

1 Introduction

“... We need to understand the poor and poverty through new interpretative frames...”

Arabindoo, 2009

“Addressing the priorities of the poor must be a crucial part of the collective responsibility of modern civic society”

Cavalcanti, 2018

1.1 Motivation

1.1.1 My Intellectual and Ethical Motivation and the Results Achieved by this Research

Poverty is still one of greatest challenges in our world. In the developing world, an enormous number of people live below the poverty line. It is estimated that 10% of the world population live under 1.90 dollars a day (World Bank, 2018, p. xi). Although some may argue this is a narrow and technocratic definition of poverty, these numbers indicate that much needs to be done to alleviate issues connected to poverty. Urban poverty affects non-OECD countries, such as Brazil, in a critical manner, as society is characterized by strong inequalities which put a lot of strain on social and political structures, and a very tiny percentage of people controls a great portion of the country's GDP (Savador, 2016, p.23).¹ One of the consequences of poverty and inequality is a very imbalanced and dysfunctional housing market,

¹ 0,5 percent of the population in Brazil concentrate almost 45% of GDP according to studies of the Institute of Socio-Economic Studies (INESC) of Brazil, supported by Oxfam Brazil, Cristian Aid and Bread for the World, 2016.

in which access to affordable housing is made very difficult. Informal settlements are the spatial representation of poverty and exclusion in the city. One could argue they are also the result of exclusion from structures of citizenship (Rocco & Van Ballegooijen, 2018).

The growing number of people living in informal settlements coupled with prospects of high urbanization rates currently turns housing into a key aspect to address to the production of a more equitable urbanization process in the 21st century. Yet, housing is a very complex challenge that includes complex issues. In order to house people currently living in informal settlements there is no recipe or manual. The current housing crisis in the world, notably in Brazilian metropolises and small and middle-sized cities currently suffering rapid urbanization processes, demand that we question traditional design and planning approaches to housing provision for the poor. Housing provision for the poor is not only a policy challenge. It is also a 'spatial' challenge, insofar it involves architectural and urban spatial solutions through the design of dwelling. Local authorities, planning departments and others, try to tackle this question through policy implementation, but the spatial outcomes are often quite lacking. Poor citizens are left out of the discussion, and it is often very frustrating to see that the spatial solutions given to communities are completely disconnected from the real daily needs of citizens. Design and planning of housing can play a pivotal role to address the current housing challenges to the poor, by addressing their needs.

In my work I claim that current architectural and planning responses seek to ameliorate hygienic and sanitary conditions regarding the existing standards in slums/informal settlements, but the hygienist approach is quite antiquated and fails to tackle the complex interrelations between dwelling, work, and other activities that make up a community. I claim that labor is one such component shaping, planning and governing the built environment of informal settlements that is systematically ignored by policy makers and designers alike. In literature, there is no concern about the labor practices of the poor in connection with the design, planning and production of space and as a driver of spatial development.

My research explores how labor practices shape, plan and govern the spaces in informal settlements. The main method used to perform this research was participatory research, in which I actively took part in the life of the case studies, often with long periods of residence in informal settlements, in a trajectory that is much longer than my formal PhD, amounting to ten years of studies. I explored how labor shapes the houses, alleys and streets in environments that are planned and self-built by residents. I further explored how labor affects the space between the formal and informal city, how it governs economic relationships in broader

territories, how it explains migration processes, the emergence and the growth of informal settlements, and how it comes to represent value and dignity for the citizens living in these settlements. By doing so, this research aims to question how labor defines the informal settlement itself, and how it could frame new theorizations and epistemologies of informality.

I have employed participatory research in order to understand the needs of the poor and to elaborate a critique on why current housing solutions provided by planners and architects to residents living in informal settlements ignore their working activities, and I propose a set of benchmarks and recommendations that can be easily be used by policy makers and architects alike regarding better housing for people living in informal settlements. By doing this, I aimed to fill the gap in literature regarding the lack of research on how labor shapes space and how it can ultimately dictate the spatial logic of informal settlements. It can provide a different approach to housing the residents of slums, based on their claims and their labor needs.

