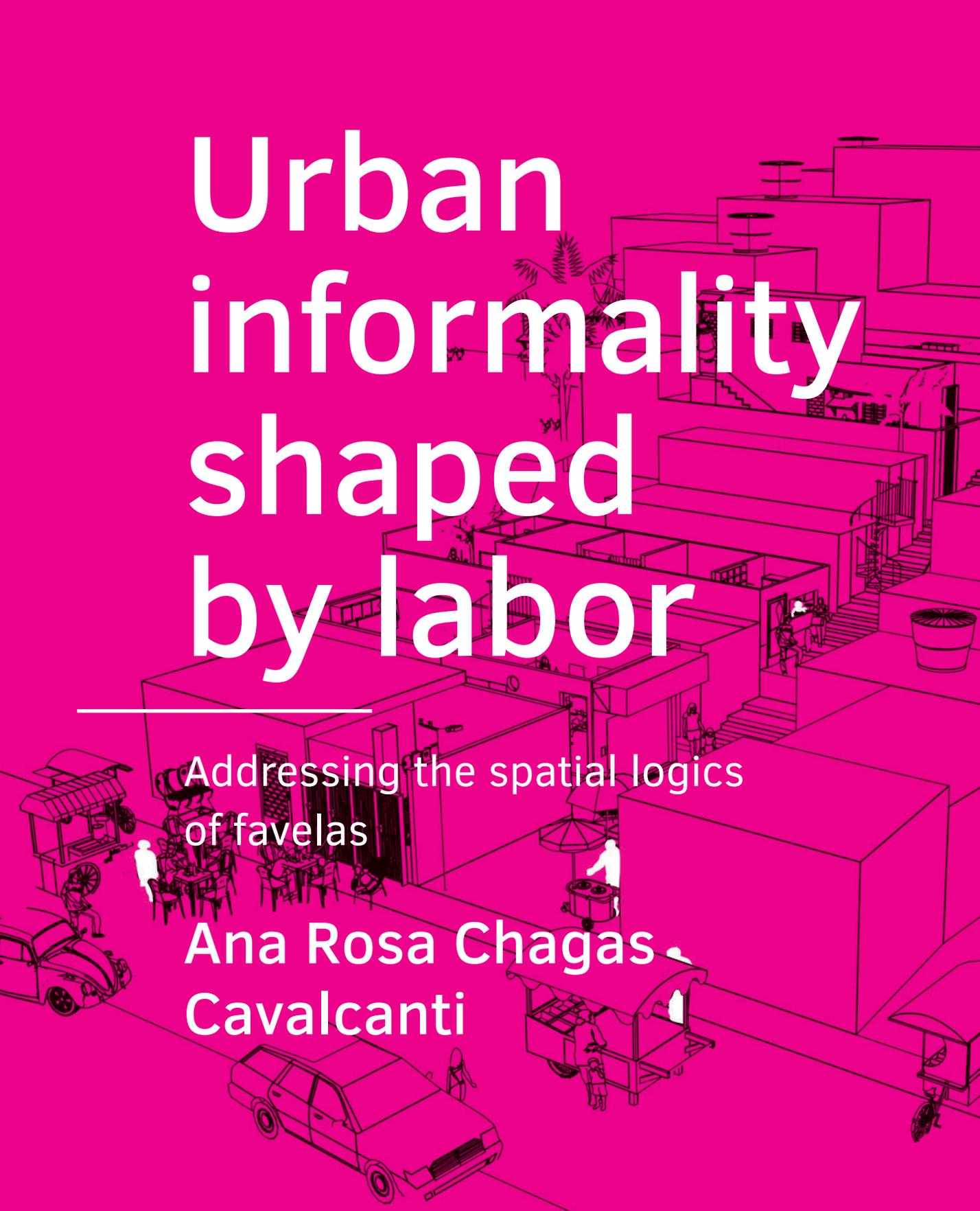# Urban informality shaped by labor

Addressing the spatial logics of favelas

Ana Rosa Chagas Cavalcanti

Urban informality shaped by labor

Addressing the spatial logics of favelas

Ana Rosa Chagas Cavalcanti

Urban informality shaped by labor

Addressing the spatial logics of favelas

This dissertation has been approved by the promotors.

Composition of the doctoral committee:

Rector Magnificus,	chairperson
Prof. ir. D. E. van Gameren	Delft University of Technology, promotor
Dr. ir. R.C. Rocco de Campos-Pereira	Delft University of Technology, copromotor

Independent members:

Prof. dr. N. Al-Sayyad	University of Berkeley, United States of America
Prof. dr. T.L.P. Avermaete	Eidgenössische Technische Hochschule Zürich, Switzerland
Prof. dr. M. Sabini	Drury University, United States of America
Prof. dr. M. G. Elsinga	Delft University of Technology, The Netherlands

Acknowledgements

Some years ago, while I was performing the in-field research in the Favela do Antigo Telégrafo in Maceió, I bought two books on architecture and planning. I have been carrying these books with me also lately, when I decided to live in that favela to further investigate the social practices of its inhabitants and their effects on space. At that time, I would never imagine that some years later, I would have defended my doctoral thesis in front of the two scholars who wrote those books, that I have been carrying all along the course of this research: Prof. Nezar Al Sayyad and Prof. Tom Avermaete. I could hardly dream that the same persons would have fulfilled me with the knowledge and inspiration, that they inspired me along these years. For these reasons, I deeply thank them both.

Many experiences have profoundly blessed my doctorate and I am grateful to God, and I translated gratitude in restless intellectual commitment. I would like to thank all members from the International Association of Traditional Environments (IASTE), that represented my first academic family. I also thank all members of the Wohnungsfrage, ETH Wohnforum, Shareland Doctoral Colloquium fellowships, and the Herrenhausen Conference of Volkswagen Foundation, Dangerous Landscapes, which I had honour to be part of. I particularly thank the peers and members of International Journal of Urban and Regional Research (IJURR) fellowship I was selected for during the premises of this research, whose experience has enriched me through all the intellectual discourses with seminal scholars on urban theory I had the honour to participate to.

Along the path of this research, I also have found many professors and professionals that gave me support, trust and responsibility. I thank them all for having shared their experiences with me. Hence I would like to thank Prof. Dr. Saskia Sassen, Prof. Dr. Rahul Mehotra, Prof. Dr. Maurizio Sabini, Prof. Dr. Alex Schafran, Prof. Dr. David Madden, Claudio Acioly, the staff of Municipality of Maceió, the staff of UN Habitat Alagoas, the staff of State of Alagoas, and the staff from Federal government agencies such as the nowadays extinct Brazilian Ministry of Cities (MINC). I thank also the professors from my hometown, who gave me the solid, creative, and intuitive basis to think Architecture and Urbanism in Brazil, Prof. Tais Normande, Prof. Regina Coeli, Prof. Dr. Walter Mathias, Prof. Dr. Regina Dulce, Prof. Dr. Geisa Brayner, and all my colleagues from the Federal University of Alagoas, in Brazil.

Contents

TOC

List of Tables

List of Figures

TOC

TOC

List of Abbreviations

ABRANDH	*Ação Brasileira pela Nutrição e Direitos Humanos* (in English, Brazilian Action for Nutrition and Human Rights)
BNH	*Banco Nacional da Habitação* (in English, Brazilian Housing National Bank).
CAPES Foundation	*Coordenação de Aperfeicoamento de Pessoal de Nível Superior* (in English, Coordination of Improvement of Higher Level Personnel, Brazil)
COHAB	*Companhia de Habitação Popular* (in English, Company for Popular Housing)
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
HDI	Human Development Index
IDB	International Development Bank
IPEA	*Instituto de Pesquisa Econômica Aplicada* (in English, Institute of Aplied Economics Research)
INESC	*Instituto de Estudos Socio-Econômicos* (in English, Institute of Socio-Economic Studies)
MINC	*Ministério das Cidades* (in English, Brazilian Ministry of Cities)
MCMV	*Minha Casa, Minha Vida* (in English, My House my Life, Brazil)
NGO	Non Governamental Organization
OECD	Organisation for Economic Co-operation and Development
OXFAM	Oxford Committee for Famine Relief
PAC	*Programa de Aceleração do Crescimento* (in English, Program of Acceleration of Growth, Brazil)
PROMORAR	*Programa de Erradicação da Sub-Habitação* (in English, Program of Erradication of Sub-Habitation, Brazil)
UN	United Nations
UN-Habitat	United Nations Human Settlements Program
UNDHR	United Nations Declaration of Human Rights
UPPS	*Unidades de Polícia Pacificadora* (in English, Units of Peacemaker Police)

Summary

This doctoral thesis presents the results of ten years of research on informal settlements, with particular reference to Brazilian *favelas*. The research aimed to understand the social dynamics of the production of space in these settlements. To this purpose, the author took residence in *favelas* and performed field research for a total of six years, including the witnessing of a resettlement process from a favela to a formal social housing development in the city of Maceió, in Brazil. The social dynamics that produces and influences the space of the favelas observed in the field were systematically codified in a new pedagogic tool by the author. As main findings from the analysis, it emerged that labor primarily shapes, plans and governs space in informal settlements. Working activities explain the emergence of these settlements, influence the dynamics of space inside the domain of the house, influence the shape of streets up to the margin of the *favelas*, but also has influence on city and global scales. From the residents' perspective, labor represents both a means to earn their subsistence, livelihoods and underscores their inner self-esteem as human beings. Working practices originally present in the *favelas* were in fact restored in the social housing development to where citizens were relocated, with their original domestic function. According to this thesis, labor practices of inhabitants of informal settlements must be addressed when designing housing solutions for deprived citizens fighting for their survival and must be considered as a housing right. The reasons why the current housing approaches do not contemplate work are understood in context and interpreted according to their historic and economic backgrounds. A housing architectural and planning approach aimed at restoring the combination of working and domestic functions of human beings is proposed instead.

Samenvatting

Dit proefschrift presenteert de resultaten van tien jaar onderzoek naar informele sloppenwijken, in het bijzonder voor Braziliaanse favela's. Het onderzoek had als doel de sociale dynamiek van de productie van ruimte in deze sloppenwijken te begrijpen. Daartoe nam de auteur haar intrek in favela's en voerde zij in totaal zes jaar veldonderzoek uit. In de periode was zij ook getruige een herhuisvestingsproces van favelabewoners die naar een sociale woning verhuisden in Maceió, Brazilië. De sociale dynamiek die de ruimte van de favela's produceert en beïnvloedt en die in het veld wordt waargenomen, werd door haar systematisch gecodificeerd in een nieuw pedagogisch hulpmiddel. Als belangrijkste bevingding van de analyse kwam naar voren dat in de eerste plaats werk bepaalt, reguleert en vorm geeft aan de ruimte in de informele sloppenwijken. Werkactiviteiten verklaren de opkomst van deze sloppenwijken, beïnvloeden de woning weglaten dynamiek van de ruimte binnen het domein van de woning, beïnvloeden de vorm van straten tot aan de rand van de favela's, maar hebben ook invloed op stedelijke en mondiale schaal. Vanuit het perspectief van de bewoners is arbeid zowel een middel van bestaan als het versterken van hun gevoel van eigenwaarde. De werkactiviteiten die ze oorspronkelijk in de favela's hadden verricht, verhuisden mee als bewoners verden overgeplaatst naar een sociale woning. Volgens dit proefschrift moeten arbeid en de mogelijkheid om een beroep uit te voeren worden gezien als een belangrijk aspect bij het ontwerpen van sociale woningen voor de kansarme sloppenwijkbewoners en moet het worden beschouwd als een huisvestingsrecht. De redenen waarom bij het ontwerpen van de sociale woningen werk niet wordt overwogen wordt duidelijk gemaakt en geïnterpreteerd op basis van de historische en economische achtergrond. In plaats daarvan wordt een architecturale planningsaanpak voorgesteld die gericht is op het herstel van het samengaan van de werkende en huishoudelijke functies van de mens.

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 evelopment (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 porest 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 AbdouMaliq 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 unknow 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 museimification of poverty' (AlSayyad and Roy, 2003, p. 296). The 'astonishement towards the other,' can also be reinforced by a 'universal transnationalism' in the pegadogy 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 monolitic practice, characterized by spatial determinism, and that architects have a limited role (Avermaete, 2016). Indeed, such requires a critical assement of backbone of the architect, and a sensible and ethical reflection upon his own practice, mission and role while researching unpriviledged 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 *favela*s, 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 (Wilhemsburg) 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 sefinitions of slums, which defines them merely by 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 restauration 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.

References

Abrams, C. (1964). *Housing in the Modern World.* London: Faber and Faber.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., & Angel, S. (1977). *A Pattern Language: Towns Buildings, Constructions.* New York: Oxford University Press.

AlSayyad, N., & Roy, A. (Eds.). (2003). *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia.* Oxford: Lexington Books.

Arabindoo, P. (2011). Beyond the Return of the 'Slum'. *City*, *15*(6), 631–635.Doi:10.1080/13604813.2011. 644750

Armin, R., Bender, J., Macias, A. (2016). 'The 50 Most Violent Cities in the World.' *Business Insider.* Retrieved from: https://www.businessinsider.com/most-violent-cities-in-the-world-2016-1?international=true&r=US&IR=T. [Accessed May, 2016].

Avermaete, T. (2016).ABE 012: Cross-Cultural Practice in Architecture and Planning. 18/11/2016. [Powerpoint slides]

Brazil, Instituto Brasileiro de Geografia e Estatística (2015). *Estimativas Da População Residente Nos Municípios Brasileiros Com Data de Referência 1 de julho de 2015*. IBGE, 2015.ftp://ftp.ibge.gov.br/ Estimativas_de_Populacao/Estimativas_2015/estimativa_2015_TCU_20160211.pdf

Brazil, Instituto de Pesquisa Econômica Aplicada (Ipea) (2015). *Atlas do Desenvolvimento Humano no Brasil.* Retrieved from: http://atlasbrasil.org.br/2013/. [Accessed 20 February, 2018].

