesting not only a system of patriarchal domination, but capitalist domination with her design-build approach

(Hilary Rose, 2004). Modes of production in her architecture are linked to vital interconnections such as feeding or enjoying the process. The builders feel it is their design as well, because they have the opportunity to give ideas, and those ideas are listened, feeling proud of their own design.

4.2 Reorganizing Power

In his book *Less is More*, Hickel (2020) says that "once we realize we don't need growth, we are free to think much more rationally about how to respond to the crisis we face." When this approach is applied in a design process, priorities, responsibilities and goals change as well. These architects mentioned many times words as logic, coherent, rationale or common sense to explain the reasons that move them to involved in participatory processes; as if the conventional way of thinking was the opposite of logic or rationale. Their aim was "making the project in the best way possible", for that they needed to challenge some of the 'old ways' of doing architecture. Some of the strategies have to do with rearranging power structures through the process, to give a voice to those who have not been heard (Hilary Rose, Haraway, bell hooks, Haring), to give them the opportunity to be designers of the places they will use, to revalue the local and constructive techniques of the site. The hardest activities such as construction, or the invisible -such as cooking- are also discussed and negotiated in a way everybody has the responsibility to deal with it. There are mainly two observations in this process, as showed in the diagram. In the research phase, they expand it by inviting people from the community to participate actively while narrowing the process with a situated knowledge approach (Haraway, 2004). The design and building categories are rethink in order to reorganize power structures as well as make visible invisibilized dynamics.

Figure 11: Reoganizing Power Sketch
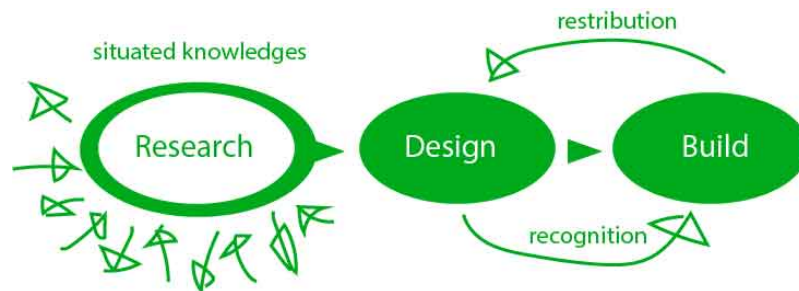
Source: author's own, October 2023

Florencia Sobrero planned her first *FEMINGA*[3] in 2019. From Argentina she moved to Ecuador in 2015 and she has been working as an architect in her own practice since 2016 with her work partner in their studio named *Taller General* (General Studio). She is one of the youngest interviewees. Besides architecture, she has been actively involved in the organization of the abortion campaign in Ecuador for many years.

Femingas is a project about construction sessions with a gender perspective, where the main idea is to create a safe and comfortable place for learning how to build. By doing these

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[3] *Feminga* is the combination of two words. Fem, from *feminista*, in English Feminist, and *Minga* a *quechua* word meaning collaborative work. In Ecuador is often used, especially in construction, to refer as reciprocal helping in the process, a collaboration between neighbors, family or friends.

exploratory construction sessions, she is also renegotiating the rules under which construction is done, not just for women, but everyone. Turning from a hierarchical and violent atmosphere (characteristic of construction sites) to a safer, kinder and contested space for working together. Florencia will take this exploration to the limits, standing -for example- that she does not want to play the role of leader, leaving that task to who want to. Starting the working day, she will communicate to the rest of the women all the tasks that need to be done, the team must choose the tasks they feel comfortable with. The tasks involve leading and problem solving at the same time; the boss and the worker are the same person. If there is a task that no one wants to do, then it is not done, affecting the final design and the internal dynamics of the group. Vulnerability can modify the modes of production of architecture; therefore, it affects the standardized hierarchy of making things in architecture. If someone doesn't feel comfortable using a machine, then, design is changed on-site. If someone doesn't want to be in charge of lunch, then no one eats. At the end of the sessions, they will gather together to share personal experiences. One of the things Florencia highlighted from these conversations was sharing feeling of confidence, autonomy and freedom. In the image below we can see a session of *Femingas,* the woman in the red shirt is Florencia, *performing* the designer is also the builder.

Figure 12: Taller General: *Feminga* session, Ecuador

Source: Taller General archive, 2019

When Florencia came up with the idea of *Femingas*, she was not aware of the existence of Fraser justice theory, but her experience practicing architecture and her agency for wanting to change things, made her arrive to similar conclusions than Fraser (1998), while she argues about redistribution and recognition as main pillars of social justice achievements, Florencia calls that having common sense. She is aware that the concept of *Minga* which already means collaborative work needs to be re-think, because it has not yet included the reflection about gender equality. It is not enough that women can perform 'man tasks' such as building something, it is also a matter of including 'women's experience' and care tasks such as cooking, which have been invisivilized; while claiming it is not only a woman's job. She reminds me what Fraser (1998) says about "gender is a two-sided category. It encompasses both an-economic dimension and a cultural dimension. Understanding and re-addressing gender injustice requires changing, attending to both distribution and recognition." Changing the design because no one want to use the machines or not eating because no one want to cook

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questions exactly what Fraser (1998) means when she explains that "gender is a status differentiation. A major feature of gender injustice is androcentrism: the authoritative construction of norms that privilege traits associated with masculinity and the pervasive devaluation and disparagement of things coded as 'feminine,' paradigmatically -but not only– women." This imaginary is also about weaving vital connections as a starting motivation (Tsing, 2015). It refuses energetically to build anything, literally, from any place of injustice, violence, misrecognition or discomfort. I wonder how the world would look like with a strategy like this, no production until everybody has justice. In the image below we can see the project finished after the *Femingas* session.

Figure 13: Renovation Finished, Ecuador


Source: Taller General Archive, 2019

Marta Macaglia is an Italian architect, teacher and builder manager living in Peru. She founded *Semillas* (Seeds) in 2011, an organization dedicated to research, design architecture and construction of public schools in marginalized contexts such as Amazon Forest, rurality, or urban-peripheral settlements. She has been teaching and lecturing architectural design at UCAL University in Peru. Her work has won several recognitions, this year she was awarded with The Diversity in Architecture Prize (DIVIA). Her projects have been world widely spread in publications in several languages.