Doing this type of research has allowed me to understand and address the needs of people living in slums, shedding light on issues that are unknown or ignored by architects and planners. I claim that labor is an essential part of the spatial dynamics and the lives of residents of informal settlements (Cavalcanti, 2009, 2017, 2018). Labor is necessary to maintain their livelihoods both in the informal settlements and in the formal houses where they are occasionally resettled (Cavalcanti, 2018). Therefore, one of my main conclusions is related to the role of labor within housing rights, as this primary right, the right to work, allows people to exist, live, thrive, create expand and maintain spaces in informal settlements (which is particularly relevant when they are relocated to formal housing or when their settlements are subject to redevelopment plans) (Cavalcanti,2018).

1.1.2 **The Motivation from the Lenses of the Methodological Challenges in Literature**

The motivation driving this research is underpinned by a gap in literature. This research is based on empirical analysis and intense field research, further supported and structured by literature review, critical assessment of methodologies and traditional theories, as well as data analysis relevant to this thesis.

As mentioned before, there is no consolidated literature on the relationship between living spaces and labor in informal settlements. Existing literature on how labor shapes the living spaces of informal settlements is sparse and incidental, and it is 'a connection

that planning and design literature has yet to adequately explore' (Cavalcanti, 2017, p. 51), which opened the opportunity to develop an original approach to slum upgrading and housing design and policies. Indeed, this research aims to open this debate.

In fact, the field research conducted by the author addresses diverse methodological problems and opens questions in housing literature and practice for the unprivileged. The main reasons leading to failed housing policies and approaches in many countries around the world, in the context of the so called "Global South", is the lack of insight into the life of the poor and their aspirations, including how they use the spaces of informal settlements in a productive way. As well as, their poor inclusion in processes of governance and processes of 'democratic decision-making concerning the urban environment and housing' (Carlos, 1994; Lopes de Souza, 2000; Holston, 2007; Maricato, 2010; Rolnik, 2011; Caldeira & Holston, 2015).

Also, as mentioned, current housing projects merely improve the hygienic and sanitary standards of the environment, without offering the poor inclusive environments where they can thrive as citizens (Cavalcanti, 2016). To better house the poor we should avoid looking at exemplary blueprints and instead seek for solutions starting from what went wrong (Roy, 2005, p. 156), and I tried to follow this advice given by Ananya Roy, by seeing the failures of the housing units in which residents of the favelas were resettled to provide an approach to planners and architects.

A critical assessment of the failures of research on the poor and on poor settlements (heralded in predominant disciplines and epistemologies) is necessary to understand their real aspirations (Cavalcanti, 2017). Seminal authors in the field of urban informality argue that there is a need to rethink the production of knowledge on the urban poor and to reinvent the manner we study, interact and define the poor urban dweller (Gilbert, 2007; Arabindoo, 2011). The gap in the understanding of how the poor live and how they work contributes to misleading ideas about how to deal with informal settlements and housing provision and promote unhelpful perspectives such as the 'criminalization and marginalization of poverty' (Perlman 1976, 2012). Issues arising from societal, political and class conflict, allied to other issues, such as the traditional education of architects and planners, hinder their understanding of the real needs of people living in informal settlements. These hurdles influence knowledge production in which the aspirations of the poor cannot be correctly understood neither efficiently addressed.

Field action research and ethnography are crucial for the study of the living conditions of deprived groups, as well as the inclusion of their priorities, aspirations and needs in institutional and governmental agendas (Simone, 2004 ; Chatterjee, 2012 ; Robinson & Roy, 2016). Participatory research was combined with these

studies because it allows to better perform ethnographic studies on space, because it nurtures a connection with the studied groups and the spaces they produce. It also empowers people, inserting their narratives in knowledge production and providing a perspective on the study of spaces from within, beyond parochial arguments and theorizations, and providing information that are important for the assessment and application of knowledge (Cavalcanti, 2009).