Burawoy, M. (1998). The Extended Case Method. *Sociological Theory, 16*(1), 4–33.Doi:10.1111/0735-2751.00040

Caldeira, T., & Holston, J. (2015). Participatory urban planning in Brazil. *Urban Studies, 52*(11), 2002- 2017.

Carlos, A. F. A. (1994). *A Reprodução do Espaço Urbano*. São Paulo: Edusp.

Cavalcanti, A. R. C. (2009). Dos Calejados Pés, Os Passos Dos Filhos de Mãe Lagoa: A Invenção Do Espaço a Partir Dos Ritos Do Sururu. (Graduation Thesis), Universidade Federal de Alagoas, Maceió, Brazil.

Cavalcanti, A. R. C. (2017). Work, Slums and Informal Settlements Traditions: Architecture in the Favela do Telegrafo. *Traditional Dwellings and Settlements Review. XXVIII*(2), 71-81.

Cavalcanti, A. R. C.(2018). Work as a Housing Right: the transfer of residents from Favelas to Social Housing. *Traditional Dwellings and Settlements Review 306* (Housing and Social Change).

Certeau, M. de (1990). *L'invention du quotidien 1: Arts de Faire.* Paris: Gallimard.

Chatterjee, P. (2012). After Subaltern Studies. *Economic and Political Weekly, XLVII*(35), 44–49.

City Mayors Foundation (2015). Urban Growth - City Mayors Foundation. Retrieved from: http://www. citymayors.com/statistics/urban_growth1.html [accessed July 20, 2015]

FAO (2011). *Exigibilidade: Mechanisms to Claim the Human Right to Adequate Food.* Rome: FAO.

Freyre, G. (1946). *The masters and the slaves (Casa-grande & senzala) a study in the development of Brazilian civilization.* New York: Knopf.

Gilbert, A. (2007). The Return of the Slum: Does Language Matter? *International Journal of Urban and Regional Research, 31*, 697-713.Doi:10.1111/j.1468-2427.2007.00754.x

Holston, J. (2007). *Insurgent Citizenship: Disjunctions of Democracy and Modernity in Brazil.* Princeton: Princeton University Press.

Lopes de Souza, M. (2000). *O desafio metropolitano. A problemática socio-espacial nas metrópoles brasileiras.* Rio de Janeiro: Bertrand Brasil.

Maricato, E. (2010). The Statute of the Peripheral City. In *The city statute of Brazil: a commentary* (org.) A.Carvalho, Celso Santos e Rossbach (pp. 5-22). São Paulo: Ministério das Cidades e Aliança de Cidades.

Rech. D. (2007). *Direitos humanos no Brasil 2: diagnóstico e perspectivas.* Rio de Janeiro: Ceris/MauadX.

Robinson, J., & Roy, A. (2016). Debate on Global Urbanisms and the Nature of Urban Theory. International J*ournal of Urban and Regional Research, 40*(1).181-186.

Rocco, R., & Van Ballegooijen, J. (2018). *The Routledge Handbook on Informal Urbanization.* London & New York: Routledge.

Rolnik, R. (2011). Democracy on the Edge : Limits and Possibilities in the Implementation of an Urban Reform Agenda in Brazil, *International Journal of Regional and Urban Research 35*(March), 239–255. Doi:10.111 1/j.1468-2427.2010.01036.

Roy, A. (2005). Urban Informality: Toward an Epistemology of Planning. *Journal of the American Planning Association, Spring 2005, Vol. 71*, (2). 148: 147-158.

Salvador, Evilásio (2016). Perfil da Desigualdade e da Injustiça Tributária: com Base nos Declarantes do Imposto de Renda no Brasil 2007-2013. Brasília: INESC.

Simone, A. (2004). People as Infrastructure: Intersecting Fragments in Johannesburg. *Public Culture, 16*(3), 407–429. Doi:10.1215/08992363-16-3-407

Turner, J. F. C. (1976). *Housing by People: Toward Autonomy in Building Environments.* New York: Pantheon Books.

World Bank (2018). *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle.* Washington: World Bank Group.

2 Work, Slums And Informal Settlements Traditions

This chapter is based on "Work, Slums and Informal Settlements Traditions: Architecture of the Favela do Telegrafo" (2017)

"... labor must be part of the planning rationale for slums"
Cavalcanti, 2017

This report proposes patterns, guidelines and principles for use in the design of social housing, derived from the existing "self-help" context of slums in Brazil. It is based on findings from seven years of ethnographic field observation in the *Favela Grota de Santo Antonio* (2008–2015). The research revealed that the presence of work activities (which generally happen within residences) has greatly modified architectural space within the favela. From a post-neoliberal point of view, the report also offers a global critique of the planning of social housing with regards to issues of labor.

This report seeks to offer a new interpretation of informal settlements and the design of social housing based on an analysis of the labor practices of the residents of Brazilian favelas observed extensively in the field over the course of seven years. Following the framework developed in past IASTE publications, these practices will be considered open-ended traditions, which may serve as a "foil for exploring the contested subjectivities involved in producing and/or occupying space" (AlSayyad, 1990, p. 6).

TOC

The report is based on a case study in the city of Maceió (in Alagoas state, Brazil), but as will be demonstrated, its conclusions may be extended to informal settlements around the world. In fact, the report aims to address a range of assumptions and paradoxes surrounding current theories related to informal settlements. It also reflects on the way the architecture and planning of such settlements are being taught and conceived. In this regard, its primary intent is to link an analysis of systems of labor to the design of the informal city, a connection that planning and design literature has yet to adequately explore.

The field-observation phase of the research started in 2008, with the aim of exploring the dynamics of life and the daily practices of inhabitants in some of the poorest slums in Brazil These included the *Favela Sururu de Capote* (FSC) and the *Grota do Telegrafo* (GDT), also known as *Favela Grota de Santo Antonio*, both located in Maceió, the capital city of Alagoas State. Of the two sites, this report will mainly focus on the *Grota do Telegrafo* (fig.2.1–2.2).

The first residents of these two *favelas* migrated to the city from surrounding rural areas, where many had worked as sugar-cane cutters. This migration continues today and is fueled by various motivations. Some interviewees said they decided to move to the city after becoming unemployed; others said they had run away out of misery; and a few claimed to have accepted new jobs in advance of moving, or to have simply decided to explore a different place. However, in all cases residents reported they had come to the city looking for better work opportunities and services.

The grotto

The hill

The plane

The plane near water
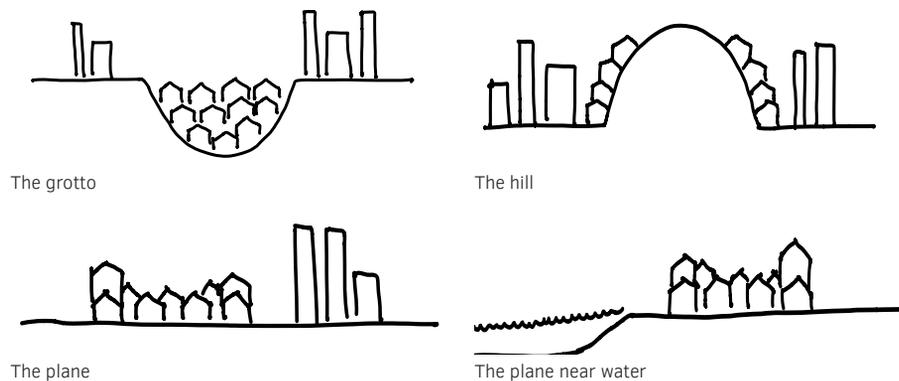
FIG. 2.1 Type of *f*avelas in Maceió. Source: Ana Rosa Chagas Cavalcanti, 2014.
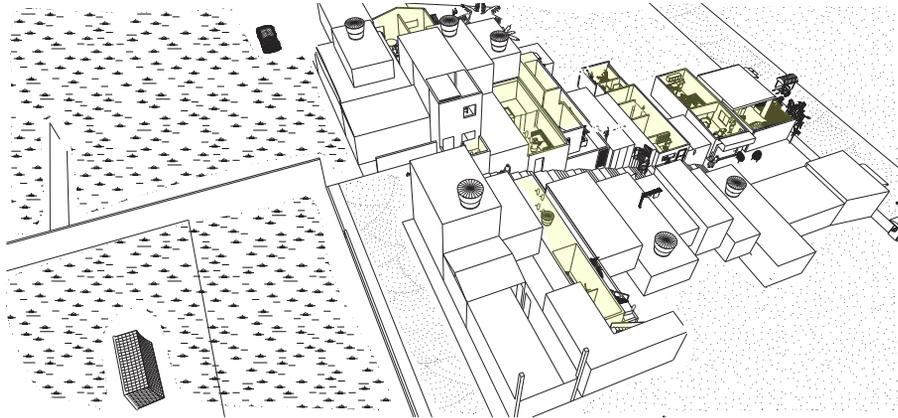
FIG. 2.2 Perspective of the *Favela* do Telégrafo from above shows housing units studied in one alley. Source: Ana Rosa Chagas Cavalcanti, 2015

Within Alagoas, Maceió is commonly regarded as the "big city." To reach it, migrants generally travel by *pau-de-arara* (irregular transportation on the back of a truck). Sitting uncomfortably, side by side, under a canvas cover that supposedly protects them from the harsh tropical sun, the journey may last for days. At its end, migrants hope to find a city of opportunities; however, their dreams are often dashed. On arrival, they immediately find that renting living space in formal areas is too expensive, even if they use all their savings. Needless to say, they cannot afford to buy a house or a plot of land. Housing is also not their only financial challenge. The cost of food, transportation, and other services involved in living in the city are typically far beyond what they can afford. Left with few settlement options, many seek space in an existing *favela*, where they are likely to encounter relatives and friends.

Overall, the slum thus becomes their passageway to the city. In terms of employment, a number of interviewees revealed that many *favela* residents do not even work in the formal city, but within the borders of the slum itself. Their activities may include fishing, crafting, running a business, trading, collecting garbage, recycling, farming, hawking, or offering services such as sewing, hairdressing, or nursing. *Favela* inhabitants who find jobs in the formal city, by contrast, may work as maids, carters, babysitters, masons, hawkers, drivers, cleaners, secretaries, or clerks in supermarkets and shopping malls.

Previous scholarship on economies of informal settlements, such as that of Abhijit Banerjee, Esther Duflo and Benjamin Marx, Thomas Stoker and Tevneet Suri, has typically considered the particular labor activities of residents to be secondary to the larger economic forces driving the creation of slum economies (Banerjee&Duflo, 2011; Marx et al, 2013).

Likewise, work activities have rarely been accounted for by architects and planners in design and planning proposals related to such places. Based on field observation, this report argues, to the contrary, that labor must be part of the planning rationale for slums. In Brazil, these practices can represent a valuable tool in the design of space and buildings within *favelas*. Analysis of work activities may also offer lessons for formal housing strategies and help fill a general gap in literature related to informal settlements.

2.1   Case Study of the Grota do Telégrafo

The *Grota do Telégrafo* (GDT), also known as *Grota de Santo Antonio* (GSA), is located in the *Mangabeiras* neighborhood, in proximity to several strategic sites. The *favela* offers a view of the sea of *Mangabeiras*, and is located five minutes from the oldest shopping mall in the city. Some inhabitants of the favela work in this mall – for example, in boutiques. Others sell food prepared inside the favela around the city, such as in the historical center of *Jaraguá* or at Maceió's numerous beaches (*Ponta Verde, Jaraguá, Jatiúca, Cruz das Almas*). There is also a large public market adjacent to the favela, the *Mercado do Jacintinho*. The market takes place from Monday to Sunday, regardless of public holidays, and many favela residents work there or go there to make purchases. The market offers many products, such as *pastéis* (a Brazilian salty pastry made of fried batter filled with cheese, ham,

or minced meat), *caldo de cana* (fresh sugar cane juice), coconut water, pastries, cleaning products, herbs, clothes, fruits, vegetables, meat, and fish. Numerous related businesses are also situated around the market: a *Samba* school, bars, restaurants, post offices, candy shops, cake shops, supermarkets, construction companies, *brechós* (thrift shops), jewelry stores, and other outlets of formal commerce. Some of the *favela* inhabitants work in these enterprises as well. Most businesses in and around the market accept credit cards, and vendors are familiar with the latest trends emerging from big commercial centers. Many *favela* residents are *carroceiros* (carters), or waste collectors. However, the population is varied, and many inhabitants attend schools, universities, or technical institutes across the city. There are numerous schools around the *favela*, some of which are private but ask very low fees. There is also a health center for the community.

Overall, the economic profile of inhabitants varies significantly. A person may be a squatter, a tenant, or a semi-squatter; squatting may even be considered a business venture. In addition to outside sources of income, numerous economic activities occur within the *favela*. Some houses double as stores, selling cakes or ice cream; and the front parts of others may provide space for restaurants, tattoo studios, prayer halls, carpentry or car-repair shops, nurseries, Internet cafes, and other activities. Small, private *quintais* (back-yard areas) are also commonly used to raise animals and grow fruit. Some of the products made in the *favela* are exported to other cities within Brazil. Inversely, some of the products sold by inhabitants are imported from other countries, especially from China. (fig.2.3)

FIG. 2.3 The main countries affected by the work of the inhabitants of the *Favela do Telégrafo*. Source: Ana Rosa Chagas Cavalcanti, 2015.

In the *favela*, both domestic and labor space must be structured according to the needs of residents. Much of this construction is overseen by masons who work in the formal sector in addition to living and working in the *favela*. Other *favela* inhabitants also move between the formal and informal economies. Indeed, having a foot on either side of the fence allows people to apply knowledge acquired in the formal city to the informal city, and vice-versa. Design features of houses and stores clearly demonstrate this reciprocal influence, especially through the application of techniques and styles of construction. Inhabitants take great care of their homes by maintaining gardens, tools and furniture. Working at home can also be a lonely activity; therefore, some residents share space, tools and devices with neighbors. This may especially be the case when people share dwelling areas. For example, juice vendors may share water tanks and blenders with neighbors in a villa. People may also work together in courtyards or alleys within the shared multifamily space. In other cases, families may own and run entire businesses in their homes, modifying space to accommodate the activity, but also preserving their domestic life.