She has developed a participatory design methodology that prioritize the research on-site previous design phase. The information obtained in this step of the process will inform the following steps of design-build and can influence the initial reasons of the project to exist. As an example, she explained to me the Innovation center in an Amazon community. Initially, the idea was building a computer lab as synonym of innovation center, but after the participatory process they decided on a definition of innovation particularly for them. They conclude building a medicinal plant laboratory. Despite more than 10 years of experience making schools, Marta faces new projects with the curiosity and the desire to learn as if they were the first project. Aware of the value of this approach, her design **method has the elasticity** to be re-think each time.

In her reflections about Care, Puig de la Bellacasa (2017) mentions in relation with "Thinking for" mindset, that "how to care will require a different approach in different situations of thinking-for." Marta talks about 'the battles' she wants to fight when she has to

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make a project. She emphasizes not imposing ideas, as a metaphor of not imposing power either, to the kids, to the parents or the community. Her battle is not losing this 'care for people' each time she has to think of the strategy or methodology. The rationale that structures the method cannot be more important than taking the time for listening and learning from the other and letting this knowledge to modify and change the design methodology each time. Marta is critical to architecture theory and practice, because by the way she exercises the profession, she criticizes "relations between the production of knowledge and practices of power." (Harding, 2004) not only in design and build but also in knowledge production and the educational system in public schools in marginalized areas in Peru. The research phase, as she calls it, is the time where she talks with the community, understands its vital interconnections (Tsing, 2015) for building a collective care path of "thinking for". Losing this moment for creating the specific care path because of a practical matter such as an imposed methodology, is not negotiable for her. Even though she has not approached feminist standpoint theories, for me, she is the evidence of what Harding (2004, p. 1) describes as the reason how standpoint theories exist. She asked me what technology means, after a few seconds that I wasn't clear what to answer, she told me: see, it's difficult to generalize. While she is saying this, I'm thinking on Harding's concept of strong objectivity in standpoint theories, she said that "Socially situated grounds and subjects (...) generate stronger standards for objectivity" (Harding, 2004, pp. 12), strong objectivity also requires strong reflexivity (Harding, 2004), these people from a specific site in the Peruvian Amazon, built their own definition of technology after a strong reflexive process. The result is that architecture could visually evidence situated knowledge approach by building a space that is practical to what they considered technology. This project framed by care, built with a reflexive participatory situated methodology put in evidence a culturally important knowledge that was created collaborative with the 'powerless' outside the "dominant western, bourgeois, heteronormative culture" (Harding, 2004) of mainstream architecture and education. By doing that, she is building mutualistic interconnections that exchange vital information (Tsing, 2015), just like the forest. In the image blow we can see one of the activities in the participatory workshops with the community that ended up in the design on the medicinal plant laboratory. It is called *La cajita de los sueños* (dream little box), were mothers, fathers and kids are reflecting on their collective expectations.

Figure 14 Innovation lab, Peru and Model making and Interior
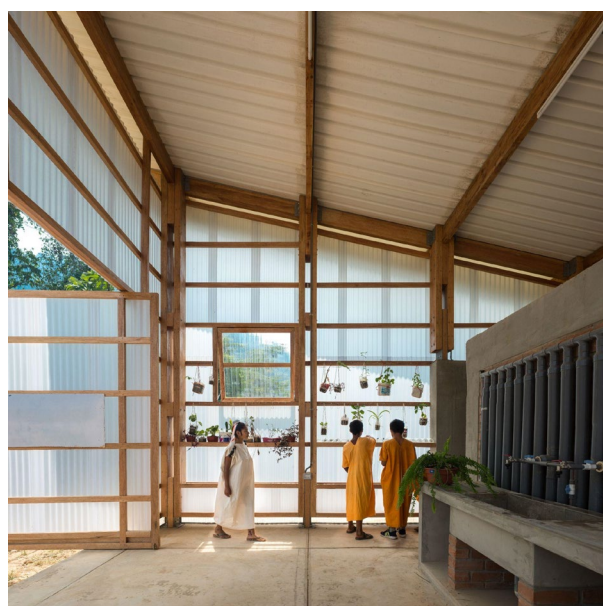
Source: Semillas archive, 2023

Juliana Lopez Marulanda is the youngest of the interviewees. She is an architect, builder manager, and co-founder of the project *Ruta 4* (Route4) in Colombia, started in 2014. She also teaches architectural design at Pereira University in Colombia, her alma mater. For such a young age, the work of *Ruta 4* has been internationally recognized. They have been invited to lectures and workshops in Colombia, Mexico, Ecuador and Peru.

She works with a diversity of communities, mostly rural. Similar to Marta, she applies participatory design methodologies with communities, where the first step is to build a collective situated knowledge (Haraway, 2004) previous the design phase. The situated knowledge is not only about reflecting on their identity, culture and social reality; but also practical, to understand their **local constructive techniques**. Juliana and her team reach an important level of depth. In order to propose a small modification to that technology, these architects want to understand the logic behind using a specific type of tool or a specific material in the location they are working with. Once they know all about the modes of production and the tools of the process, they can propose something that for example saves people's time or reduce material use. Juliana explains me that gives quality of life to the communities. As an example, she mentions a tool to cut the bamboo into stripes for using them in the roof. Architects propose a tool for cutting faster the bamboo stripes, so community saves time when building roofs. The tool is made with local-basic materials, so community can reproduce easily and cheap without relying on 'foreign aid'. The image below shows the tool.

Figure 15: Bamboo cutting Tool

Source: Ruta 4 archive, 2023

Science is a power field (Haraway, 2004). The attitude of conventional architects would have been designing something without taking too much trouble, using common materials from the city (concrete blocks, steel, etc.), and the community would have been happy because having something built is better than having none. But it would have been difficult for the community to replicate, because of distance and money, these building technologies in rural areas, most of the time, are a huge investment for the community. Therefore, they will have focused on the material flow, not on fulfilling their basic needs (Galtung, 1979).

Juliana's work takes much more time. For her the reasons behind choosing a specific material or technique matter. It is important the imprint the process of doing architecture leaves. By learning community skills, she is also validating those skills. And, by innovating in their own construction technique, community also feels that their knowledge is worth. That feeling is expressed in an in-material way (Tsing, 2015, Hilary Rose, 2004, Fraser, 1998), as emotions of happiness, empowerment, satisfaction, self-teem; but it is also practical. For the community the most practical thing is to keep using the materials and knowledge they have so they do not depend on external aid every time they need something built. For reaching agreements, community also need to get together and strength their collaborative skills. In a way, they are giving the power back to these communities to deal with their problems. Juliana's approach of innovation is emancipatory (Haraway, 2004). Small improvements in their own technology makes huge changes when saving time and resource-material in these communities; consolidating the feeling that those technologies make more sense for them. For her, using local knowledge is the most logic thing to do. By consolidating this rational positionality (Haraway, 2004), they are also consolidating the ecosystem of these communities. Juliana's approach to learning situated building techniques is very rigorous, bringing to the table a very strong and objective knowledge (Harding, 2004) that has been produced in parity participation (Fraser, 1998) with community. The image below shows a bamboo clothing factory built with the knowledge of the technique from the community. The project is a collaborative space for small cooperative of women's in rural Colombia.