Addressing the priorities of the poor must be a crucial part of the collective responsibility of modern civic society. Architects and planners' practices should be funded on an ethical aim to better house the poor and permanently improve their living conditions. In order to be able to design effective and fair policies and housing design for the upgrading of informal settlements and the provision of housing for disadvantaged groups, in depth knowledge about their living styles and aspirations is needed. There is a persistent lack of knowledge about the life style and the aspirations of the poor. This gap is derived from the lack of integration amongst social and anthropological disciplines, economic studies and planning theory and practice. Planning practice in many developing countries is strongly based on technocratic rationales (such as land use, plots, number of housing units, materials, etc). In my work, I claim that the isolation of planning practice from the practical questions of everyday life is especially perverse in connection to the solutions offered to poor communities. I claim that the association of sociology and anthropological studies such as ethnography to planning and housing studies and the design of the built environment should create a stronger, more robust body of knowledge that is bound to deliver solutions that are both more socially sustainable and economically feasible (Cavalcanti, 2009).

Hence, to address this knowledge gap, I have dedicated myself to study favelas and informal settlements in situ for almost ten years, using qualitative research tools, participatory research methods, and time series analysis that include also the case study of the post-occupation process of residents of informal settlements who were transferred to formal housing: the transfer of residents from the *Favela Sururu de Capote*, in 2009, to a social housing project designed by local authorities in the city of Maceió, within the framework of a slum upgrading program, attached to a PAC (Growth Acceleration Programme)² from the Brazilian Federal Government. I have witnessed and interviewed hundreds of people, listed in this thesis and I have observed and documented the life inside informal settlements from within, through drawings, photographic records and videos.

² English for *Programa de Aceleração do Crescimento*.

Findings of my first study entitled “The Steps of the Sons of Mother Lagoon: The Invention of Spaces from the Fishing Practices of the *Sururu* in the *Favela Sururu de Capote*”³, a study conducted between 2008 and 2009, concluded that labor shaped the spatial logics of that specific informal settlement (Cavalcanti, 2009). Through exhaustive mapping, interactions with the community (interviews, oral history, monologues), and spatial analysis of living patterns of the inhabitants (drawing, mapping), I concluded that work should be put at the centre of considerations about the nature of the favela. Already in 2009, I showed that the favela *Sururu de Capote* emerged from the migration of rural residents to the city of Maceió in search for labor in the 1960s, due to a massive laying-off of rural workers in the sugar cane factories of Brazil, commonly known as *Usinas de Açúcar*. The *Usinas de Açúcar* are remnants of Portuguese colonization in the Northeast of Brazil and have been there since slavery and the *Casas Grandes*⁴, the “big houses”, belonging to the white farm owners, which existed in stark opposition to the *Senzala*, the unhealthy places where slaves used to inhabit. This opposition in economic capacity, inclusion and spatial exclusion has persisted in Brazilian society, as shown by the work of Brazilian sociologist Gilberto Freyre. Such former rural workers migrated to big Brazilian cities and built favelas, thanks to an acute housing shortage never addressed by the authorities, as Brazil was right in the middle of its most recent military dictatorship (1964-1986) and experiencing one of the most expressive moments of economic growth allied with mass migration flux of people living in rural areas to the urban areas, due to a rapid industrialization process. In the specific case of the *Favela Sururu de Capote*, they settled close to a lagoon because of the possibility to work related to fishing activities, and since their initial accommodation in that part of the city, they have built houses, alleys and other spaces of the favela around their work – in order to preserve their livelihoods and subsistence. The fishing activity divides the community by age and gender, employing most residents (fulltime and part time), men fishing and the elderly and women cleaning, cooking and selling the produce. The alleys are straight to facilitate this fishing activity. Fishing and preparing the fish for sale shapes their houses, alleys and affects the relationship between informal settlement and the so-called formal city. Inhabitants find a variety of work in the informal settlements, not only with fishing. This particular part of my research concluded with recommendations to the local authorities and an appeal to the PAC housing project directed at housing the group of citizens I was studying (under development at that time), to include working spaces in the design of the project and not only dwelling units (Cavalcanti, 2009, p.123), an advice that was unfortunately not accepted.