In the *favela*, houses along alleys, stairways, and main roads are most frequently modified for work purposes. Along alleys, houses are often transformed to include window shops, while the most typical activities along main roads are those that serve multiple people at once, such as bars, restaurants, and stores selling *sanduiche passaporte* (a sandwich with sausages, minced meat, green peas, and mayonnaise typical of Maceió). In many cases, regulars visit these places from other parts of the city. Evangelical churches are another activity emerging within the landscape of the *favela*, and their prayer services may employ loudspeaker systems, especially at night.

In addition to their houses and shops, *favela* residents must maintain sewage and water systems to ensure that such services are available to all. Often water pipes are left exposed and unglued to permit house extensions or facilitate water extraction in case of emergencies. This flexibility also allows for the filling of swimming pools – although a group of experienced masons would typically be asked to evaluate such a project. Masons do not only build houses, but they also maintain the common structures of the *favela*.

In the pedestrian realm, on hillsides, some stairways are finished, while others may still be made of earth. Inhabitants try to perform upgrades in *mutirões* – a term used to describe how community members work together, sharing skills. Masons, in particular, take great pride in their work – especially its structural-engineering aspects. Many Brazilians are surprised that *favela* neighborhoods are able to survive the frequent tropical rains – especially since many are built on steep slopes. Once again, this owes much to experienced masons who share knowledge to profit their communities, and vice-versa.

Over seven years of ethnographic observation, the growth of several types of business managed and frequented by *favela* residents was particularly notable. Among these were grocery shops, childcare facilities, tattoo studios, carpentry workshops, machine repair and maintenance shops, bars, restaurants, ice cream shops, Internet cafes, prayer halls, dressmakers, and hairdressers. The design of space for such enterprises typically allows the preservation of domestic life, despite being located inside the home.

Indeed, it was observed over and over how *favela* spaces are designed to meet both domestic and work functions (fig.2.4). A good example are the windows at the front of houses that create spaces where products may be exposed and sold – what I have referred to as "window shops."(Cavalcanti, 2016, p. 4).[3] Clients of these shops often come from the neighborhood, and they pay for and receive items, typically groceries, through the window. Some of these windows are designed with steel bars to protect against robbery or shield the owner in case of a dispute. To preserve the privacy of inhabitants, such shops may not have front doors. Meanwhile, on the interior, they frequently occupy improvised space at the front of the house.

By contrast, commercial spaces located on avenues in proximity to the formal city are usually fully open to the public. They may be used for such purposes as snack bars, bike repair, car repair, clothing repair, hairdressing, Internet cafes, and bars. However, in the case of activities where tools may be expensive or where the activity itself is noisy (for example, carpentry workshops), work space may move to the back yard, generally to a self-built atelier/house extension. In addition to more typical commercial activities, some *favela* residents invent work opportunities (e.g., as windshield wipers, street-food sellers, or operators of sound systems for advertising). On a typical day, however, workers of all types can be seen at around five or six o'clock in the morning going up or down the *favela* stairways, stoically greeting their neighbors amidst the strong smell of *cuscus*.[5]

---

5 *Cuscus* is a Brazilian food consisting of corn flower steamed in water (such as polenta). The diet of inhabitants also includes beans, rice, eggs, vegetables, farofa de mandioca, chicken, and sometimes red meat and fruit.

The businesses of inhabitants flourish on the ground floor of houses that are located on the top of alleys.

Inhabitants usually meet in the stairways.

Commercial activities and services surround the alleys of the favelas (e.g. hairdresser, grocery shop, church).

The houses that do not surround the main alleys are usually the poorest.

Villas' owners rent their properties.

Hawkers usually sell their products in the streets that surround the favela or, in the city center.

Inhabitants who dwell at the border of the favela open businesses that are frequented by inhabitants across the city.

FIG. 2.4 The strategic locations of work activities in the *Grota do Telégrafo*. Source: Ana Rosa Chagas Cavalcanti, 2015.

They may also be seen at nearby bus stops, which are especially crowded in the morning. Such an image provides a contrast to the epicurean depiction of Carnival and other celebrations in *favelas*. Of course, many such festivities and social happenings do take place. And they frequently take advantage of the practicalities of mobile and temporary structures, as well as handcrafted adornments. For example, the back a pickup truck may double as a stage for evangelical gospel singers. In addition to such informal activities, many inhabitants work in the formal sector as shopping mall employees, boutique clerks, market-stall vendors, resellers, construction workers, taxi drivers, or maids. Others may be employed by the state or have their own business ventures (e.g., as masons). Many others generate income by renting properties in the *favela*. Rent is relatively expensive, and the longest-tenured inhabitants tend to have built and own more than one house.

2.2 Labor as a New Perspective on the Theory of Informal Settlements

The patterns revealed by the case study provide a new perspective for the assessment of informal settlements. Specifically, the case study sought to understand the phenomena of labor as it relates to affordable housing and the particular work activities *favela* residents engage in. Beyond these concerns, it also attempted to generate useful planning insights that might contribute to a better model for social housing in Brazil and elsewhere. As Saskia Sassen has pointed out, most work opportunities are nowadays located in urban areas (Sassen, 1991). In this regard, Neil Brenner and Daniel Ibanez have also argued that the city should be viewed as an asset to post-neoliberal society (Brenner apud Harvard Theory Lab, 2015). Both networks of services and labor are today situated in the central portions of urban areas. However, the significant mass migration of rural inhabitants to cities has created a number of economic dilemmas. For example, according to studies by Brenner, the current urban age has led to a redefinition of the region, in which individual cities, as centers of economic and social power, may be more relevant than states or nations (Brenner, 2014). Globally, cities are likewise anchors of hope and opportunity. Yet, as described in the case of the Grota do Telegrafo, when rural migrants arrive, they face a harsh new economic reality. People who live in a rural settings earn around ten times less than those who live in urban areas; yet when they move to the city they also expected to pay far more for goods and services. The inhabitants of cities frequently also do not have the same opportunities for generating income within their dwelling space as their rural counterparts. This situation has been noted since the 1950s, when the housing expert Charles Abrams wrote about it with regard to countries where his chief mission was to develop projects for U.N.-Habitat(Abrams, 1964). Upon arrival, rural migrants typically cannot afford most forms of urban dwelling with the savings they have accumulated. Nevertheless, thousands of such migrants continue to arrive in big cities on a daily basis (Lee, 2015). For many of them, informal settlements may be their only option because housing prices are lower there than in other places within the city and the cost of food, services, and other products is also typically lower. Indeed, slums may be a city's only housing solution for the poor (Burdet & Sudlic, 2011). There is thus a need for strategies that will do a better job of sheltering migrants and providing ways for them to earn an income. However, such strategies must also take into account the limited saving and spending power of the unprivileged. For them, living in formal dwellings is not a possibility. In some sense, then, one can say that not everyone has access to the "right to dwell."

A further paradox is that although they may provide an entry door to the city, slums may no longer be considered a transitional stage in the lives of individual migrants; instead, they seem to persist as locations of fixed residence. One reason, as demonstrated by the present research, is that many residents find work within their confines. Some authors, such as Marx, Stoker and Suri, have referred to this condition as a poverty trap (Marx, Stoker and Suri, 2013). However, it may be more useful to address concern for income limitations within the existing context. The fact is that many migrants find both shelter and work opportunities within the flourishing economy of the *favela*. Indeed, as a study by the London School of Economics and the Alfred Herrhausen Society found, the economy of slums today composes a great part of the GDP of the world (Sudlic & Burdett, 2011). In his seminal book Housing by People, John Turner famously acknowledged the role of informal settlements as the entry door for migrants to the city (Turner, 1976). According to his reasoning, they could be seen as a temporary solution to the problem of urban housing; at a later stage, people would access formal housing through the accumulation of capital from their work. Many formal housing policies have likewise assumed that slums serve as a useful transitional space in the life of the poor. However, nowadays slums may better be interpreted as a permanent dwelling environment. Furthermore, while cities may be great engines of labor and services, they may face structural limitations when it comes to housing. Thus, as Nabil Bonduki has pointed out, the more labor opportunity a city offers, the less housing it is typically able to provide (Bonduki, 2013).

In this context, the neoliberalization of housing provision has been shown to have had explicit effects in cities across the globe. During the first phase of neoliberalism, for example, the growth of cities created great numbers of new jobs. But, as Sassen has pointed out, neoliberalism's second phase has brought a sharp decrease in the number of new work opportunities (Sassen, 2015). She further noted that skilled and lowskilled workers may increasingly now be distinguished by their areas of residence. The urban center is a dense setting, full of working opportunities, where low-skilled labor is as necessary as high-skilled labor. Nevertheless, while skilled workers tend to live in city centers (near their work), most low-skilled workers live in the peripheries (far from their work) (Sassen, 1991). One consequence is a daily, long-distance commute to work. Thus, although some migrants may be forced to live in peripheries because they do not yet have access to formal employment, a migrant employed in the lowest tier of the formal economy will typically also face difficulties finding housing in proximity to the workplace. Informal settlements may thus be seen as an indisputable fact of planetary urbanization. Driven by the disparity of economic opportunity between rural areas and cities, their emergence and expansion may be explained through a model of flows of people, goods and information, established by neoliberal economic systems. Their growth today facilitates the development of both the real economy and the financial economy.

Manufacturing in the Southern Hemisphere thus enables the financing of retail fashion stores in the Northern Hemisphere. In the case study, it was discovered, for example, that some hawkers who live in the slum sell Chinese products in the streets, while some locally produced products (such as raw materials) are exported to other cities in Brazil and possibly to other countries. In the same way, slum dwellers in India, South America, and Africa sell their work hours into a global market in which both their services and the goods they produce are cheap. For example, fabric and clothes produced in Indian slums supply retail outlets in Europe, and Chinese farmers living in barracks supply food to countries of the global North. However, such workers also inevitably create new centralities in their cities and settlements. Together, these forces enable a new cartography by which labor value may be understood in relation to the growth and emergence of informal settlements around the globe. In all environments, work activities create spaces, shape buildings, and influence the decisions of their inhabitants. However, the labor features of Brazilian *favelas,* and slum settlements in general around the world, are not well documented. Usually, academic research fails to go beyond the subsistence quality of the work. Attention is thus directed mainly to the consequences that poor living conditions produce in slum environments and the fact these are inherent to the lives of their inhabitants. For example, in Housing by People, Turner depicted what he described as the everyday life and struggle of a car painter in a slum in Mexico, without ever describing the effects of his work on the space he inhabited (Turner, 1976, p. 53). A similar observation could be made with respect to the brief descriptions by Abrams of residents of the slums where he built housing projects for the U.N. in the 1950s (Abrams, 1964, p.21).

2.3 Labor as a New Perspective on the Design of Informal Settlements

Besides observing conditions in the *favela* as a way to advance general debate on informal settlements, the research set out to investigate ways that architects could operatively rethink informal settlement design. The goal here was to move toward a housing system that builds on the existing context of informal dwellings. Lessons from the informal city and the mass migration of rural people might thus also be recognized as the basis for new housing proposals. The first consideration in any such effort is the application of "self-help" within the planning and design

of informal settlements. As recognized by Abrams, self-help is a "universal tool," considered in the housing policies of almost every developing country (Abrams, 1964).[19] Sometimes it is useful as a way to minimize construction cost, while at others it acknowledges the incremental nature of construction within unprivileged settlements. Self-help may also reflect the economic limitations of government entities, especially in the global South. Frequently, however, the gap between shelter and income requires input from both the planning and economic domains. In this regard, programs such as "affordable rent," "self-help planning," "core construction," "incremental housing," "sites and services," "installment construction," and "open design" are characteristic of societies where resources are limited (Abrams, 1964; Turner, 1976; Gattoni, 2009; Aravena, 2013).

In applying such programs, however, attention to the social practices and traditions of inhabitants may be as important as institutional concerns. A second consideration essential to a new design understanding is that institutions, states, and housing programs typically turn a blind eye to both the growth and emergence of slums. In Brazil, the designation of *favelas* as ghettos is emblematic of this view. Yet, despite this stigma, *favela* inhabitants commonly interact with people from the so-called "formal city," who frequently benefit from both goods and services provided by *favela* residents. And beyond this, the inexpensive work of slum inhabitants is often present in international manufacturing via subcontracting.

Typically, however, "formal city" inhabitants venture into *favelas* only for such specific purposes as finding a cheap source of car repair, dress making, carpentry, locksmithing, prepared food, etc. And this in turn reinforces an underlying basis of inequality within the Brazilian economy, according to which cultural habits and individual empowerment must also be negotiated.

Another point to consider is that, as a result of general urban expansion over the years, many older *favelas* are now located in relative proximity to city centers. Within existing informal settlements, this has created problems associated with gentrification. Gentrification and real estate speculation are typical features of housing markets. The current view in Brazil, however, is that the unemployed are the only ones seeking affordable housing within informal settlements.[6] In fact, numerous other, socially diverse groups are moving there. "*Gringos*," "hipsters," the creative class, and the middle class are all searching for alternative modes of dwelling. But

---

6   This is a common knowledge in Brazil. See for example, CCTV America, "Brazil Fails to Offer Affordable Housing in Its Cities," video, 2:23. Posted October 2015 at https://www. youtube.com/ watch?v=WXsRXifN8Sw.