Figure 16: Clothing Factory

Source: Ruta 4 archive, 2020

4.2 Reconceptualizing Architecture Teaching Methods

Architecture makes part of the industrialized sciences (Moore, 2013; Nelson, 2019) and it has been very resistant to social and feminist reconceptualization (Hilary Rose, 2004), mainly focusing design for the capitalist project. This section is for analyzing a method for over twenty years of teaching alternative architecture methods in Rosario, Argentina. These alternative methods have to do with producing architecture knowledge that is useful for the

community; making the Architecture Faculty have other achievements besides accomplishing the mandates of the uncomfortable imaginary of 'global north development'. Through the years, this learning process manages to include more and more subjects and activities in the modes of production, generating complexity but also provoking heterogeneity in the educational system of architecture. During these years they build mutualistic interconnections, introducing vital material and in-material elements in the curriculum; teaching how to design mutualistic project (Tsing, 2015). As we can see in the diagram below, extra components to the phases of design and build have been added. Research in diversity of nuances previous design is crucial. Material and technical experimentation *previous the final design* is also one of the big differences in this teaching methodology.

Figure 17: Reconceptualizing architecture's Methods
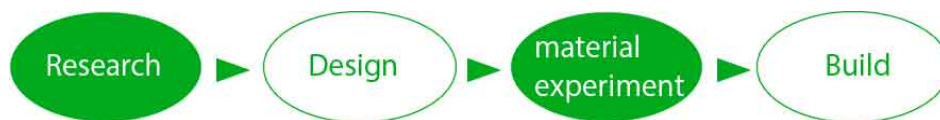
Source: author's own, October 2023

Ana Valderrama is an Argentinian architect, teacher and researcher. She co-founded the architecture studio *Matéricos Periféricos* (Material Peripherials) in 2001. She graduated with honors from her master's in Landscape Architecture from Illinois University. She has been an invited professor to universities such as IUAV (Venezia, Italia), ASU (Phoenix, USA) y Roma Tre (Roma, Italy). She has also work as director of the Project Department in the Ministry of Planning at the Municipality of Rosario, Argentina.

Since the late 90s she has been teaching at the University of Rosario where -among other collaborators- she has created several spaces where the **university meets the local and political reality**; discussing and interacting in ways it is beneficial for students and community. She co-started several courses addressing issues such as housing insecurity in Rosario, first from research, then designing and building with students. They created internships system where students can also experience working in the Periphery solving real problems. She continues increasing knowledge in other fields. She opens extra courses at the university, this time incorporating relations between Women, Architecture and City; after a while she expanded the perspective renaming the course Bodies and Territories. Finally, she opened the area of Gender and Sexuality for reflecting about personal experiences from women at the faculty. Nowadays, she is directing the Innovation Center for the Development of Science and Technology in Architecture Faculty in Rosario and teaching master program where students reflect on future imaginaries, changing from fossil to vegetal. Working many years in the margins of the city have confirmed her that the Periphery is the place for discussing and theorizing. Her teaching method is emancipatory, not only for students, but for communities as well, reinforcing agency and collaborative practices and acknowledging local building techniques.

Listening to Ana V makes me think that what she did was to make the University play a role beyond the productive project of capitalism. She is now heading the innovation center because she and her team knows, after all these years, how to move the focus point in order to tackle social justice, women rights, reproductive project, care tasks and environmental destruction. Her story reminds me of the three dimensions of care Puig de la Bellacasa (2017) refers to: labor/work, effect/affections and ethics/politics. She speaks to me about motivations that come from a political positionality, social and environmental arguments and personal emotions; these combined with the tools from architecture (design + building) end up in an action, in pragmatic work. Her teaching project is an emancipatory one that look

for a perspective of freedom, it does not involve subjugating or transcending design or innovation, but focusing on developing a vision of care, happiness, quality of life and nature (Mies and Shiva, 2004). They do not create new suburban areas; they stay in the periphery and solve daily problems. After all these years, her motivations have made their teaching project expand, nurturing liveliness-channels (Tsing, 2015). It is a disruptive way of thinking in architecture school, "opening the possibilities of reconfiguration of the reality and engaging with troubled presents" (Puig de la Bellacasa, 2017) another pragmatic example of the transformative potential of care as the main driver of a project in a faculty of architecture. When mentioning care as a driving force, I could not help thinking that in the conversation with Ana, she was not so enthusiastic about care, she is worried that once again the burden falls on women. She commented that care should be redirected to men, freeing women from the assumed role of caregivers. I perfectly agree with this, however I wonder if the potential of care has been so invisible that women also invisibly its potential in other areas such as architecture; reason why the expression *disruptive thought of care* calls my attention, it could be an act of courage to approach a project (other than the family) with the energy of care. In the image below a structure build entirely by students and community.

Figure 18: Community, students and teachers building a project, Argentina

Source: *Matéricos Periféricos* archive, 2021

4.3 Creative Institutional Negotiations

These architects introduced themselves to projects, connecting them with the (public) institutions so they could sustain and formalize bottom-up efforts, through time—strategies for negotiating the in-material, which generally are not included but are crucial to strengthening the process. The work of these women is building bridges between the projects made by people with institutional policies. One of their main characteristics is that when negotiating, they always maintain sight of the objective. Their battles are the basic needs of their working team. They negotiate the intangible world each community describes differently as the quality of life. The following diagram has the purpose of visualizing how negotiations are a kind of staple, interconnecting phases with different actors.