3 English for “Dos Calejados pés, os passos dos filhos de Mãe Lagoa: A Produção do espaço a partir dos Ritos de Sururu na favela Sururu de Capote”.

4 For more information on this topic, please refer to a milestone in Brazilian historiography “Casa Grande e Senzala” by north-eastern Brazilian writer Gilberto Freyre.

This first study revealed the need to better understand the dynamics of labor connected to the production of space in other favelas, and within the broader sphere of informal settlements. It made me formulate the hypothesis that **labor could be also a relevant aspect to the planning of other favelas and contribute to the design of housing of other informal settlements**. This is the reason why I wrote this PhD dissertation, aiming to answer the question of **whether labor is indeed a determining factor for shaping living spaces in informal settlements, and how this knowledge can be used to design better housing for the poor**. For this reason, this thesis is based on data collection, documentation, analysis and study of a case in the previously mentioned *Favela Sururu de Capote* and also in the favela *Grota do Antigo Telégrafo*, both located in one of the fastest urbanizing cities in the world, Maceió, in the northeast of Brazil (City Mayor Foundation, 2015). This city is also characterized by one of the worst Index of human development (HDI) in Brazil (0,667) (IPEA, 2015), and is also ‘one of the most violent cities in the country’ (Armin et al., 2016).

Choosing a fast urbanizing city context allows for better addressing issues that will likely be faced by other cities dealing with rapid urbanization in the future. Fast urbanization in the Global South will likely be linked to high rates of informality and growth and consolidation of “slums” in the next decades. The assumption here is that, even though most findings cannot be generalized nor universalised to other rapidly urbanizing cities without proper analysis, there are characteristics and patterns of development and planning that remain similar.

Thus, I aim to tackle crucial housing issues of society and help policy makers, designers, planners, economists, sociologists and other professionals to better address the problem of informal settlement redevelopment and housing for the poor, either by adopting “slum upgrading” strategies or by resettling residents to new housing especially designed to cater for their needs (cultural, labor-wise, environmentally-wise, community-wise and others). I believe this work has also the potential to provide a new paradigm, methodology and approach for planning housing for the urban poor, improving the life conditions of deprived citizens in rapidly growing cities and metropolises in the Global South. In summary, this research addresses the need to understand the social practices of slum dwellers from within and to consider the working practices of residents living in informal settlements, in order to be able to provide policy makers with tools for sound decision making in slum upgrading strategies, to help architects and planners to design better settlements also in processes of resettlement from favela to social housing.

1.2 Research Scope, Methods and Aim

This research addresses the challenges explained below at both intellectual and practical levels:

Does labor, connected to a wider range of social practices, influence the design of spaces in the informal settlements? And if so, why and how? What does this relationship imply for both theory and practice? According to literature review, this question has never been directly dealt with in the context of informal settlements. I then aimed to open an interpretative perspective on this topic. This approach is rooted in my first field work experience, carried out between 2008 and 2009, in one of the poorest urban and most vulnerable settlements in the world in terms of sub-nutrition index, according to the United Nations Settlements Program (UN-Habitat) and Brazilian Action for Nutrition and Human Rights (ABRANDH) and Food and Agriculture Organization of the United Nations (FAO) (Rech, 2007, p.339; FAO, 2011, p.28) and also by my own living experience in the *favela (Grota do Antigo do Telégrafo)* between the years of 2014 and 2015.

The data collected was analysed through the theoretical and practical discussions found in literature of urban informality and housing, mainly using the ideas of seminal scholars Charles Abrams and John Turner on the informal settlement as a temporary dwelling space for rural migrants who go to the cities in search for a better life, as well the modern notion of housing related to the working migrants (Abrams, 1964; Turner, 1976), seeking to understand on the relationship between work, housing and informal settlements in urban environments. The theory on urban informality was analysed adopting the concept of urban informality of Nezar AlSayyad and Ananya Roy (Roy & AlSayyad, 2003). This data was used to formulate a new interpretative framework to the study of space related to working practices in informal settlements.