TOC

these groups both perceive and consume the *favela* in different ways than older residents. And some are thus contributing to the displacement of older population groups to more distant peripheries. The proximity of older *favelas* to central city areas, however, also suggests that *favelas* that can still be classified as ghettos are in fact places where equality of economic opportunity has been purposefully suppressed. According to the Brazilian economist and philosopher Eduardo Gianetti da Fonseca, such prejudice derives from overarching conditions of social inequality. A ghetto in Brazil is not comparable to a ghetto in the U.S., he claimed, because in the Northern Hemisphere there has been an attempt to "assassinate" both the habits and cultures of ghetto residents.[7] By contrast, the housing of low-income groups in Brazil in *favelas* is the accepted outcome of deliberate economic exclusion. Brazil is a syncretic and mixed culture, which adopted habits from different groups, including unprivileged African slaves and Amerindians. Thus, patterns of development and segregation may be seen to express deeply rooted patterns of inequality. In Brazil, in other words, it is indisputable that the poorest of the poor will build new peripheries. In this sense, the slums are an on-going project. Nevertheless, paying attention to how the labor of the unprivileged expresses an ongoing struggle against unequal social and economic interaction might reveal new ways to address underlying problems. In particular, issues of inequality and class difference could be mitigated by a recognition of the dynamics of labor in the *favela*. Beyond the setting of the *favela*, a third consideration that must be taken into account in any new design approach is that formal initiatives to relocate *favela* residents generally result in dwellings that do little to advance their economic prospects. Current social housing efforts neither encourage a mixing of the unprivileged with other social groups; nor do they facilitate the ability of the poor to engage in ancillary economic activities. The advantages offered by new structures must ultimately be evaluated in terms of their ability to accommodate ongoing social practices as well as allow opportunities for income generation within the dwelling environment. (fig.2.5)

The above condition is a massive deficiency within projects undertaken as part of the federal government's Minha Casa Minha Vida program, the biggest ongoing low-income housing initiative in Brazil (which has set out to provide five million new dwelling units by 2025).[8] Projects funded by the initiative are generally located on the peripheries of cities, where the price of land is lower, and their standardized design could be found anywhere of the world (Bloomberg, 2012). Such forms of

[7] For more information on this topic please refer to the work of Eduardo Fonseca.

[8] For more on this program, see "Minha Casa Minha Vida," Governo Do Brasil, 2015, http://www.minhacasaminhavida.gov.br.

TOC

housing do not account for the inconvenience of long distance travel by inhabitants to the center of cities for work (or its cost). Nor do their qualitative aspects provide adequate dwelling space reflective of residents' needs. This condition points to one of the most important aspects of a new design understanding: the importance of urban porosity (Secchi,2010). As mentioned, labor activities within a slum may attract people of different statuses and classes in search of cheap products and services, creating a meeting of the formal and informal cities. Previous studies have shed light on the role of porous, affordable housing or socially mixed developments in mitigating characteristics of inequality in cities worldwide (Sennett 2015; Secchi 2010; Lucan, 2012). But there has been little discussion of the merits of porousness, or social mixing, in projects being considered for the third phase of the *Minha Casa Minha Vida* program. Indeed, projects in which different economic classes live together in multifamily structures do not seem to have a place in Brazilian housing models. Public planning policies could, however, seize on this strategy as a way to fight social inequality. Porous and mixed units could be a big help in addressing current prejudices against the poor.
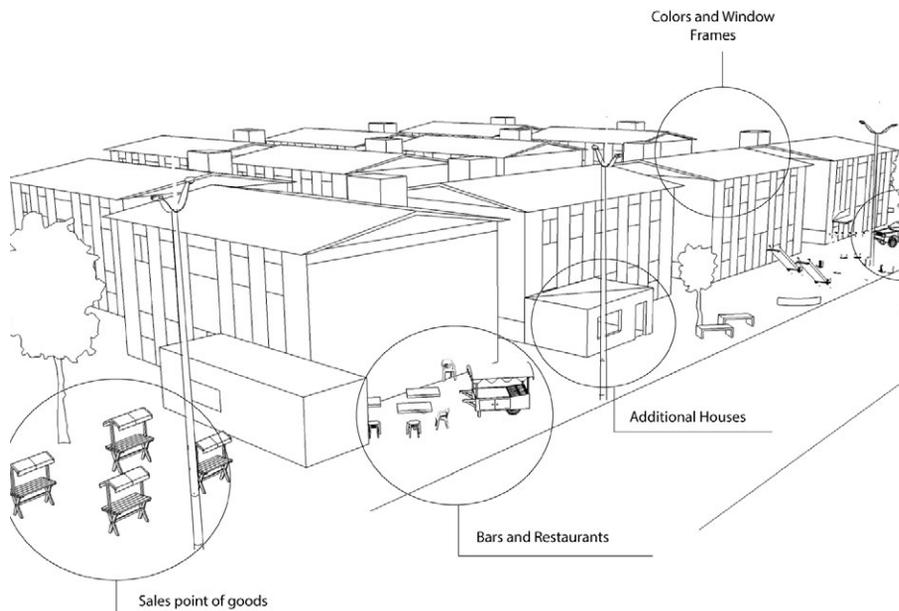
FIG. 2.5 Changes in the housing project for the residents living in the *Favela Sururu de Capote*. Source: Ana Rosa Chagas Cavalcanti, 2015.

Beyond such concern, however, at a minimum, the design of social housing for the unprivileged must include spaces in which work can take place. The dwelling environments of low-income groups have traditionally allowed a blending of work and domestic activities. Indeed, such a feature is increasingly prevalent in dwellings occupied by the Brazilian middle class. According to the sociologist Jessé de Souza, middle-class families must typically be supported by two or more sources of income if they are to maintain a desired quality of life for all their members (Souza, 2012). Such a condition underscores how the Brazilian economy today is largely being driven by commercial activities – the so-called third sector – as is the case for many other countries in the global South. Lastly, it must be recognized that spaces in the *favela* are performative and adaptable. But spatial attributes that might enable such practices as the sharing of tools, devices, and work areas are rarely considered within conventional approaches to design. The importance of such practices, however, is reflected in the fact that the poor frequently prefer to invest microcredit funds in income generation than in dwelling amenities (Banerjee and Duflo, 2011). Work activities may thus be seen to have both material and immaterial dimensions which are being ignored in current planning and design approaches.

2.4 Patterns and Principles for More Responsive Design

The work practices observed in the space of the *Favela Grota do Telegrafo* can be defined as traditions. Through them, inhabitants transform and adapt spaces in ways that allow them to engage in countless forms of economic activity. Michel de Certeau described such social practices as "tactiques" (Certeau, 1985).

Likewise, Nezar AlSayyad has argued that, as traditions, they "must not simply be interpreted as the static legacy of the past but rather as a model for the dynamic reinterpretation of the present." It is through such practices that people take care of their daily needs, and they could be legitimated by more formal planning processes. Based on field observation, this report has explored some broader theoretical notions related to rural migration, the nature of the urban workplace, the centrality of cities, porosity, the growth of the slum economy, and the distribution of skilled and low-skilled labor in cities. It has also contested the notion that *favelas,* and urban slums in general, are temporary places. Instead, it has advocated the view that

they be considered fixed sites for the homes and work spaces of the rural poor who migrate to the city. However, in addition to such intellectual concerns, the research also sought to identify a series of patterns that may be used as a pedagogic tool for learning the practices of informal settlements. Explained in graphic form, these might help create a better method of design derived from the actual context of informal settlements (fig. 2.6– 2.15). Many of these spatial attributes derive from the ways that inhabitants incorporate work activities into their dwellings. After such practices were identified, attempts were made to quantify them as if they had been the outcome of a formal planning exercise. They thus reflect the belief that the traditions of the unprivileged represent a design resource that is as valuable as many of the conventional tools being applied in architecture and planning. A series of principles and guidelines for the design of social housing in Brazil is also included here. The broader applicability of most of these is still being tested; however, it is hoped they may eventually be related and applied to other building contexts – even if social housing responses can never be universalized.