Figure 19: Creative Institutional Negotiations
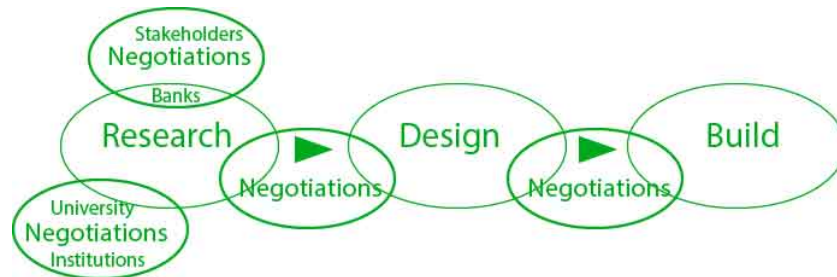
Source: author's own, October 2023

Paula Monroy, more than an architect, she defines herself as a *Territorialist*. She lives between Chile and Brazil and between research, teaching, photography and her curatorial art practice. She is Ecuadorian-Chilean with a strong political conviction that motivates her practice. She has a master degree in Projects, Public Space and Culture by the FAU-USP University from Sao Paulo. She was an assistant professor at the *Escola da Cidade* (São Paulo, 2018-2020). Currently, she is professor at the Faculty of Architecture of UDLA University, Chile.

She talks about how important is for her the persistence of an ideal and how it has shaped the diversity of territories and projects she has moved through. She has work closer to squatting artists movements in Sao Paulo and part of her work has been visualizing these practices in order for them to gain recognition and institutionalization. Depending on the audience she will create a specific tool for the people to understand the complexities of each of the territories. For example, she designed a specific course for architecture students to learn how to involved the social and political of territories they are going to work with. In a way being a *Territorialist* means designing tools for situated knowledge methodologies. She stands in the position that people need to reclaimed institutions. Emphasizing on the need of negotiating, highlighting that is not an easy task, but it needs to be done. She was most interested in gaining women's recognition in terms of economy, power and epistemologies; acknowledging the misrecognition of leadership and knowledge (therefore, power) women experience when small self-organized initiatives become part of more institutionalized organizations.

Figure 20: Ocupação Ouvidor 63, Sao Paulo, Brazil

Source: Paula Monroy archive, 2013

In the conversation, when Paula was describing the project of *Ocupação Ouvidor 63* (Ouvidor 63 Squatting), she mentioned that periphery conditions are not only found in the borders of the city but also in downtown Sao Paulo. In her case, peripheral conditions, refers to precarity. It is most interesting thinking that capitalist systems not only produce precarious conditions in the peripheries of its model, but also in its main core. Tsing (2015) argues something similar, by saying that even though people think of precarity as an exception, perhaps is the condition of our time. Paula weaves institutions and the practices of artists in the squatted building fighting for keeping what makes them particular, i.e., alive. Meaning in that condition of precarity there is a potential universe for creating life as well as conditions that cause instability and disintegration of the system. Intuitively, people from *Ocupação Ouvidor 63*, where negotiating the parts they want to keep and which ones not. By doing this, they are causing a disturbance in the system, (Tsing, 2015) demanding for models of justice looking for recognition and redistribution (Fraser, 1998) in the consolidated city. Paula mention that part of the negotiations was because there was a gap between ownership laws that contradicts themselves and left the place for negotiating with municipality. Paula negotiated with institutions by expanding the channels of interaction. She is interested in aggregating complexity to this in-material connections by valuing pieces of informal urban culture as vital interactions for the city. She values certain kind of knowledge that can emerge from "specific political process, a distinctive kind of knowledge that empowers" (Harding, 2004). Paula uses every platform she's been given to communicate what she calls the micropolitics of territories.

Fernanda Esquetini is an Ecuadorian architect, teacher and building manger. Co-founder of the studio ERDC in 2011 with her work partner. She has a master degree in Urban studies with a focus on public policy and territorial planning. In 2019 she organized and produced, in collaboration with Catarina Mateus, the first Architecture and city film festival in Ecuador named *Festival Habitante*[4] ; an exhibition of more than 30 national and international films with the aim discussing the matters of the contemporary Latin-American cities with diversity of professionals and citizens. In her studio, she focusses mainly in housing projects. She manages to bridge negotiations between architecture, developers and diversity of stakeholders.

She is interested in making 'good-quality architecture' for middle class income people. She dreams of a city, and for getting closer to that imaginary she needs to know how institutions work: banks, developers, municipalities, etc., so she understands the terms of the negotiations. She is aware that Architecture by itself cannot change things, it needs to be connected, to create links with institutions: public and private. As an example, she mentions one dwelling in the city of Quito. She designed a 60m2 housing unit that (in a few years) can turned into a 120m2 unit. The sell price is according the public bank loan, so middle class income can access (lower than the private). She applies a Doing more with less design strategy. Better materials in less m2, so the price is accessible. In the future, if the family needs, they can finish the rest of dwelling; structure, sanitary and electric supply are already incorporated. She negotiates with the developer, he has to build more m2 than he has to sell, but Fernanda's plan is that even though he is going to earn less than usually, he will get the money sooner, reducing the investment risk for him. Material resources are used to design according to fulfilling successfully basic human needs instead of producing a social experience of luxury

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[4] *Habitante,* in Spanish she refers to the person that inhabits the city.

or power caused by a particular aesthetic result. In the following diagram we can see the proposal growth model architects suggest to the housing project in the future.

Figure 21: Growing sketch of Housing project Villanueva, Ecuador
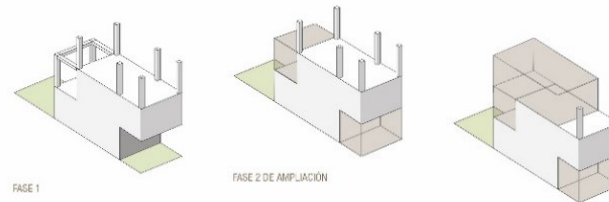
Source: ERDC archive, 2021

Tsing (2015) defines Unintentional Design as the "overlapping of world-making activities of many agents, human and not human". I see Fernanda doing unintentional design with this housing project, not only because it is literally incomplete, letting the users finish it when they can; but because for building such a complex strategy, she needed to understand how different worlds can overlap at the same time. Worlds that not necessarily have the same interests, therefore, they are not used to work in cooperation. She sees the potential of collaboration across difference (Tsing, 2015). Evidently, the fact that she leaves part of the main façade of the building incomplete proofs where her interests as a designer are, i.e., in-material connections. When she speaks to me about basic needs approach in negotiations (Galtung, 1979), I identify that she makes the same analysis not only for the user of the house, but also for the developer and the bank. In a way she is trying to understand the no-negotiables of each element of the project and use her creativity to have an idea that solves everything at the same time. Since she is re-negotiating standards of building housing with actors that do not have the same needs between them, one step of the collaboration across difference is understand basic needs from all the parts. The aesthetic decision of leaving the project incomplete was not something she had previously in mind, it was a result of the overlapping of interests from the diversity of stakeholders. The fathers of architecture will be shocked by this aesthetic decision. But, perhaps, if we are going to accept the challenge of living in the ruins of capitalism (Tsing, 2015) we need to learn negotiate our basics with actors and institutions we normally will be in opposition with, accepting these encounters might transform us in unexpected ways we cannot control, such as leaving unfinished the main façade of the building. As a bottom-up model, maybe, by negotiating basic needs we can say good bye, little by little, to portions of 'destructive development' and transition into weaving vital bonds (Tsing, 2015). Haraway (2016) argues that stories representing the arts of living on a damage planet demand a certain suspension of ontologies and epistemologies, holding them back, lightly, in favor of more experimental natural histories.