Furthermore, field research was carried out using diverse methodologies and theoretical approaches according to each angle analysed, which is expressed in different methodologies being used in different chapters of this thesis. As a general rule, the main methodologies used in this thesis are:

- 1 Ethnography (Certeau, 1990). Ethnography is the structured description of peoples and cultures, including the description and analysis of their customs, habits, and mutual differences. This was done primarily through ethnographic tools such as photos, drawings, semi-structured interviews, oral history, videos, etc. These tools

were used by me to reveal the everyday life patterns of uses and construction of space by people in the settlements studied, and to understand the spatial dynamics in informal settlements.

- 2 Participatory research methods were used, combined with ethnographic tools, such as oral history, active participation and interaction with the community of the settlements studied. Monologues were recorded to highlight and empower the voices of oppressed citizens within the context of the research, to showcase their narratives and thriving needs. Participatory research methods, were applied to respond to the claims of scholars in the field of urban and regional research such Ananya Roy, Jennifer Robinson, Puspa Arabindo, Partha Chatterjee and AbdouMalik Simone for more ethnographic research, and non-colonial approaches to the study of urban informality, and the claim to study poverty through new interpretative frames by Allan Gilbert and Pushpa Arabindoo (Cavalcanti, 2017).
- 3 Mapping the living (social and spatial) patterns of the *Favela*. This is a mapping technique elaborated by me, combining anthropological approaches, such as ethnography, participatory research and architectural tools such as drawings (Cavalcanti, 2017, 2018). This methodology was also applied to respond to the same claims stated before and to cope with the design and planning needs architects and planners may have. This technique is described in depth in chapter 4. It was applied in this research and it can be also used as a pedagogic tool (*Favela* Pattern Language) to understand, map and address the spatial logic of informal settlements.
- 4 Time series analysis, to compare the transformations in the field and people's actions, across the long timespan of this research. Time series consist of minutely documenting people's actions and behaviours across time (for instance across different seasons or hours in a day). In the case of this research, it was performed from 2008 until 2018.
- 5 Post-occupancy studies (POE) to compare the changes in space before and after resettlement. Post-occupation studies consist of documenting spatial conditions pre- and post-occupation of spaces. This is done through drawings, and photographs.
- 6 Finally, an extended case study method (Burawoy, 1998) was performed to contextualize, connect and extend the findings and the data collected, analysed over the years in *favelas* of Maceió to more in-depth questions, raising philosophical issues of dwelling as a human practice, to address the existing contexts of people living in informal settlements, and housing in the context of the underprivileged who struggle in the developing world. Hence, the aim is that the findings of the research are discussed and contextualized within a broader frame, as they tackle

the reality of a big chunk of mankind under conditions of underrepresentation, thus addressing the issues of people living in any informal settlement around the world. As previously mentioned, the favelas I study are located in Maceió, Brazil, the capital and the largest city of the coastal North-eastern state of Alagoas, Brazil, with an estimated population of almost one million people in 2013 (IBGE, 2013). Despite the particularities of informal settlements of the Brazilian Northeast, I was seeking for universal principles that could potentially be used in informal settlements around the world. These universal principles would have to be tested and adapted to other realities, but the core findings and the method used to get to them can potentially be generalised.

Further detail about the choice of methods is given further in the text of this thesis. This thesis is made up of several published papers, each of them an individual paper published in a reputable peer-reviewed journal. New insights are explained in the articles published, along with the main discoveries of this research. The analysis of the data collected is organized in such a way to reveal how the ordinary language of design in the *favelas* can be analysed and structured as a tool and a resource for design and planning, unveiling new flexible spatial standards for *favelas*. Apart from the methodological steps explained, the finding that labor shapes, plans and governs *favelas* is aimed at understanding and produce a new theory describing the spatial configuration of *favelas*, to new design and planning practices that dignify the collective responsibility of self-building processes in *favelas*, based on social practices of citizens of informal settlements.

1.3 Research Outline

This thesis intends to demonstrate that labor is the social practice that primarily shapes, plans and governs the spatial dynamics of informal settlements and is thus relevant to better address epistemological issues and practical challenges in the realm of planning and design for the urban poor.