FIG. 2.6 A window shop in the *favela*. Source Ana Rosa Chagas Cavalcanti, 2015.
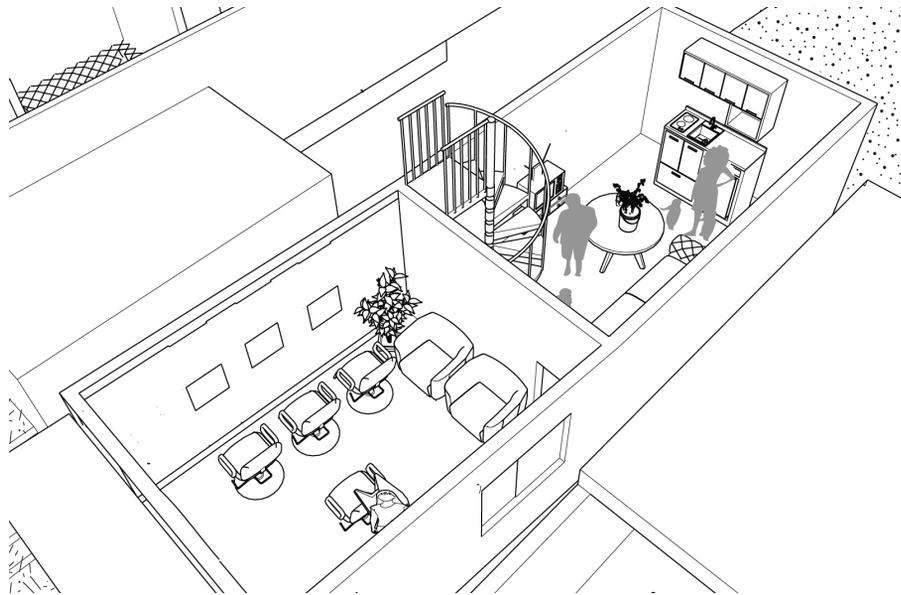
FIG. 2.7 A hairdresser activity embedded in a *favela* house.Source: Ana Rosa Chagas Cavalcanti, 2015.
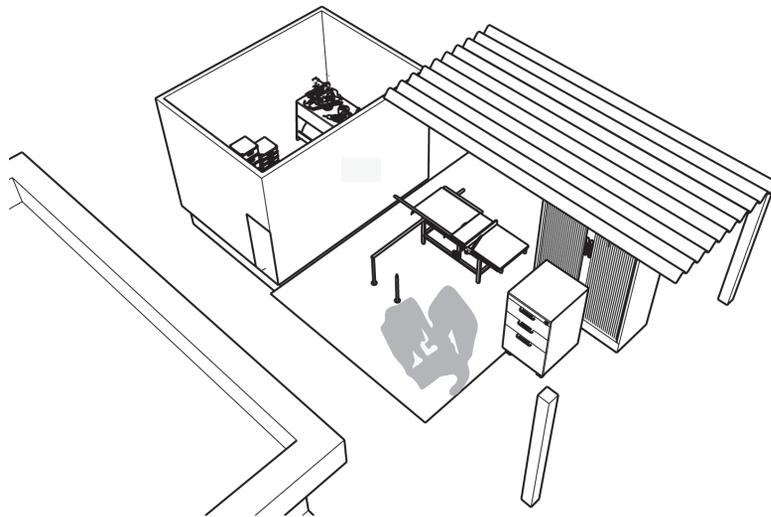
FIG. 2.8 Artisan activities may be located in the back yard of houses in the *favela*. Source: Ana Rosa Chagas Cavalcanti, 2015.
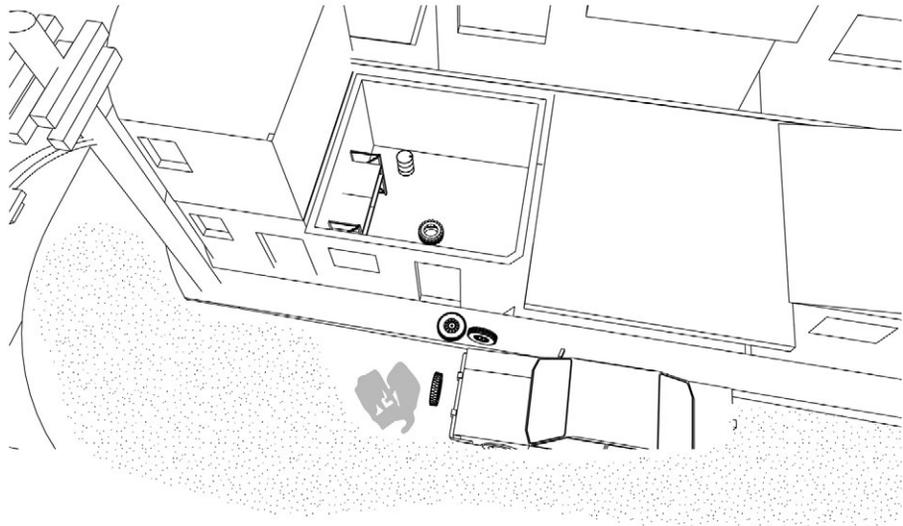
FIG. 2.9 Car-repair services are usually located along streets at the border the *favela* and the formal city. Source: Ana Rosa Chagas Cavalcanti, 2015.
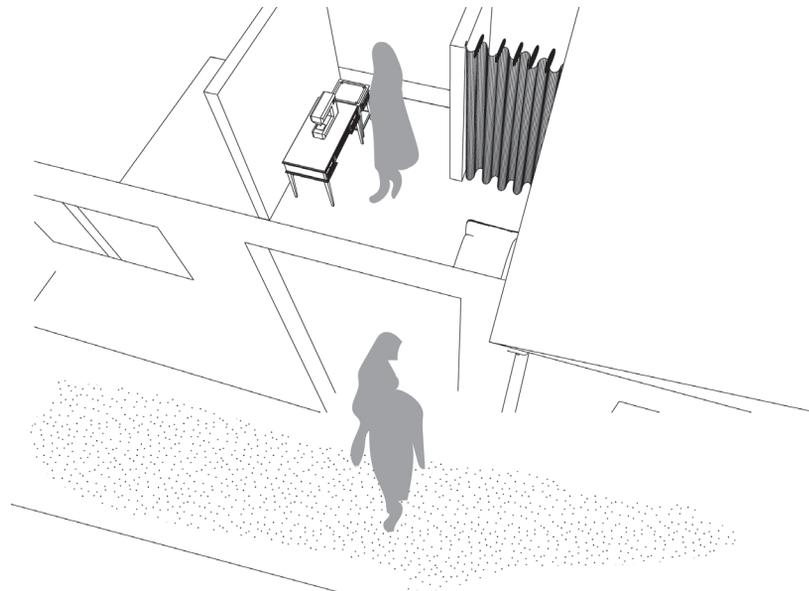
FIG. 2.10 Clothes-repair services are usually located along streets at the border of *favela* and the formal city. Source: Ana Rosa Chagas Cavalcanti, 2015.
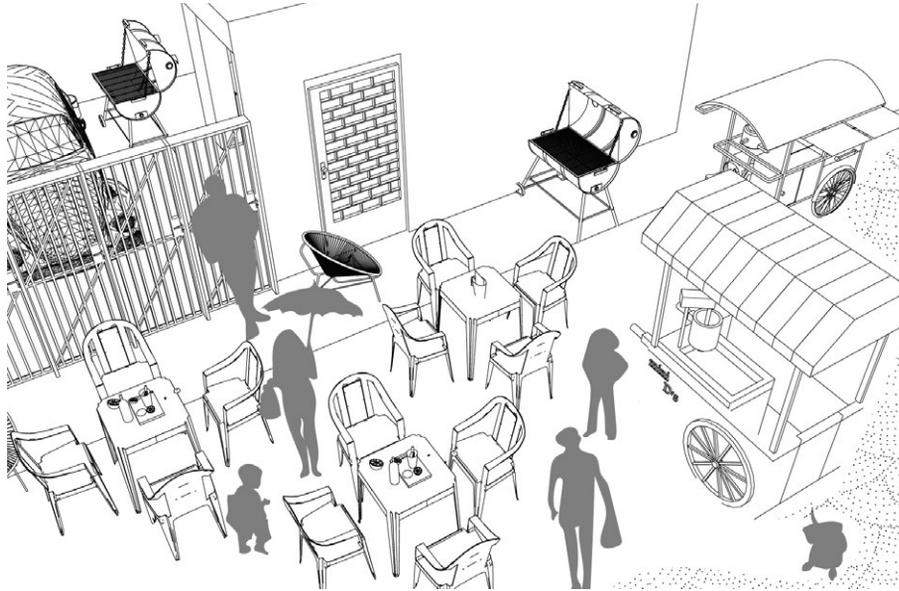
FIG. 2.11 Restaurants are usually located along streets at the border of the *favela* and the formal city. Alternatively, they can be located at the ends of main alleys. Source: Ana Rosa Chagas Cavalcanti, 2015.
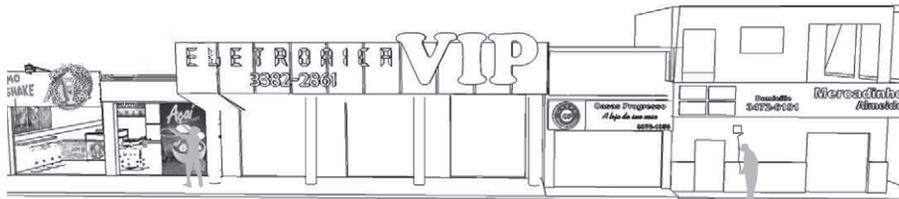
FIG. 2.12 Letterboards and painted signs are usually placed on *favela* houses to indicate the economic activities of their residents. Source: Ana Rosa Chagas Cavalcanti, 2015.
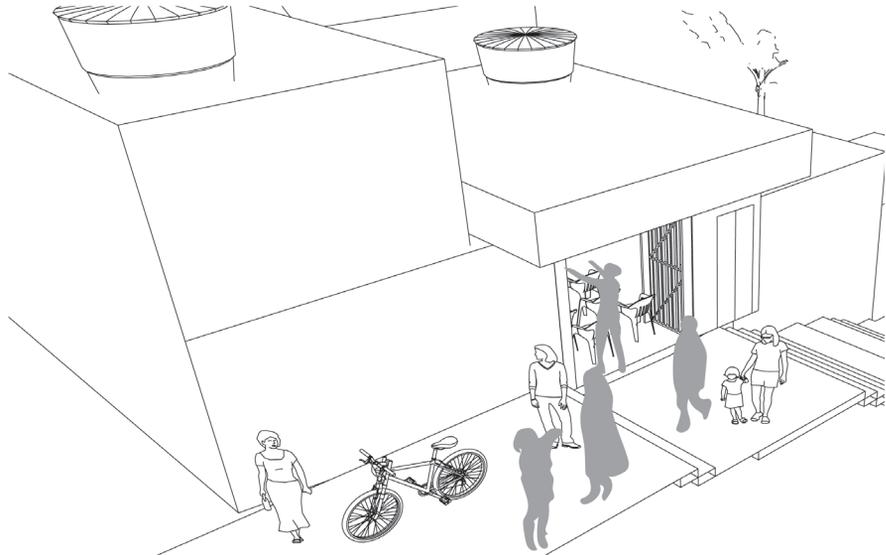
FIG. 2.13 Churches are usually located along main alleys in the *favela*. Ana Rosa Chagas Cavalcanti, 2015.
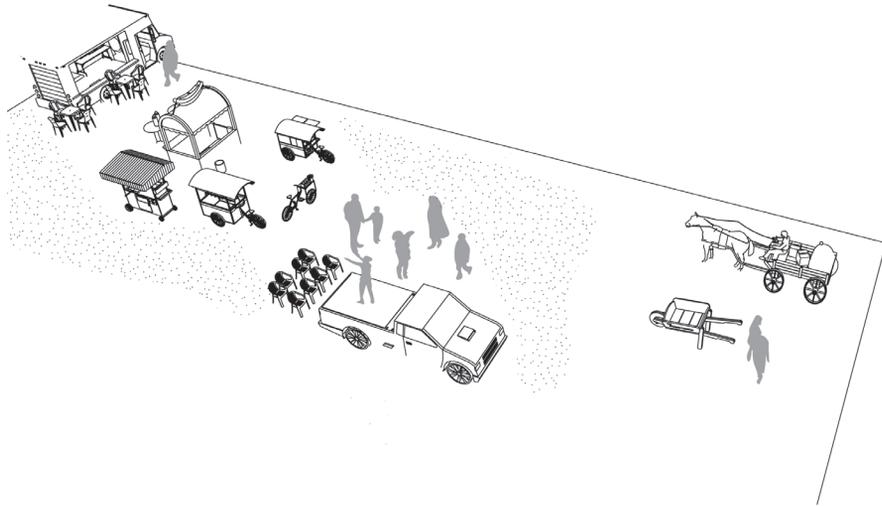
FIG. 2.14 Performative activities are typical both for work and social gathering in the *favela*. Source: Ana Rosa Chagas Cavalcanti, 2015.
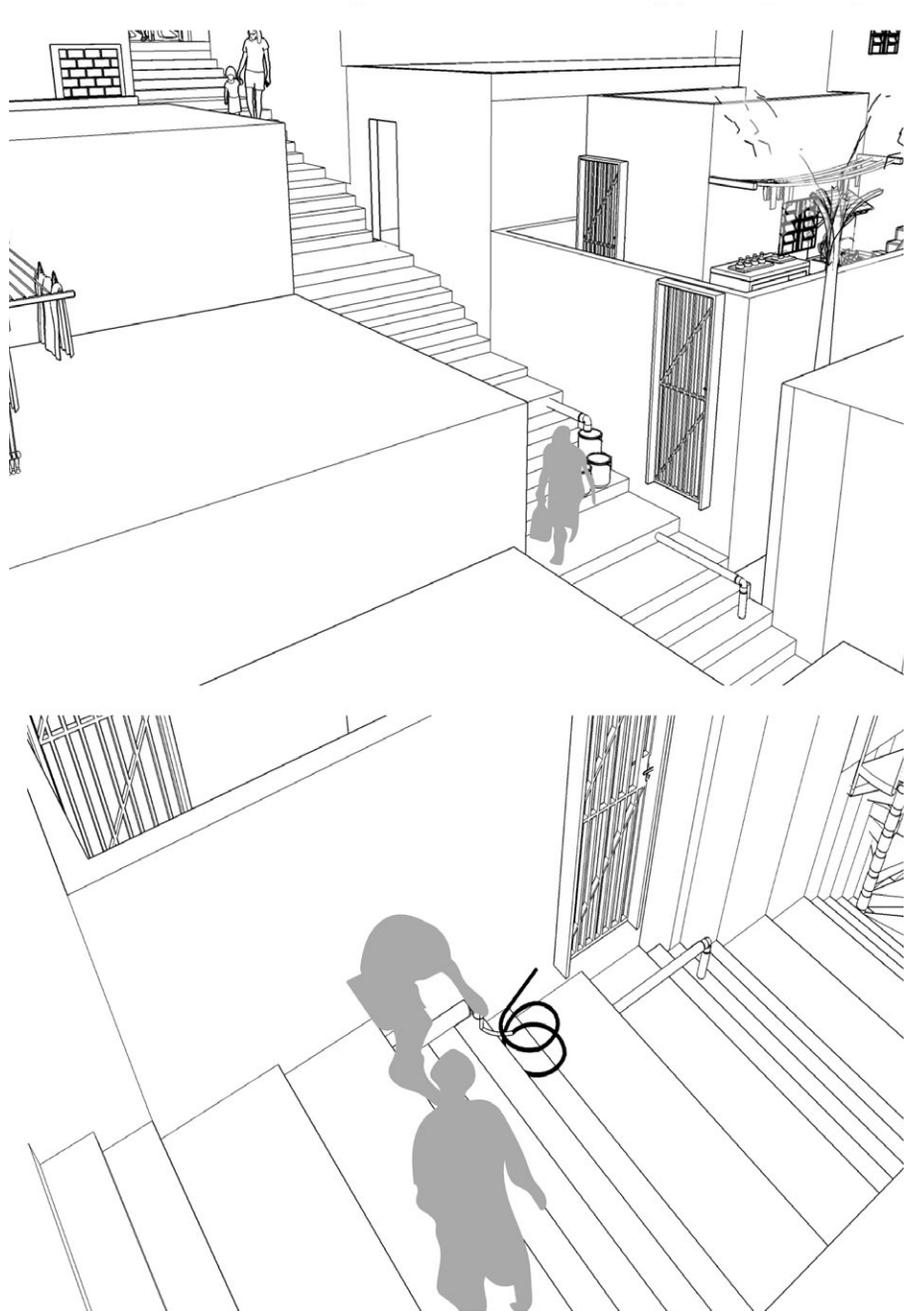
FIG. 2.15 The location of water supplies in the *favela* emphasize flexibility. Source: Ana Rosa Chagas Cavalcanti, 2015.

2.5 Design Principles and Guidelines

— Addressing work activities is fundamental to designs that promote the incremental growth of *favela* dwellings.

— Housing initiatives in the context of informal settlements should consider that both domestic and work activities typically occur in the home.

— The front portion of *favela* houses located along main streets, alleys and avenues typically serves as a place of commerce. In such locations, the goods and services offered are usually more diverse and sophisticated than in internal areas of the *favela*. Such locations are profitable because they attract people from other neighborhoods.

— The windows of houses along alleys are typically used to sell goods (e.g., window shops).

— The backyards of properties in a favela may provide a location for economic activities that are noisy or need additional security.

— Spaces devoted to labor vary, but in general they require around eight square meters.

— The space of work is fundamental for a slum dweller. Sometimes tools and spatial attributes are shared among workers from different fields for their respective work activities.

— Windows, doors, and other frames are expensive. Houses usually lack ventilation and illumination. Awnings are a frequent adaptation that residents make to protect themselves from the harsh effect of sun.

— Spatial devices built by inhabitants of a *favela* usually contain umbrellas to protect users from the sun.

— Many service elements of houses, such as pipes and electric wires, are left exposed and retractable to facilitate future expansions.

— Letterboards and painted signs are typically used to designate the kind of economic activity taking place in a home.

— Itinerant, rolling or retractable structures are fundamental to certain working activities in the *favela* because they can be easily assembled and disassembled.

— Villas and multifamily structures are becoming increasingly common in *favelas.*

— Dwelling rent is rising in *favelas.*

— The urban porosity that thrives in *favelas* creates relationships between different social classes in Brazil.

References

Abrams, C. (1964). *Housing in the Modern World: Man's Struggle for Shelter in an Urbanizing World.* London: Faber and Faber.

AlSayyad, N. (Ed.2004)ed..*The End of Traition?.* London: Routledge, 2004.

Aravena, A. (2013). Alejandro Aravena: The Uncommon Sense and the Economy of Sustainable Construction, [Video of lecture on the 4th Holcim Forum in Mumbai, 40:37], as posted in June 2013. Retrived from: https://vimeo. com/68565110.[Acessed 8 June 2016].

Banerjee A., Duflo, E. (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.*New York: Public Affairs.

Bonduky, N. (2013). *Os Pioneiros da Habitação Social, Volume 1.* São Paulo: Edusp.

Bloomberg (2012). Garrabrant Says Brazil Housing Market Is 'Very Strong, [Bloomberg online channel]. Retrieved from: https://www.youtube.com/ watch?v=tnn7RPTIA_k. [Acessed June 8, 2016]

Brenner, N. (Ed.) (2014). *Implosions, Explosions: Towards a Study of Planetary Urbanization.* Berlin: Jovis.

Brenner N., Ibanez, D. (2014). Globalization as Reterritorialization, 15 Years Later: Daniel Ibanez in Dialogue with Neil Brenner on the Rescaling of Urban Governance. [Harvard Theory Lab/Video], 20:54. Retrieved from: http://www.urbantheorylab.net/videos/. [Accessed 20 July 2015]

Burdett. R., & Sudjic, D. (Eds.) (2007). *The Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society.* London: Phaidon.

Burdett, R, & Sudjic, D. (Eds.) (2011). *Living in the Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society.* London: Phaidon.

Cavalcanti, A. R. C.(2016). Critical Roles of Architecture: The Endemic of Labor in the Favela Dwelling system: Towards an Architecture Autonomy, Presented at Critic|all Conference, Architecture Out-tonomy, Madrid, 2016.

Certeau, M. (1990). *L'invention Du Quotidien 1: Arts de Faire.* Paris: Gallimard.