Figure 22: Façade of Housing project Villanueva, Ecuador: showing the steel structure for potential grow

Source: ERDC archive, 2021

Ana Falu is an Argentinian architect and researcher who has been involved in teaching, designing and policy making in Argentina and Latin America, advocating for women, housing, habitat and urban planning. She worked as UN Women director for Latin America. She has been member of the National Scientific and Technical Research Council in Argentina and several organizations. She is Emeritus Professor of the National University of Cordoba, Argentina.

After finishing her PhD at Delft in the 80s, she moved to Ecuador as a Dutch technician for the Development Cooperation and ended up building collective sustainable housing in the rainforest; mainly for women. There, she realized that many of the experiences of women have not been taken into account when designing. If the reproduction and care tasks have been invisible for design, how architects incorporate them? Seems like architecture has not been neutral to this discussion, even if they argue that they have (Haraway, 2004). How do you see something, when your instruments of vision consider it useless? (Haraway, 2016). Apparently, it is a matter of paying attention to subtleties, for example, what happened when the kitchen has walls that isolates the activity of cooking with that of socializing? Some can argue it is better so the house doesn't get the smell of the kitchen; but, in the end, if women are cooking most of the time, and all the houses end up having confined kitchens, most women will cook in isolation. What decision is relevant for design? the 'practical' or women experiences? Is the experience of women seen as the opposite of 'practical' under the patriarchal vision of design? This condition also happens in larger scale, in the cities, reason why Ana F talks about Spatial Justice. She argues that is not the same living in a city than having the right of living in a city.

Figure 23: Floor plan, kitchen isolation vs. connection with the social space
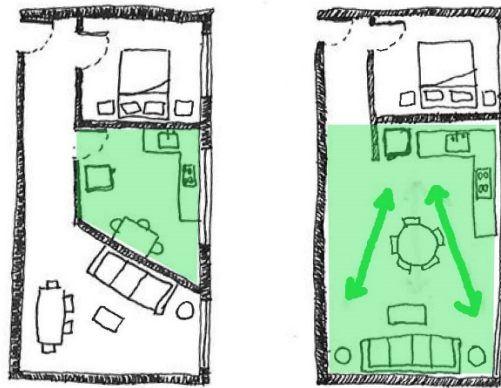
Source: author's own, October, 2023

My conversation with Ana F spined around how we modify public policies, urban planning or building codes in order for the reproductive project as well as care tasks be taken into account. When talking about public policy in Latin American cities, we are talking about big scale systems of organization that do not include women's experience. It is not only about how violent or insecure a city is, it is also the fact that cities are design for promoting production (when giving space to cars or facilitate public transport only in working hours). If the tasks of caring were included in such designs, we would have cities in which caregivers would not take so much time, or spend so much money to move from the house to the supermarket, to daycare, to go to work and back home (Falu, 2013; Muxí, 2020). In this city model, poor women are the most affected population. Ana states that when re-making urban public policy we need to go to straight to the root of the problem by solving poor women's needs first. Of course, from a social justice perspective it is indispensable to do it, but also for the matters of sustainability and ecological balance. Poor women experience is much more complex, therefore, diverse, than other women's experience, they experience issues of class, race, religion, etc. and their oppression experiences of this are very specific (bell hook, 2015). When Ana F tackles dilemmas of poor women in order to include them in urban public policy; she is bringing heterogeneity (Tsing, 2015) into that interaction. Public policies are pragmatic evidence of relationship-agreements between institutions and individuals. Therefore, by introducing heterogeneity as a strategy in an interaction (public policy), she is proposing to introduce liveliness to that agreement. A sterile interaction built only for the purpose of production suddenly can become a nutritious interconnection that exchanges vital information (Tsing, 2015) for matters of reproduction and care. Introducing heterogeneity to urban public policy by including poor women experience can be a clue to make also, environmentally sustainable policies.

Figure 24: Photo and Design drawings of Sustainable Housing in Ecuador

Source: Ana Falu archive, 1980

Marcella Arruda is a Brazilian architect, urbanist, researcher and the director of the Institute *A Cidade Precisa de Você* (Institute City needs You), an interdisciplinary network of people working collaboratively within the peripheries of Sao Paulo. She obtained a master degree in The Royal Academy of Arts in The Netherlands and is member of several Brazilian organizations related with participatory methodologies, permaculture, cooperation and development. She has been invited as lecturer to share their experience in countries such as Brazil, Paraguay, Argentina and Portugal.

Her immersion on peripheries and urban gardens started in 2014 when she was in her 2nd year of bachelors. With some friends, they sow the seeds of what turned into the Institute *A Cidade Precisa de Você*. Being an urban planner, gives her the possibility of working in larger scale projects. Nevertheless, her creativity is not focus on planning streets, but something less tangible and more complex. Similar to the other creative negotiators from this chapter, she designs networks by connecting people and nature. Without -perhaps- being its main goal, she is giving a situated (Haraway, 2004) solution to what the scholarship theorizes as the contradictory project between conservation and development (West, 2006; Howell, 2017).