The methodology used in the initial field work conducted in 2008 and concluded in 2009, aimed at understanding the origins of space production in informal settlements from an anthropological point of view. The theoretical framework was based on the study 'The practice of everyday life' by Michel de Certeau (Certeau, 1985). As previously stated, I started studying space from an anthropological

perspective, and throughout the best part of a decade I developed my own perspective on how spaces are built in informal settlements, as well as my own methodological approaches, aided by data analysis, interactions with the community and by theoretical debates that shape up my theoretical framework. The conditions that led me to develop this methodology emerged from my own needs during the research process, naturally and instinctively.

The research trajectory started ten years ago, when I went to the field with an open question, that was 'How is the *favela* spatially organised'? Ten years ago, the very first methodological step was to perform a *dérive* (in French) in the space. By *dérive* I mean a wondering inside the *favela*, with an attitude similar to the one Baudelaire took as a *flâneur* in 19th century Paris and the situationists used to perform psycho-geographies of space in the 1950s. This initial exercise allowed me to discover the spaces of the *favela* as a dispassionate observer. Mapping my own perception of space has allowed me to critically access a space that was unknown to me, using my own words and my interpretative frames, based on my sensorial experience. This exercise was important to leave behind the 'astonishment' of the contact with a reality different than mine. Indeed, years later I read Ananya Roy and she noticed that students had difficulties to understand the reality of informal settlements and the reality of the poor after they visited a slum in Mexico, perhaps due to this astonishment: the lack of insight into the life of the other, or the inappropriate analysis of the poor usually ends by doing an 'aesthetization or museification of poverty' (AlSayyad and Roy, 2003, p. 296). The 'astonishment towards the other,' can also be reinforced by a 'universal transnationalism' in the pedagogy of architecture (AlSayyad and Roy, 2003, p. 294) to which a complex approach to architecture is needed, beyond the belief that the architecture discipline is a mere monolithic practice, characterized by spatial determinism, and that architects have a limited role (Avermaete, 2016). Indeed, such requires a critical assessment of backbone of the architect, and a sensible and ethical reflection upon his own practice, mission and role while researching unprivileged groups and their settlements.

As a second step, I conducted interviews, and started drawing the spaces of the *favela*. Hearing and observing the everyday lives of people in visits to the *favela* led me to a radical decision: I moved into the *favela* and lived and used the spaces of the *favela* as a common inhabitant. This led me to open my house to the community of informal settlers, in order to invite them into the research and into my wish to explore the lives of inhabitants in the *favela* (fig1.1-1.2). I remained linked to ethnographic methodologies, since my contact with anthropological readings gave me a theoretical perspective from that discipline. I quickly realised that the focus of my architecture and planning drawings was not only the space I saw, but the social

activities intertwined with space. I could quickly realise how space and livelihood merged. While performing field research and mapping the *favelas*, I prioritized participatory research because, as mentioned before I felt that this would empower the voices of those underrepresented and underprivileged, and show a rich manner of studying spaces, beyond parochial and technocratic terms and complementary to traditional knowledge production. It allowed me to unveil the narratives of the poor and include them in knowledge production, which allowed me to have a perspective from “within”.

This early phase of research opened my eyes and my head to new possibilities of conceiving knowledge about a group of citizens about whom scholars have generally little knowledge of. This perception has always guided my research, even in other contexts, such as when, years later, I performed ethnographic research in a vulnerable neighbourhood of Hamburg, for the University of Hamburg.

Urban planners working in that project also used Certeau's theories. That experience allowed me to transport Certeau's theories to an architecture and planning dimension, by introducing the Pattern Language of Christopher Alexander into the discussion, with which we mapped a deprived neighbourhood in Hamburg (Wilhelmsburg) in 2012-2013. However, the focus of my patterns was on understanding the social practices being performed in the neighbourhood, which allowed me to extend the method to include those social practices, to show aspects of living and building and planning spaces in contexts of informal settlements. I then wrote the doctoral proposal for TU Delft influenced by those ideas. The influence of ethnography in my work was so strong that it was difficult to come back to architecture after diving in anthropology, and it has strongly affected the way I see and do architecture.