Da Fonseca, E. G. (2016). O Brasil ideal não é um país do hemisfério norte: Temos que valorizar nosso dom de celebrar a vida, *El País*, July 26, 2016. Retreived from: http:// brasil.elpais.com/brasil/2016/07/22/ politica/1469207930_487623.html. [Accessed July 26, 2016]

Gattoni, G. (2016). A Case for the Incremental Housing Process in Sites-and-Services Programs and Comments on a New Initiative in Guyana, Washington, Inter-American Development Bank. Retrieved from: http://web.mit.edu/incrementalhousing/articlesPhotographs/pdfs/IDB_Guyana_SSIncremental. pdf. [Accessed May 12, 2016].

Lee, J. (Ed.) (2015). *World Migration Report, International Migration Organization.* Geneva: IOM Publishers. Retrieved from: https://www.iom.int/worldmigration-report-2015. [Accessed May, 10, 2016]

Lucan, J. (2012). *Où va laville aujourdhui?.*Paris: Editions La Villete.

Marx, B.; Stoker, T., Suri, T. (2013). The Economics of Slums in the Developing World. *The Journal of Economic Perspectives Vol.27* (4), pp.187–210.

Sassen, S. (1991). *Global City: New York, London, Tokyo.* Princeton, NJ: Princeton University Press.

Sassen, S. (2015). Entrevista Saskia Sassen [Video of interview given to 'Fronteiras do Pensamento' 28:52], Retrived from: https://www.youtube. com/watch?v=jlPq2eugt94. [Acessed November 9, 2015.]

Secchi, B. (2010). A Cidade Informal No Século 21 [Video of lecture at the seminar 'A Cidade Informal']. Retrieved from: http:// cidadeinformal.prefeitura.sp.gov.br/ wp content/uploads/2010/06/CONF_ BernardoSecchi.doc). [Accessed 13 October, 2013].

Sennett, R. (2015). The World Wants More Porous Cities So Why Don't We Build Them?. *The Guardian Cities*, November 27, 2015. Retrieved from: https://www.theguardian.com/cities/2015/nov/27/ delhi-electronic-market-urbanist-dream. [Accessed November 27, 2015].

Souza, J. de. (2012). *Os Batalhadores Brasileiros: Nova Classe Média ou Nova Classe Trabalhadora?* Belo Horizonte: Editora UFMG.

Turner, J.F. C. (1976). *Housing by People.* New York: Pantheon.

3 How does Work Shape Informal Cities?

"... Slums shaped by Labor... Labor provides a sintesis for the design of slums"
Cavalcanti, 2016

In this paper I will discuss the design of *favelas* in Brazil. The aim is mainly to highlight how labor can be used as a design tool to address social and economic phenomena shaping the 'slum'. This will be done by analyzing the informal aspects of 'slums,' the rising inequality and rural-urban migration patterns in Brazil. A critical analysis of literature will be compared to empirical data that were personally acquired from Brazilian slums (Cavalcanti, 2016) during the period from 2009 until 2016.

Overall, the objective will be to try and consider social aspects within a method of design. Research has shown that *favelas* have a different land status, different patterns of urban conglomeration and parcelling. However, when compared to formal urban planning the same logic of investment and housing commodification applies. Within *favela* societies, people sell, use and divide their properties according to non-institutionalized rules, and their notion of what is shared, public or private is slightly different from that in formal urban planning environments. This leads to a greater presence of tighter, more close-knit communities. A block of houses may be a single house, with various owners sharing it (e.g. villas), the first floor of a house may be for one person and the second for another. In fact, most of the *batidas de laje*[9] are made

---

9 Batidas de Laje is a slum's slang, which means "to build another floor on a house."

for other people (who rent the house, and thus for income generation purposes). The alleys and stairways are public spaces shared by all. Parcelling a house depends on the economic aim or need of a dweller. Finding a piece of land or a house to buy or rent depends on negotiations with the residents of a *favela* (Cavalcanti, 2009).

The right to "verticalizing" depends on the expertise of the masons who are responsible for building the roof and/or the economic resources of the property owner. The need for shelter is considered as a way to acquire land in the outskirts of the *favela*. The centre is often more expensive, but still targeted by people in need for shelter. Finally, when residents move to vertical or mass housing units they repeat the social practices that they do in the *favelas*. With the same logic, the price of rent, land and property in *favelas* is consistently rising, almost proportionately with prices in the cities. Residents generally compare the prices of rent within the *favela* itself. In 2014, a typical house for rent in a *favela* (50 m2) would cost 350 Brazilian reais per month (US$106.88)[10] in the city of Maceió. In general, this is practically half of what one could ask in a middle class neighborhood within Farol, a neighbourhood where a typical house for rent (50 m2), would cost circa 600 Brazilian reais per month (US$183.22).[11] Such discrepancies are slightly higher amongst people who live in big metropolitan areas such as São Paulo and Rio de Janeiro, which makes it much more affordable for low-income groups to dwell in slums. In this scenario it may be observed that a capital incursion is developing within *favelas*: supermarket chains and products are expanding, real estate has arrived: people who received houses from the PAC (*Programa de Aceleração do Crescimento*) are illegally selling their tenure for higher prices (Brazil Investment Guide, 2013). Hipsters, creative classes and *gringos* are moving to *favelas*, in the process of which they contribute to the gentrification of land and goods. Apart from this, one may note that investment in hotels, museums, social activities, NGOs, UPPs (*Unidades de Polícia Pacificadora*)[12] and other similar activities are constantly increasing.

The aforementioned notions express the fine line between considering the *favela* as an idealistic, unknown dimension with an abstract logic (this is a typical way to romanticize poverty), or stating that *favelas* are entirely articulated with materialistic and accumulative values. Between seeing the poor as bearers of opportities versus seeing them as heroic entrepreners (Roy, 2005, 148). The difference between these two views should be highlighted and, understanding the importance of labor to

---

10 Currency converter (12 September 2016).

11 Ibid

12 Portuguese for ' Units of Peacemaking Police'.

residents living in slums highlights these contrasting views from their convergency and divergency, offers a new epistemological frame to study informal settlements that is able to provide a deep insight on the logics of informal settlements.

The needs and patterns of *favela* communities have been studied by the author since 2008. The results of this paper come from an ethnographic study of the *Favela Sururu de Capote* in Maceió(fig. 3.1–3.2) as well as the social housing that has been conceived to shelter its removed inhabitants in light of the recent Brazilian urban challenges. This research shows how residents' labor activities have transformed both public spaces and private homes in the *favela* and how practices of various scales and modes have been contributing to the distribution of urban inequalities and the growth of social informality.

FIG. 3.1 Brazil, Maceió and the *Favela Sururu de Capote.* Source: Ana Rosa Chagas Cavalcanti, 2015

FIG. 3.2 Man building a house in the *Favela Sururu de Capote.* Source: Ana Rosa Chagas Cavalcanti, 2009.

3.1 Slums and Favelas

The definition of "slums" varies significantly from one country to another. Slums relate to various phenomena such as urban informality, industrialization processes, rural-urban migration and lack of housing policies. Nevertheless, academia and institutions such as UN-Habitat defines slums as dwellings with a lack of minimum hygiene standards, infrastructure and living spaces. They are often attributed to countries of the Global South, but there are numerous records in literature showing the presence of slums in the Global North. The depictions of 'slums' in London by Friedrich Engels in the nineteenth century, the bidonvilles in Montparnesse, bairros de lata in Portugal, Little Italy in New York and the lamiere in Italy are only a few examples. In these countries, slums are not just something of the past, but they exist even today, and can be instigated by factors such as social inequality (e.g. Clarkson Avenue in New York) and migration from war and poverty (e.g. the bidonville near *Porte de Clignancourt in Paris*). Slums were an issue in the past, they are a challenge in the present and they will continue to be a great concern in the future. 'Slum' populations will be on a significant rise in the next few years according to seminal

public debates and institutions such as the "Urban Age" by the London School of Economics and Alfred Heerhausen Society, Habitat III, as well as the Venice Biennale of Architecture of 2016 (Reporting from the Front). In contrast to other 'slums', *favelas* are some of the most consolidated slums because they are located in Latin America, which is the most urbanized continent in the world. In Brazil, more than 80% of the population lives in urban centers. *Favelas* seems to be the only affordable option for most of the low-income groups in Brazil. Many of these people are not connected to the sewage system and do not benefit from waste collection services. In this sense, informal processes can be seen as having a leading role in shaping urban environments. The high housing deficit in Brazil has caused the Federal Government to establish a Program to House low income groups and removed inhabitants of slums: *Minha Casa Minha Vida* (MCMV).

Favelas are very emblematic spaces, but they are stigmatized as having high crime rates and poverty. State agencies and institutions show little interest in working within such contexts (e.g. *Favela Bairro*) by removing inhabitants from risky areas and relocating them to social housing complexes (e.g. MCMV). Nevertheless, such projects would not consider the social practices of inhabitants and thus fail to achieve qualitative results in the design process. These complexes are located at the peripheries because land is cheaper, infrastructure is poor, and building designs are usually standardised. Furthermore, there is a capital incursion in the *favelas*. Shopping malls and supermarket chains are investing in *favelas* and inducing a consumption model that addresses the new *favela* middle class. This model mirrors the standards found in the middle class in Brazil to the classes C and D.[13] Goods can be paid through instalments, and credit given to most low income groups. Some of the pitfalls resulting from such capital incursion is gentrification, which forces the poorest of the poor to move to peripheral areas to build new slums. The population in slums is not homogenous. This has been partially due to the migration of artists, gringos, creatives, and hipsters to *favelas* who are attracted by the romanticized idea of slums or lower rental prices. This can be viewed as a hipsterization of slums. Another important aspect is that the actual participation of slum dwellers in political life is still challenged, with laws such as the *Estatuto da Cidade* and the *Lei de Assistência Técnica* still in dire need to overcome bureaucracy. Also detrimental to this inclusion is the political interest by mayors or institutions, political clienteles and a strong patriarchal rationale, especially in cities that are not located in highly urbanized areas.

---

13   Classes C and D, also known as the Brazilian "middle class," are defined by Brazilian scholars as social groups in which individuals earn from 291 Brazilian Reais (US$88.76) up to 1019 Brazilian Reais (US$310) per month.

3.2 A Slum from the Field: The Favela Sururu de Capote

The *Favela Sururu de Capote* is located in Maceió, the capital of Alagoas State, Brazil. In 2007, it was considered by FAO-ABRANDH (UN related institution in Brazil) as one of the worst human settlements located in an urban area. In the *Favela Sururu de Capote* planning is deeply related to the labor of its inhabitants. In this particular case, 80 % of inhabitants live from the fishery of *sururu* (part time or full time), which is a mussel abundant in the lagoon located along the Southern border of the slum. Most of the inhabitants are migrants who travelled from the rural areas of Alagoas State to Maceió, after losing their jobs in the sugar cane farms (*Usinas de Açúcar*), which is one of the main economic activities in Alagoas. In the morning, the fishermen go to the lagoon, search for *sururu* and then deliver it through the *favela* alleys to women of the community, who are responsible for cleaning it. After this, other members of the community transport the goods from the women's houses to the sales point, which is generally located at the border between the *favela* and the formal city. People from all over the city go there to buy *sururu*. Labor produces a particular urban porosity that conjunctionally addresses the informal city and the formal city, the low-income groups and higher income groups. The *sururu* of the *Favela Sururu de Capote* can be ordered in a wide variety of restaurants in Maceió and it can also be exported to other regions of Brazil and of the world. It costs 2 reais per kilo (US$0.58) per kilo in the *Favela Sururu de Capote*, 13 reais (US$3.82) per kilo in a typical supermarket and 20 reais (US$5.89) per kilo plus taxes to national and international exportation companies.[14]

The working practices described above are not only necessary to allow the subsistence of dwellers, but tackle a broader ecology of 'slums' indicating the emergence and slum growth in the world within a greater economic system. It seems that a new cartography of economic flows is falling into place, whereby some international manufacturing sectors can benefit from the work of slum dwellers. However, it is worth mentioning that inherently, a spatial inequality is embedded within the process of emergence and slum growth through the rise in migration of dwellers from rural to urban areas. These migrants are thriving through labor opportunities in cities. An example is the *Favela Sururu de Capote*, whose makers are actually migrants from rural areas, such as it happened in the *Grota do Telégrafo*.

[14] Currency converter (30 November 2016).

According to Alejandro Aravena, social practices address the need for synthesis, which architects and urban planners consistently seem to face (Aravena, 2016). Adding to that, I believe that labor provides a synthesis for the design of slums. Numerous spatial attributes and planning rationales indicate how labor was imperative to the design of the *Favela Sururu de Capote* slum, literally shaping it. The alleys of this slum are straight because they have to facilitate the transportation of *sururu* from the lagoon to the women's houses or to the sales point of *sururu*. This contradicts predominant literature on informal settlements which states that *favela* alleys are "rhizomatic." (Jacques, 2001). Moreover, many spatial attributes or incremental capacities of space are related to the need to work and dwell at the same time. (fig. 3.3)

FIG. 3.3 Window-shop, a spatial feature that allows inhabitants to trade products and preserve their domestic lives. Source: Ana Rosa Chagas Cavalcanti, 2008.

There is also an awareness towards the fact that the social practices within slums are replicated in social housing, especially those related to labor. Also, the incremental qualities and processes of building which were also documented in the literature of slums (e.g. John F.C. Turner and Charles Abrams) should be not taken for granted. The expansion of a house is not always related to the expansion of a family but is also related to working practices.

Labor activities are not directly related to design processes in the literature of slums, but it is usually tangentially addressed. The "logic of labor" was so strong that when inhabitants moved to institutional social housing, the inhabitants started to change the design of the buildings. Walls were turned down and new economic activities such as hairdressing salons; electric services, clothes repair services, *sururu* sales points and other improvised spaces (such as ones to sell *sururu*) became apparent within this social housing complex. The importance of labor to inhabitants who have been removed from slums is also very important and perhaps more urgent in the context of inhabitants who are transferred to social housing. Once relocated, inhabitants have to pay bills, electricity and legal fees and although they have their tenure secured, they have to maintain their dwellings. Finally, it has been observed by researches in other slums that what happens in the *Favela Sururu de Capote* cannot only be noticed in Brazil, but also in incidental and sparse sentences in texts about urbanization in the Global South (that do not focus on the implications of labour with the design and planning of spaces) such as *Dharavi* (Mumbai, India), *Makoko* (Lagos, Nigeria) slums in Jakarta, Indonesia and so on.