Figure 25: Community Garden at *Brasilândia*, Sao Paulo, Brazil, 2023

Source: *A Cidade Precisa de Você*, 2023

     Nowadays, her focus is on strength urban gardening and food production in the neighborhood of *Brasilândia*, suburbs of Sao Paulo. Marcella argues that the periphery is a space of great possibility (bell hooks, 2004). On the contrary, Howell (2017) questions that ontologies of small-scale projects may not be useful for a global sustainable planning strategy. Of course not, but Marcella may teach us other lesson potentially replicable on a larger scale. Marcella's scalability is different than the one from corporate projects or NGOs. Tsing (2015) argues that in capitalism model, scalability happens when "expanding without changing their framing assumptions", banishing meaningful diversity (Tsing, 2015). This meaningful diversity is also what keeps the system alive; diversity happens when there is a framework for "transformative relationships between species" (Tsing, 2015, p.38). In that way, Howell assumption is valid, when sustainable small-scale projects tend to grow, they die. If we pay attention to Tsing's description of scalability, she talks about diversity, apparently keeping meaningful diversity is what makes the system alive. What if Marcella's strategy is doing scalability (expanding) while keeping meaningful diversity? Probably why she starts talking to me about urban gardens and ends up talking about activating public space in another neighborhood. Apparently, these two things have nothing in common, nevertheless, she sees the connection. When she explains to me, she is focused on How these two things strengthen bonds between the neighbors; how meaningful was for them to know each other so they can share experiences and plan future things together. Marcella refers to this as "systems of co-operation". Her scalability strategy allows 'growth', but the main rule is that expanding diversity and strengthening relationships is not negotiable. Perhaps is why she sees periphery with a lot of potential. In the context of the global south, this model, "growth" is not done at the expense of nature, but weaving within the in-material connections nature has. More than growth is expansion; considering that expansion is meaningful only if it is necessary for life to exist (Tsing, 2015).

4.5 Chapter Conclusion

Although the design processes of these architects have completely different approaches such as education, urban gardens, development, feminism, public policy, etc. they all have certain priorities in common. These 'priorities' are for example not losing diversity while escalating or 'growing' an initiative; recognition and redistribution of roles in design and construction. They involve the community in the research and approach it with situated knowledge methods. Joy and care are main drivers of both processes of design and construction. Women rights are important as a clue of including both projects when designing something for society: reproductive and productive; while keeping the connection between hand labor, emotion and intellectual activity.

These women start by designing in-material interconnection before the project enters the design phase. For that, they need to know the context, the people who will use the building and the stakeholders. They also need to understand materials and techniques that are easy or accessible to work with and will work in favour of their in-material bonding.

Chapter 5 : In search of the Instruments of Vision

This chapter is an attempt to engage with the sub-questions raised earlier in this research, adding to the analysis of the conversations in the earlier chapter. It concludes with some reflections of the connection between the two words: Architecture design-build process and the theoretical frameworks from FST, Conflict Analysis and Anthropology of Sustainability.

1. For reflecting on sustainability and understanding the social context, the main strategy all of the women architects interviewed was to first visit the site of the project. There, they developed a sort of social-ecology-situated research. The purpose of that research is understanding the resources, the ecology of the place and the social relations in order for the new project to be as less invasive as possible. The project must incorporate in the most smooth, friendly and natural way as possible. For the design process each of them has a step-by-step process, very broad, which allows them to **tailor it to the specific needs**, dreams and knowledge of a community.

2. The initial visits to the site where the project is going to be build are crucial for these women to organized specific activities in order to work with the community in the participatory processes. Generally, it is a progressive process composed of several charettes, where people from the communities will reflect about specific topics about their reality and the future project, then they will progressively with the guide of the **architect as facilitator**, will land those ideas into concepts than then will be transform into a design. When there is no room for initial collaboration, the design left that door open for a future interaction to happen, as in the case of the 'unfinished' housing project of Fernanda.

3. These projects challenge dominant imaginaries by **imagining first the social reality they want to build**; instead of the building. For building these social imaginaries they put into relevance a basic needs approach (Galtung, 1979) that cares for the communities' necessities. For that, architects use specific situated knowledge approach (Haraway, 2004) as basis for building the design and the project. Such projects are not desirable for capitalism, they are slower and complex. Building connections is not profitable.

4. The connection between process of participatory design-build architecture and the link with social theories such as feminist standpoint or anthropology of sustainability can show **other modes of making development**. Architects are good at making, but their field is not theorization, specially from social sciences field, missing the opportunity to feel universal at the same time they are developing something specific. Meanwhile, researchers have the potential to connect those experiences with the bast universe of knowledge.

The summary of findings will be discussed in specific under these five main categories that have been found as relevant during the research:

5.1 Negotiating Diversity for the Transition

5.2 Approaching Architecture with Care

5.3 Mutualistic Interactions in Design

5.4 Thinking AND Doing

5.5 Resources

5.1. Negotiating Diversity for the Transition

> "How do we build caring relationships while recognizing divergent positions?" Puig de la Bellacasa (2017, p. 83)

These women learned negotiation skills 'on the field of action'. These architects manage to amplify the vision by negotiating every step of the creative process of the project. The agreements they negotiate are a mix between 'their personal battles' and accords reached in consensus with communities. One main fight is keeping what makes those communities unique; they fight for keeping or (better) **producing diversity on identities** (Moore, 2000; Hesse-Biber, 2007). Every small step forward in these negotiations is celebrated, meaning the transition they make is **not about drastic decisions**.

For example, Marta increases her 'transgression' in the ideas she negotiates as she gains credibility and experience with her public schools in Peru. She started with one kindergarten on the outskirts of Lima more than ten years ago and in her latest project she pushes the boundaries by changing the aim of the project in itself. A computer lab turned into a plant lab; a modification done as a result of the participatory design process. She even manages to get the ministry of education (one of the investors) to see this as a pilot. These women go step by step, carefully, aware of the vital interweaving of life, the human interdependencies built where their projects are going to be part of, the non-material interconnections they are going to break or weave with (Puig de la Bellacasa, 2017, p.4). The critical dimension for breaking -or making-a new- knot in the vital web of life is collective. By that I mean, the decision of not building a computer lab with internet and air conditioning is a collective decision made by the people that are going to use that space. They critic reflect on the definition of technology, i.e., they propose a solution.

Marta's negotiation methodologies for designing and building are grounded on situated knowledge reflections (Haraway, 2004). The dynamics are looking for increasing levels of social justice in all the micro decisions in all phases of design-build. While creating processes that are just to its participants, they are also keeping the diversity. A similar characteristic of natural ecosystems according to Anna Tsing (2015).

As Galtung was suggesting, these architects are building projects as a result of negotiating basic and situated needs. The way they address conflict reduces violent interdependencies and breaks old structures of power that probably people dragged from colonial times (or even before); by increasing the feeling of justice in their processes. (Lederach and Maiese, 2014).

5.2. Approaching Architecture with Care

It is a fact that human disturbance has "outrank other geological forces in the planet" (Tsing, 2015, p. 19) causing -among others- the loss of the richness of cultural and biological diversity. Buildings and urban spreading are part of this destruction of ecosystems. At the same time, scholars as Haraway (2016), Tsing (2015), Puig de la Bellacasa (2017), Fraser (1998) and much more, are proposing to re-direct human agency into projects that develops a kind of eco-social ethic instead of accentuating the destructive human behavior.