I further developed this anthropological approach into a method to map and explain space dynamics in informal settlements, which constitutes a pedagogical tool for architects that merges ethnography and drawings to expand this discovery to other *favelas* and test the hypothesis in other informal settlements. This methodology merges Christopher Alexander's Pattern Language (Alexander et al., 1977), with sociology to respond to critiques to include the social practices of everyday life in the informal settlements, as previously explained. I presented this methodology to TU Delft during my first year of doctorate upon my arrival, during the second year, and later in 2017. These methodological steps are developed to link the production of space, documented through drawings and close contact with the community in its daily rituals of work, and existing urban theories and provide the academic community with a critical account of the influence of labor on the spatial configuration of informal settlements.

I applied this methodology to map the *favelas* of this study. To show both the social and physical representation of space in the *favelas*. Again, in both *favelas* they revealed the crucial importance of labor to the configuration of space. Due to the long timespan of this research, I have noticed significant changes in the communities under scrutiny throughout the years (time series analysis), most specifically in the *Favela Sururu do Capote*, and also its resettlement in a housing program (post occupancy study), giving me the opportunity to compare the data collected before and after their resettlement. After collecting the data and mapping, I started analysing results using a critical assessment of the theory about urban informality and noticed that literature has a big gap because the literature which describes the spatial dynamics of informal and labor is missing. I then started to address this gap by providing a critical interpretation and assessment of the existing theories on urban informality, housing and the reason why such knowledge on the relationship between labor and space is still not consolidated. Combined with the data collected, the literature review also provided me with arguments to formulate my own theory and perspective on the question of labor and informality and suggest possible approaches.

I believe that this knowledge can change the perspective and scope of knowledge about informal settlements and housing and thus I hope it opens and fosters a new epistemology on the study of urban informality and housing in the Global South, shedding light on knowledge gaps about informal settlements, and the ensuing issues in the theory and practice of housing planning and design. By epistemology, I mean the conditions and the methods necessary to achieve knowledge, its validity and scope (in my case, the role of labor to the spatial and planning dimensions of informal settlements). Hence, I believe a new epistemology of informal settlements is framed in this study by understanding their spaces as also as work spaces, through a perspective that defines those spaces through new methods, scopes, and values; and apart from traditional definitions of slums, which defines them merely by their structural and sanitary deficiencies.

All analysis is based on data produced originally by me.

The steps of the research question were accessed by using the four bellow methodological steps.

This research addresses both at an intellectual and practical level:

- If and how labor, together with other social practices, influence the conceptualization, definition, dynamics, configuration, logics, design of spaces in the informal settlements?

This part of the research was performed by field research (including ethnography, participatory research, time series analysis, post occupation studies, and extended case study followed later to literature review.

- 1 How to dignify the collective responsibility of self-building processes of *favelas*? This part of the research is based on data collected by the author in the *favelas* in Brazil in order to better understand, access and approach the phenomenon of housing in the informal settlement.
- 2 How can social practices be investigated in informal settlements? This part of the research was carried through a new methodology developed by me, combining data collected and data from the literature review.
- 3 How can the ordinary language of design of the spaces in *favelas* be translated as a tool and an asset, unveiling new flexible spatial standards for *favelas*? Here we searched for a design method compatible with dwellers endless building processes. What are the tools available to architects addressing informal settlements? This phase of the research focused on the presentation and organization of the methodology to access and study informal settlements, notably a planning [planning and design] language of self-construction.

The complex range of issues tackled in this thesis is organised in chapters as follows:

Chapter 2 describes and analyses the first case study (*Favela do Telégrafo*, in Maceió), presenting sociologic, anthropological and qualitative evaluations of the relationships between livelihoods and space in the case. The chapter presents an overview on the logics of labor of the informal settlement and their embeddedness in the production of space by the inhabitants themselves. This chapter demonstrates how labor is an important practice that most of all shapes, plans and governs the entire logic of the informal settlement. It shows how it creates the slum, affect its growth, and affects the space of neighbouring formal parts of the city. This chapter elaborates a theoretical framework and pursues practical applications of the conclusions on the design of housing for the poor. The main methods used here are field research using ethnographic tools and literature review. It explains that labor is a new perspective in theory and planning and design approaches and shows recommendations and guidelines for planners and architects.