3.3 Slums Shaped by Labor

In *favelas,* residences are usually spaces where inhabitants both dwell and work. These are the kind of inhabitants who open nurseries, praying services, grocery shops, ice cream shops, sewer services, carpentry, masonry, or magnificent ironwork workshops, car repair shops, market sellers, hairdressers, clothes shops, bars, restaurants, and tattoo shops. They are also taxi drivers, maids, hairdressers, shop vendors, market vendors, public school teachers, hawkers, carter drivers, guards, policemen, masons and others who live in the *favela* but work in the so called "formal city." The *favela* can be described as a place with a network of opportunities and skilled individuals who continually transform the space. People in *favelas* are well informed, hardworking and routinely update their knowledge and capabilities. Thus, it is somewhat symbolic to state that a *favela* is a doorway for the proletarian class to thrive as there is a healthy, active network of opportunities and skilled workers. The need to work and thrive goes beyond the constitution of a space, but it is part of its phenomenology. A house is shaped around the needs of survival making work fundamental for a dweller. (fig. 3.4)

FIG. 3.4 Man carrying *sururu* along the alleys of the *Favela Sururu de Capote*. Source: Ana Rosa Chagas Cavalcanti, 2008.

Residences, houses and space attributes do not stop negotiations between dwellers, which set the basis for designing the house. Therefore, when inhabitants of the *favela Sururu de Capote* moved to a mass housing unit in Maceió (2 storeys in height), such residences were a completely new, unknown territory for the automatic provision of the inhabitants. Vertical housing methods and mass housing blocks do not stop incremental spaces; nor the formations of working spaces. (fig. 2.5. Chapter 2).

However, the feature of work in slums in Brazil and all around the world is not very well documented. Usually, academics do not go beyond a short emphasis on the subsistence or importance of work in sparse and incidental sentences. According to AbdouMaliq Simone who documents slums in Jakarta (Indonesia), work suffers a sort of dissimulation: "homes pretending to be factories, factories pretending

to be homes, prayer groups pretending to be political parties, pretending to be commercial associations pretending to be clubs" (Simone, 2016). For Sheela Patel, who studied the Dharavi slum in India, plans of ressetlements (by institutional and corporate projects) whose ambition is to shelter inhabitants who are removed from that 'slum' did not demonstrate to address their work activities (SPARC, 2010). Mike Davis points out how labor is important to 'slum' dwellers, emphasizing the lumpoproletarian labour (Davis, 2006). Paola Berenstein, who studied the aesthetics of *favelas,* talks about work and subsistence as an epicurean rhythm (Berenstein, 2011). Robert Neuwirth says that it is "stoic" when he describes the work of slum dwellers in Nigeria (Neurwith, 2006). However, none of them tried to understand how work constructs, forms, plans and governs space, nor tried to expand its deep influence on the lives of residents and to the process of ressetlement.Again, their sentences are sparse and incidental, found in small parts of texts or speeches that address broader questions of habitat.

However, in the two case studies concerning *favelas* that have been studied through ethnographic research (i.e. the same methodology) there is barely work dissimulation in the spatial dynamics: inhabitants place signboards and are proud to show their economic activities, especially at the bottom of houses. Work happens in the street, and it is evident to see the place thrive in alleys and spaces around the slums.

From what was experienced in these two slums through seven years of research, it can be concluded that *slums are shaped by labor on three scales.* These aspects are part of a slum ecology and they can address epistemological gaps in the literature of informal settlements and clarify relationships that have been defined otherwise. Slums can go beyond state simplifications in which formal planning is a form of simplified planning (e.g. norms, control and regulations) and they can also contribute to the ongoing planning discussion, reinforcing the fact that informal planning corresponds to the existing practices and relationships of people who, in the slum scenario, are being constantly redefined (Castells, 2001; Harvey, 2013). Perhaps slums may address the postcolonial author's work from Homi K. Bhabha who states that political force erases plurality (Kitching & Valentine, 2004). It may also address institutions and associations of slums with lack of structures such as stated by Gilles Deleuze and Felix Guattari: "The smooth spaces arising from the city are not only those of worldwide organization, but also a counterattack combining smooth, and hole and turning back against the town; sprawling, temporary, shifting shantytowns of nomads and cave dwellers, scrap and fabric patch-work, to which the striation of money, work or housing are no longer relevant." (Deleuze and Guatarri, 2001). Finally, the parochial concept of Ananya Roy is brought forward. She claims that there is a new epistemology expressed by dwellers who produce concepts which is equally rich to the understanding of informality (Roy, 2009).Informal planning is

a varietal form of planning and it redefines relationships that are not contradictory to those of formal planning, it has its own logic and synthesis (labor shaping spaces and governing spaces is a proof to this discussion, according to me). Above all, the aim is to explore labor in slums in a way that uncovers binary generalizations of formal and informal processes, which shows informal planning as a terrain where work, housing rules and market are not normally applied.

3.4 Work on Several Scales: an Intellectual Debate

In the following section, the impact that labor has on shaping spaces in the *favela* at several scales (the territorial scale, the city scale and the *favela* scale) will be showed. On a territorial scale, the capital and the formation of capitals within cities will be discussed. Across the world, labor territories contribute to the emersion and growth of a slum. The distribution of labor and settlement with respect to opportunities, provision of infrastructure will be discussed, bringing to light new assemblage opportunities of work. Finally, at the *favela* scale the design of houses produced by inhabitants are discussed. These houses are designed to flourish, securitize, and perpetuate work activities yet at the same time to preserve the concurrent domestic lifestyle.

3.4.1 Territories (Cities): A Thesis on Urban-Rural Migration, Global Market and the Emergence and Growth of Slums

The 98 % of future urban development is going to occur in the developing world (Clos, 2016). Latin America is the most urbanized region on earth. In addition, according to Joan Clos, from UN Habitat, the spare rates of urbanization in that area is tending to be de-urbanized in the next few years. Nevertheless, also according the studies by Eduardo Rojas, Maceió has one of the fastest rates of urbanization in the world (Rojas, 2008). Cities are concentrations of opportunities, jobs, education, health and recreation. Thousands of people move to cities everyday. Cities are also social vehicles which deliver public policies aimed at improving people's qualities of life; They have more efficient access to sanitation, to education and transportation.

Critical mass and knowledge creation are also other important features of cities. The difference between rural and city dwellers' income is crucial to understand the housing crises that most are currently facing. Institutions and corporations tend to turn a blind eye towards the increase in slums because the more jobs offered by the city, the bigger the housing problem, and this is a problem that cannot be solved instantly. Generally, countries without rigid regulations do not pay much attention to the relation between jobs, opportunities and housing, a situation that is further enhanced by the global crisis. According to David Harvey (Harvey, 2011) informality is the core process of neo-liberalism. Thus, labor opportunities and business networks are attracting people to go to cities. This migration is indisputable and unfair for those people who save money in the rural setting. Slums are a consequence of that process. The cheap price of labor and goods which are produced in the informal settlements also stimulate eastern countries to set parts of their productive system in the southern hemisphere. The production of food is greatly processed in agricultural fields in China, retail manufacturers have factories in India or employ slum workers from the southern hemisphere. A new cartography and epistemology of labor in the world is crucial to understand the appearance and growth of the slums. It is important to remind that according to London School of Economics, slums are becoming important economic actors in a global scale. Adding to that the lack of research in how labor shape slums also causes blunt knowledge on the effect of work. Indeed, The economy in slums is perhaps a less discussed dimension of informal development, and as stated by Edesio Fernandes, the costs of informal planning to society are surprisingly high (Fernandes, 2009).
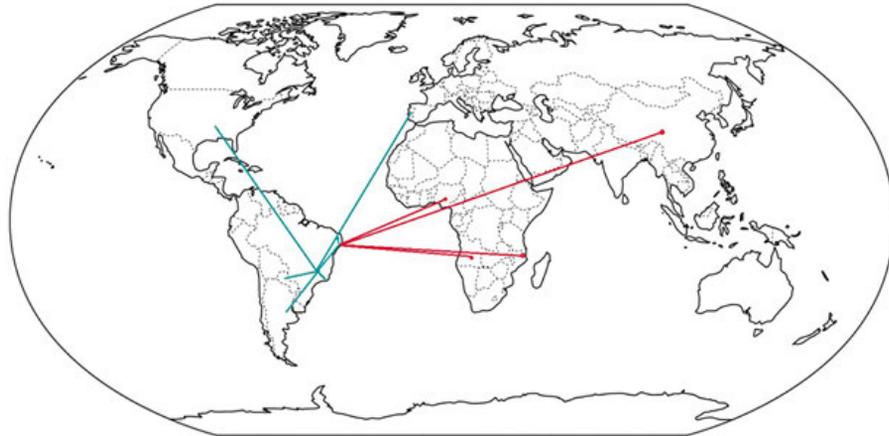
FIG. 3.5 Map shows the countries in which the goods produced by the residents living in the *Favela Sururu de Capote* may be exported. Source: Ana Rosa Chagas Cavalcanti, 2015.

3.4.2 **Inequal Infrastructure: Peripheries and Centres (Skilled and Unskilled Labor Distribution in the City)**

This section covers the infrastructural needs required by workers who commute between the suburbs and the city centres. Work in the slums can be an option for rural and urban migrants. City centres may be defined as conglomerations of companies in need of other auxiliary companies around them. Thus, since both skilled and non-skilled labor is heavily concentrated in this area, those whose income is below average would have to live within a commutable distance. Typically, these slums would imply that further infrastructure is needed to accommodate the proletarian classes living in the peripheries of the city (Sassen, 2016). However, slums create their own central nodes within themselves, points of architectural relevance, which should be explored in terms of their spatial quality, cartographic nature and territorial infrastructure. Slums and centres are often referred through these binomials. Despite their material limitations, informal cities are becoming relevant economic actors on a global flows of people and goods to the slums in Maceió (red) and destination of goods produced in slums in Maceió within a broader economic system scale (Burdett and Sudlic, 2011). (fig 3.5)

Interestingly, such distribution patterns of centres and peripheries seem to be the same in the suburbs in Europe. This is also explicit in literature in the fact that *favela* dwellers are mostly people from the countryside: people who live in the suburbs but work in the city centre or new industrial areas as was explored in the case studies. Upon examination of Brasília, Edésio Fernandes and Peter Keller observe that there seems to be a wider process in place, and they state that Brasília was planned out of the blue. Workers built the boundaries of the city by contributing to it through manual labor and nowadays it has some of the vastest slums in Brazil (such as the *Favela Sol Nascente*). In this context, formal and informal are inseparable and undefined. Similarly, Alfredo Brillembourg states that slums are recycling machines (Brillembourg, et al,. 2005). Slums are not mere entry doors of the work in the cities as modern theorists such as John Turner believed, they are permanent places in the cities, especially because there is labor opportunity within the slum. It is important to stress that diligent business strategies do happen in reality, sometimes using child labor who are paid less than a minimum salary. In total, slums may become significant labor working forces in cities and there must therefore be some awareness to dignify the working conditions within them. (fig. 3.6)

FIG. 3.6 Figure shows the transnationalism in the *Favelas* in Brazil, on the one hand, the migrant from Mozambique and on the other hand, a migrant previously living in an adobe hoiuse in the countryside of Alagoas, in the northeast of Brazil. Source: Ana Rosa Chagas Cavalcanti, 2014 (left) and Ana Rosa Chagas Cavalcanti, 2009 (right).

3.4.3 Cities and Design as Tools: Porosity and Work Opportunities within Favelas

Within the material agglomerations and spatial attributes of a *favela*, work and all that revolves around it becomes highly important. Throughout seven years of research on the *Favela Sururu de Capote* (FSC) it has been observed that many of the houses and spatial attributes were related to work practices of the inhabitants (Cavalcanti, 2016). The incremental capacity of the space should not be taken for-granted or associated with the bucolic idea of a family which finds itself a piece of land and self-builds its own home due its uncontrolled growth. Many of the modifications and spatial adaptations have a purpose related to the working activities of the inhabitants. Alleys were built straight to allow for the working activities, thus there is a planning rationale to protect both the domestic and commercial activities of slum dwellers, allowing them to co-exist at the same place, and a planning rationale to dispose the *sururu*, transport it and so on. Houses and shops in the slums have to be connected to working areas and this should be considered by any social housing project addressing removed inhabitants of slums. Unfortunately, the two projects delivered to the *Favela Sururu de Capote,* a self-help project in the 1980s and a mass housing project in 2010, did not address the socio-economic practices of people.

3.4.4 Conclusions

In today's world, the impact of architectural design in cities is not only an effort to synthetize issues on a single project, but also an effort to theorise on how complex social phenomena directly affect individual lives in everyday life. The search for a social position in architecture may go through the observation of everyday life. New methods, tools and definitions of informal architecture and informal planning are needed. Experimental methods and tools must address issues that are never taught to architects, as says Aravena (Aravena, 2016, Aravena apud Winston, 2016). Social practices are taught as something very different from the architecture education, but architecture is born from a social practice. Social practices need to be taught as a relevant aspect of design, there is a need for synthesis of social practices into architecture pedagogy. Architecture practices in slums should not be a monolithic activity but more like a summary of many other disciplines such as political economy, sociology and anthropology. Independently of the orientation of architects who aim to work within the existing contexts of slums (activists, or institutional architects), there must be an awareness of the social practices within these slums. They are still considered to be part of another field of inquiry: instead, they must be translated into a design language as pedagogical tools for future architects and urban planners.

References

Abrams, C. (1964). *Housing in the Modern World.* London: Faber and Faber.

Aravena, A. (2016). Reporting From the Front, Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016, July 2016. Retrieved from: https:// LSECiti.es/u32c6138a. [Accessed 20 November 2016].