I bring these concepts to the table because I perceive these architects' approach to design is aware that 'they will be responsible' for a future disturbance. They want this disturbance to renews instead of destroys. The main focus is on **finding the specific**. They want to really connect with the people, to deeply understand what they need. They do not interpret communities; they invite people to reflect on themselves. They facilitate sessions where communities produce situated knowledge (Haraway, 2016).

These women are moved by injustice, by a feeling of wanting to make their environments better, by the "disruptive thought of Care" (Puig de la Bellacasa, 2017). For example, when I asked Gloria why is that you do what you do? she said "I wanted to improve things, I wanted us all to be better, and it is something genuine. I know that it generates distrust. People could say: what does she gain? and there is nothing, it is like this, I want us all to be better". Ana V told me that she felt she wanted to continue the work her parents did with Architecture as a tool (her father was a political prisoner in Argentina during the dictatorship). Fernanda told me that Architecture leads her to react coherently with her convictions, when I asked her about her convictions, she describes in many ways sustainability of life. I see in these testimonies motivations that makes them engage with a moral stance (Puig de la Bellacasa, 2017) and moves them to act, to do something, they do not remain apathetic. Puig de la Bellacasa (2017) describes this as the **Transformative potential of Care**.

These are women of action, they detect something in their reality they want to change and they do it, involving people in the processes. They are empathetic women and their strategies speak loudly of their transgressive potential, producing renewal (Tsing, 2015). Puig de la Bellacasa (2017) explains care as a critical and **disruptive way of Doing** that can open the door of possible new reconfigurations with the present, even if it is a trouble present.

5.3 Designing Mutualistic Interactions

The projects of these women architects are the closest thing to Tsing's (2015) description of mushroom engineering. Mushrooms and pines work together to co-exist, forming incredible interspecies connections that carry information for sustaining life across the forest (Tsing, 2015). Mutualistic relations are the most remarkable characteristic of them.

These women behave in the same way, no matter the scale or the location of the project. For example, Marta will look for ways to bring together the people that are going to use the school. She is going to spend time in defining the type of activities, in order to build those relationships throughout the whole process of research-design-build. She has to create connections from cero. She has to first understand all the 'organisms' elements and then how they behave in order to make the connections for organize the sessions of design and construction. Her purpose is creating deeper, meaningful and richer dialogues that are going to be the pillars of that architecture. She wants to give voice to the voiceless. She wants to stop the violence generated by an education system that says to the people "you are wrong, you need to change. Your costumes are wrong, you need to change them". She wants these people to keep their identity. Participatory design process doesn't happen without the bonding of the people first. If these projects are analyzed without knowing the history, probably people do not realize all the weaving net behind them, in the same way as if we see a mushroom, we do not realize all the interaction behind for keeping life.

Most of the work Marcella does with the urban gardens in *Brasilândia* is building invisible interconnections with the people, nature and institutions. The architecture is almost

imperceptible. The effort is in linking and strengthening those vital connections and nurturing them. In this journey of picturing other imaginaries, it is of special interest mutualistic interconnections with a feminist perspective, linking productive and reproductive systems, as Ana F has shown us with her feminist urban policy approach in Latin America. Seems like, when doing an (architecture) task, the more diverse, rich, nurture and full vital interconnections (Puig de la Bellacasa, 2017), the more we include an eco-social situated ethic, creating a disturbance that 'renews' an ecosystem.

5.4 Thinking AND Doing

Connecting the intellectual and the labor phase of a process is disruptive, but it is even more challenging when the process involved emotions. Hilary Rose (2004) in her feminist approach to an epistemology for sciences and technology, already discussed that the trouble of capitalist domination in scientific knowledge was the profound separation of intellectual and manual labor, arguing. For a feminist understanding of sciences, the capitalist system of domination was not the only one; she states that we had to also consider patriarchy; acknowledging its tools of oppression are different (Hilary Rose, 2004).

In the reflections collected from these architects, one characteristic from almost all of them was that the intellectual and the manual labor of architecture were deeply inter-connected. In fact, I will argue that part of this redistribution-and-recognition 'validation' of the process, is evidencing the architects 'suffering' the consequences of their design.

From an epistemic approach, the architect will design something that is emphatic with the modes of production of architecture. For these architects, being involved in the construction process gives them a lot of practical information for addressing 'better' the complex task of design. Personally, I wonder if connecting the hand and brain is 'the most relevant' finding for thinking and solving a basic need (Galtung, 1979) without the imaginary of capitalist development. Our needs could be aligned or not with what is defined as 'capitalism' depending on the project but the only way of knowing is situating our needs, trying to connect them as pragmatic as possible with decision making processes. Hickel (2020) mentions something similar when he said that once we realize we do not need growth per se, we start making more rational decisions. Linking reflections of what we need, with what we have, plus what we are capable of building with our hands, seems conducting the mind to a very pragmatic path.

Similar experiences were shared by Juliana, Ana V and Fernanda. Hilary Rose (2004) says that for making possible a new scientific knowledge and technology we need to "enable humanity to live in harmony rather than in antagonism with nature" and for that she proposed transcending the division of labor among hand, brain and heart.

5.5 Resources matters

Resource discussion enters after having defined what they need. The building of the vital network was previously the material decision. Materials and technology options result from situated reflections (Haraway, 2004) of the social-specific needs of the particular community and are supposed to be emancipatory. Situated reflections are made together, architects and communities. Communities involve people who live near the project and are directly involved in the decision-making of the building and the future users of the space. This previous

collection of information aims to inform the scale and durability of the project and, therefore, the type and number of resources the project will need.

I found it interesting that these projects seem to tackle the 'contradictory' issue of sustainable development from the beginning by first reflecting on the needs and then attaching them to the resources they have at hand. The controversial project between development and conservation (Howell, 2017) seems to be one of the primary reflections these projects address in the research phase. By applying a situated knowledge approach (Haraway, 2004), architects narrow down and reach a consensus between human needs and resource use.

5.6 Chapter Conclusion

Theorization and analysis of the intangible world of care, the vital links and the reproductive project has not only helped to make visible women's struggle, but also of many disadvantaged groups. In that sense, feminist theories have helped in this research to visualize the relevance of these actions. A commitment that is underestimated in the field of architecture. Unless the result of the building is visually materialized, being an architect of the social could be an underestimated work.