Chapter 3 describes and analyses the second case study (*Favela Sururu de Capote*, in Maceió), data about the projects delivered to the residents living in the *favela* through literature review, as well as sociologic, anthropological and qualitative evaluations of the relationships between livelihoods and space. The chapter presents an overview on the logics of labor of the informal settlement and a critique regarding the lack of appropriate studies on this topic related to informal settlements in literature. It focuses on labor as shaper of space in three scales of territories: the settlement, the city and I show how the labor activities performed in the *favelas* studied addresses broader economic circuits in the world.

Chapter 4 focuses on the elaboration of the results acquired from data analysis into an innovative framework for planning and design of housing that considers the existing spatial make-up of *favelas*. This chapter pursues organization of data into 4 categories and the elaboration of a new rationale that may help planners and architects understand the existing spatial make-up of *favelas*.

Chapter 5 provides a critique on the role of the architects in informal settlements. It reflects on possible paths of architectural theory and practice in addressing housing for low income groups, based on the analysis of a post occupation study conducted during the resettlement of inhabitants from *the Favela Sururu de Capote* to the social housing project *Vila São Pedro* in Maceió, comparing the social practices of residents before and after their resettlement process. This chapter elaborates on the importance of considering labor as a housing right.

Chapter 6 of the thesis analyses the reasons why current housing approaches do not contemplate the labor practices of residents living in informal settlements and presents an innovative approach to housing based on the restoration of the link between labor and dwelling, as well as recommendations for planners and architects.

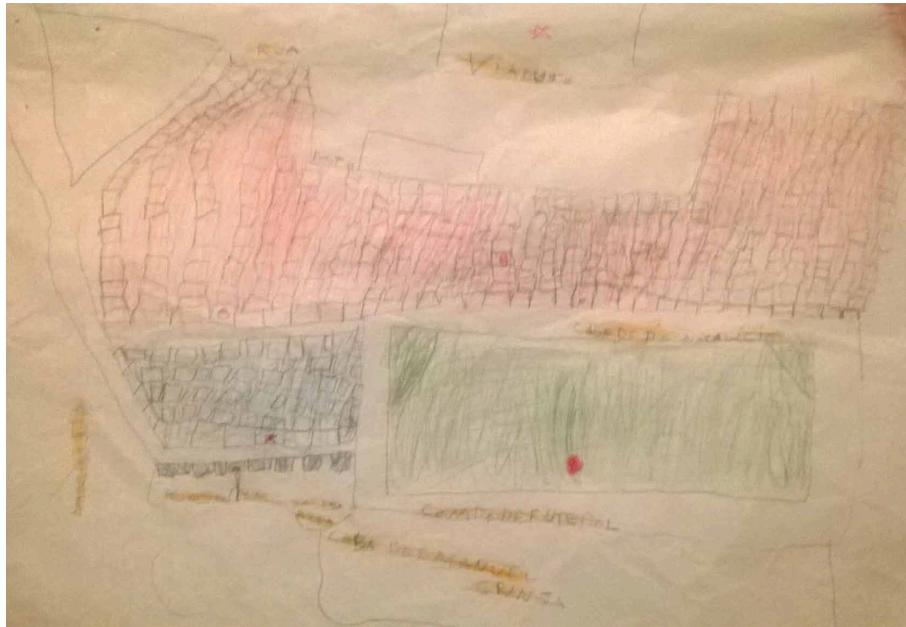


FIG. 1.1 Map of the *Favela do Telégrafo* by a resident. Source: *School of Favela Architecture*, 2014.



FIG. 1.2 Picture shows a self-made shelf (with materials and books donated by the community and architects) during a workshop in the *Favela do Antigo Telégrafo* where the author lived to perform the research. Source: Ana Rosa Chagas Cavalcanti, 2014.

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