Finally, the Anthropology of Sustainability has helped by translating nature's intangible work to human build environments. It is the bridge between architecture and the social field. It has helped identify key factors in the processes of linking the intangible with the material world of construction. Their concepts help explain without the nuances of power or inequities that some social sciences or architecture concepts show as reflections of reality. For example, how do we explain a concept of organization or structure with a hierarchy without expressing power or oppression? Concepts such as mutualistic interactions, unintentional design or disturbances have those nuances.

Chapter 6 Conclusions

In this chapter, I discuss a few conclusions based on how studying participatory design-build processes of architecture, proposed by a specific group of women architects in Latin America, contributes to challenging the traditional conception of dominant imaginaries of future Architecture.

The idea of focusing on the process of doing architecture was to be able to analyze socially and environmentally the steps for doing Architecture. Theorizing the reasons and motivations for decision-making is fundamental for understanding how the in-material universe shapes Architecture.

When 'social architecture' meets the theoretical world of FST and the Anthropology of Sustainability, the experimental practice meets the theoretical. These theories allow for building new architectural narratives under more precise and appropriate categories (Ramazanoğlu, 2002), that consider their experience, and aware of the disruptive potential they have in relation to universal knowledge. For example, architects didn't have a specific concept for expressing that one of the main strategies for their process was to know the community deeper. Now, we express that through the concept of situated knowledge (Haraway, 2004).

In this research, when the theoretical meets the practical, the experience increments veracity to the theory and potentially can add new nuances or contest them. Especially if theories are related to feminist methodologies, which emphasize theorizing from practical experience (Fraser, 1998; Harding 2004; Hilary Rose, 2004; Ramazanoğlu, 2002; Hesse-Biber, 2007; Puig de la Bellacasa, 2017; Haraway, 2004). For example, in this research, I noticed that one main factor was agency. Although concepts from care perspectives (Puig de la Bellacasa, 2017) and the in-material vital interconnections (Tsing, 2015) helped to explain, I did not yet find the precise concepts to describe it from the social-ecological point of view.

Social architecture is an exciting field for social and environmental studies, primarily focusing on experimental methodologies. The fact that the architectural project connects research, reflection and action, can provide much information on the connection of one with another. Creativity is the tool to provoke modifications in thinking-doing. The better it is if those modifications in thinking-doing are given as a result of social-environmental reflections and not only driven by a mercantilist perspective. This mix is producing small-scale situated imaginaries (Haraway, 2004). In a way, they are already happening.

It is interesting to see the inspiring outputs produced by interdisciplinary collaborations. On this journey of searching for balanced and nature-human cooperation relationships; analyzing sustainability from the techno-science field feels insufficient. Anthropology of Sustainability opens the possibility of analyzing -through the vision of a social researcher-nature's behaviour. This is very helpful for architecture, which aims to satisfy social needs without causing irreversible environmental destruction. Exploring and analyzing the motivations and the intangible vital system of connection that nature has, could give us -architects and urbanists- clues for building a sustainable environment; for designing more nature-aligned urban planning strategies beyond the idea of technology efficiency. The creativity here is used to understand the in-material potential of nature's connections. Perhaps it could

be the hinge that opens the possibility of generating a Resurgence while making cities. Tsing (2015) describes Resurgence as the force of life whose ability is to spread seeds and roots in the forest, a healer force.

Consequently, I wonder if these reflections could be translated into other fields. For example, how we could do mutualistic urban public policy? How do we design mechanisms of organization in order to regulate but also to generate vital interconnections, producing biodiversity? How do we create expanding-policies that 'renew organisms' when applying them?

Finally, concerning further discussion, it was a little frustrating for me that in this research, I couldn't find a way of including the personal experience of the women interviewed in relation to their reproductive project. Their experience as women is beyond the productive perspective. I feel it is relevant for future research to combine both projects: productive and reproductive. How these architects, while designing and building social imaginaries for society are, also designing their own? (bell hooks, 1984; Lindén and Singleton, 2021; Leonardelli Kemerink-Seyoum and Zwarteveen, 2023).

As an architect, I have the perception that the social happened after Architecture, not before. We build houses, and then people live there; nowadays, dynamics happen in a built environment. But what happens when Architecture is after the social? What is the result when architects make an effort to understand the vital connections that have already been built? Or what happens when we plan with a situated definition of well-being as a starter? The approach is different, and the built project tries to adapt, taking care not to destroy that intangible network, similar to a living system connected with nature.

This research opens my curiosity for engaging in a deeper understanding of architecture and urban imaginaries of the social. Where do we place innovation? How do we innovate for Mutualistic interactions? For Care? For Resurgence?

Appendix

Appendix 1: Profile of Interview Participants

Name	Range of Age	Country of Origin	Country of Practice	Occupation	Date of the interview
Fernanda	35-40	Ecuador	Ecuador	Architect	25-07-2021
Gloria	Early 40s	Brazil	Paraguay-Brazil	Architect	26-07-2023
Florencia	Early 30s	Argentina	Ecuador	Architect	31-07-2023
Marta	Early 40s	Italy	Peru	Architect	02-08-2023
Marie	35-40	France	Ecuador	Architect	08-08-2023
Paula	Early 30s	Ecuador-Chile	Chile-Brazil	Architect	21-08-2023
Juliana	25-30	Colombia	Colombia	Architect	31-07-2023
Marcella	Early 30s	Brazil	Brazil	Architect-Urbanist	25-08-2023
Ana V	Early 50s	Argentina	Argentina	Architect	14-08-2023
Ana F	Early 70s	Argentina	Netherlands-Ecuador-Argentina	Architect-public policy-researcher	02-09-2023

Appendix 2: Guide of Questions for Interviewees

1. Why do they do what they do? What are the reasons or motivations that made them choose that specific path in architecture?

2. How do they do it? What is the process of making a project like that? This question was followed by another that was: Can you explain/describe one of your projects? A project that contains the most representative concepts you just have describe? To know their process of design and how they connect with the different institutions and stakeholders, why and how.

3. Tell me about your experience as a woman in the field of architecture? In a profession dominated by men; their personal experiences as women in the field of architecture or construction is relevant. The question was left open to catch different layers of information such as gender at work, epistemologies or intersectionality.

4. When you design you think on future imaginaries? Or possible utopias? To understand the connection between their motivation of a specific project and their future vision.

5. What is your opinion about innovation and development? If it was not answered in the previous questions.

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