Berenstein Jacques (2001). *Estética Da Ginga: A Arquitetura Das Favelas Através Da Obra de Hélio Oiticica.* Salvador: Casa da Palavra.

Brazil Investment Guide (2013), Real Estate Speculation in Brazil´s Favela Communities [YouTube video posted on the 14 March 2013] Retrieved from: https://www.youtube.com/watch?v=QIIOCQdpJAk. [Accessed 18 March 2016].

Brillembourg, A., Feireiss K., Klumpner, H. (Eds.) (2005). *Informal City: Caracas Case.* Zurich: Prestel Verlag.

Burdett, R. & Sudjic, D. (Eds.) (2011). *Living in the Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society.* London: Phaidon.

Cavalcanti, A. R. C.(2016). Critical Roles of Architecture: The Endemic of Labor in the Favela Dwelling system: Towards an Architecture Autonomy, Presented at Critic|all Conference, Architecture Out–tonomy, Madrid.

Cavalcanti, A. R. C. (2009). *Dos Calejados Pés, Os Passos Dos Filhos de Mãe Lagoa: A Invenção Do Espaço a Partir Dos Ritos Do Sururu* (Graduation Thesis). Universidade Federal de Alagoas, Maceió, Brazil.

Castells, M. (1977).*The Urban Question. A Marxist Approach.* London: Edward Arnold.

Clos, J. (2016). The Case for Planning [Video, July 2016] , Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016, July 2016. Retrieved from: https://lseciti.es/u50c213d7. [Accessed 1st July 2016].

Davis, M. (2006). *Planet of Slums.* London: Verso.

Deleuze G. Guatarri, F. (2001). *A Thousand Plateaus: Captalism and Schizofrenia,* Minneapolis MN (USA): University of Minessota Press. 202. Originally published in 1980 by Les Éditions de Minuit, Paris.

Fernandes, E. (2011). Regularization of Informal Settlements in Latin America. *Policy Focus Report published by Lincoln Institute of land Policy.* Retrieved from: https://www.lincolninst.edu/sites/default/files/ pubfiles/regularization–informal-settlements-latin- america-full_0.pdf. [Accessed October, 10, 2015].

Harvey, D. (2013). *Rebel Cities: From the Right to the City to Urban Revolution.* London: Verso Books.

Kitchin, R, and Gill V. (2007). *Key Thinkers on Space and Place.* London: Sage, 2004.

Latour, Bruno. *Reassembling the Social: An Introduction to Actor Network Theory.* New York: Oxford University Press.

Neuwirth, R. (2005). *Shaddow Cities: A Billion Squatters in the New World.* London: Routledge.

Rojas. E. (2008, December, 3-5) Governance and City Making in South America. Presentation at the Urban Age South America, São Paulo. Retrieved from: http://downloads.lsecities.net/0_downloads/pdf_ presentations/SaoPaulo/_conf/003_EduardoRojas.pdf. Accessed, February 20, 2014.

Roy, A. (2005). Urban Informality: Toward an Epistemology of Planning. J*ournal of the American Planning Association, Spring 2005, 71* (2), 148: 147-158.

Roy, A. (2009). The 21st-Century Metropolis: New Geographies of Theory, *Regional Studies 6*, (6), 819–30. Doi: 10.1080/00343400701809665.

Sassen, S. (2016). Global Capital and Urban Land. Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016, July 2016 Retrieved from: https:// LSECiti.es/u18fe1280. [Acessed 9 November 2016]

Simone, A. (2016). Feral Urbanism, Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016, July 2016. Retrieved from: https://LSECiti.es/ u2201130f.[Accessed, November 9, 2016].

Society for the Promotion of Area Resource Centers (2010). Dharavi.SPARC India. [Youtube Video, Published on March 17, 2010]. Retrieved from: https://www.youtube.com/watch?v=EUMMq7B_DDs. [Acessed, February, 4, 2012].

Turner, J. F. C. (1976). H*ousing by People: Towards Autonomy in Building Environment.* London: Marion Boyars.

Urban Age. (2016). Shaping cities, la biennale di Venezia, 2016. Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016, July 2016. Retrieved from: https://urbanage.lsecities.net/conferences/shaping-cities-venice-2016.[Acessed 28 November 2016].

Winston, A. (2016). 'Architects are never taught the right thing says 2016 Pritzker laureate Alejandro Aravena.' Interview with Aravena, *Dezeen*. Retrieved from: https://www.dezeen.com/2016/01/13/alejandro-aravena-interview-pritzker-prize-laureate-2016-social-incremental-housing-chilean-architect/#disqus_thread. [Accessed November 2016].

4 A Pattern Language of Self Construction

"*Architects themselves build a very, very small part of the world.*
Most of the physical world is built by just all kinds of people.
It is built by it is built by do-it-yourselvers in Latin America(..)"
Cristopher Alexander, The origins of the Pattern Theory, 1999:74[i].
Alexander, 1999

Labor in *favelas* was not acknowledged by architects and planners because of the interpretation of the definition of the informal settlement and the slum. Also, by architectural practice and parochial theories, which affect the production of planners and architects. The definition of slums as spaces lacking sanitation and infrastructural components is deeply rooted in both theoretical and institutional definitions of the informal settlement. Nevertheless, the spaces of slums and informal settlements are much more complex and include social-economic aspects of everyday life of its inhabitants. Interpretative tools and intellectual frames are needed to open new perspectives and epistemologies in the field of architecture that are capable to address the needs of únderpriviledged people. This is the ethos of the methodology designed to study informal settlements in the present study.

The finding that work is a fundamental element shaping space dynamics of informal settlement is based on an ethnographic research. To investigate how the social actions of the inhabitants shape them, methodological tools of anthropology (such as ethnography, interviews, oral history) rooted in De Certeau (and participatory research) were combined to the methodology of the Pattern Language (and with methodological tools of architecture such as drawing) to highlight the importance

of social practices as shapers of space in in contexts in which the socio-spatial dynamics are not familiar to architects and planners, such as informal settlements.

This methodology is underpinned by architectural imagination and intellectual reflection. It is the architectural imagination that allow architects and planners to create instruments to understand and represent space and new interpretative frames to study space. As for example, the perspective, which was invented when architects such as Bruneleschi experimented to draw over a mirror in a Plaza, in order to represent proportion, focal points and drain lines in the Renaissance Period.

4.1 New Methodologies and Epistemologies needed to Understand,Teach and Approach the Space of Informal Settlements

New interpretative tools of traditional architecture are being inquired, especially in the context of informal settlements in the Global South, spaces that are unknown to architects and planners. Methods, reasoning, interpretations and tools, are not adequate in case of self-constructed environments. In fact, when architects plan in context of informal settlement, they think about environment, costs, site, people's needs, materials, ideas, time, space, ergonomics, organizational framework and the political realm solely based on the perspective of who does the planning within a technocratic domain and space determinism. Architects who work with the design of housing for the unprivileged often struggle to understand their "client" profile or are not concerned about their needs. Thus, it often happens that many projects aimed at requalifying the context of slums fail in their purpose and classical examples are new social housing reformed in short time into *favelas* again because of the lack of understanding of the practices of their users.

Also literature raises its concerns about how informal settlement are approached (Alsayyad & Roy, 2003; Roy, 2005, Gilbert 2007; Arabindoo, 2011) and hope for new epistemological frames for the studies of informal settlements. Hence it is fundamental to read both the informal settlements and the 'urban poor' in more imaginative terms (Arabinddoo, 2011: 640).

This research is built within these debates, starting from a radical reconsideration of the method and the target of investigation of traditional architecture, that is the episthemologies of knowledge in the domain of informal settlements. In fact, this decennial research on informal settlements is based on information collected during more than six years of field research and participant observations in some *favelas* in the northeast of Brazil in ten years of studies. This lets to overcome the dichotomy by which often, for example, the disciplines of sociology and anthropology are separated from the study of architecture.

From the elaboration of all the collected data (photo, video, drawings, interviews), it clearly appeared that social practices, notably, the labor practices, play a key role on the design of spatial attributes of *favelas*. There is an ecosystem composed by the circulation of objects, people, money, labor and knowledge that addresses the *milleu* of construction of the *favela* and the entire territories that they tackle. As an example, the self construction process requires the consultation and sharing objects, resources, money and skills among the inhabitants, and between the inhabitants of the *favela* and the *non-favela* city. For more details about the intellectual framework, be referred to recent publications (Cavalcanti 2016, Cavalcanti, 2017).

All in all, rather than focusing only on built components of *favelas,* the assessment of space in informal settlements should be concerned also with the numerous day to day runnings and social practices which are often unseen in academic literature focused on architecture. To plan and design for the poor and the unpriviledged It is important to understand the socio-economic aspects of spaces, instead of merely focusing on the aesthetic features of informality (AlSayyad and Roy 2003, p. 297). Moreover, learning the architecture of informal settlements from the social practices is important because it may avoid parochial discourses in the education of architecture and also issues as the 'aesthetization of poverty' or the 'museification of squatter settlements' such as Ananya Roy states in her writings about her experience teaching at the University of Berkeley (AlSayyad and Roy, 2003, p.289). Etnography is fundamental to understand spaces in informal settlements, according to urban theorists, which urges the need for interpretative tools to study this topic from the perspective of residents (Simone, 2004 ; Chatterjee, 2012 ; Robinson & Roy, 2016). Ethnography is thus challenged to couple with design knowledge.

4.2 Design Knowledge and Etnography: A Pattern Language of Self Construction

The pattern language proposed by Christopher Alexander (Alexander et al, 1977) is an universal planning method based on humanism, and a crucial study in the field of architecture and urban design, that has been vastly applied in traditional architecture education. The patterns by Alexander are used both as project guidelines or as principles to design. They hinge upon a complex range of relevant aspects of the built environment, and have a fundamental role in the discussion of the project of architecture and human behavior.They describe all phenomena that happen over and over in space and time within the urban environment of a city, according to the detection, perception, interpretation and use of its physical elements by its inhabitants. Patterns of space are expressed via photos containing explicative descriptions. Indeed, according to Christopher Alexander, built components of the city were meant to be self explanatory and easily comunicated to all residents of the city, expressing the human character of Alexander. In this sense, the Pattern Language address the urban space and its components. 253 patterns were categorized according to spatial hierarchy into categories or groups, ranging from the scale of regional planning up to the ornaments and details of buildings (fig. 4.1).

Aside from being a method that provide principles of projects to architects, it also captures a complex range of relevant aspects of the built environment and has a fundamental role in the discussion of the project of architecture and human behavior. Hence it constitutes a fruitful source of mapping spaces and providing elements for the design of a determined spaces starting from the identification of elements in the built environment. Aside from proving guidelines for architects and planners. The method of alexander was used, because it allows to both capture social and spatial dimentsions but also to give answers to them according to the wish of the reader and their interpretation.
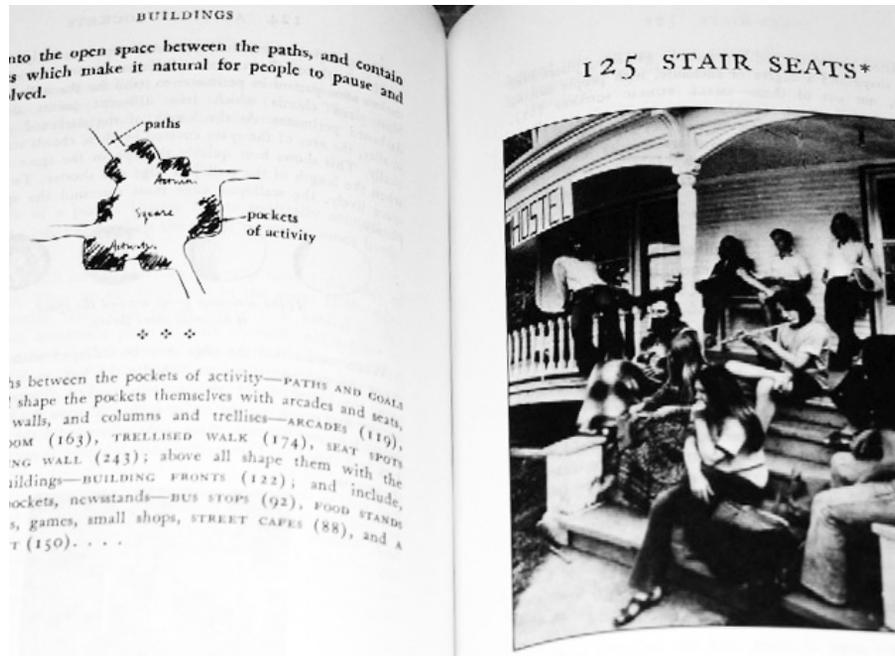
FIG. 4.1 Picture of pattern by Christopher Alexander in the Pattern Language book. Source: Book Pattern Laguage of Christopher Alexander, 1977.

With the present study, the method of Alexander is expanded to include the social practices that shape the space of informal settlements. These patterns are described in graphical form, via visual etnography that depicts of the social practices that happen in the space of the informal settlements. As said, all the practices were identified through participant observation: the tools used were photographic registers, drawings, graphics, videos and interviews. The use of graphical tools allows to understand space with ease and is relevant to explain space to planners and architects, by yet focusing exclusively on the role, relationships and interactions of the inhabitant and its actions in the surrounding environment and community. Graphical representation sheds light on the daily dynamics and feeling of habitation and the symbolic meaning of certain spaces (fig 25).

The patterns are organised in groups depending on their characteristics, in such a way that the groups are essentially describing the categories of the pattern language. These categories reflect the inhabitants' expertise, their capacities and their resources. There are four main categories, (Intimacy, Dwelling, Commonalty and Labor). These centre around all aspects of the inhabitants' lives and their

productions, starting from residents' activities, passing through their Homes, to rules of Commonalty, until the work they do: Labor. In other words, the first category deals with the people themselves, into the scale of the dwelling, onto the scale of coexistence between people until the last scale which refers to the scale of the city and transitions. The *Favela Pattern Language* was presented for the first time to graduate students in architecture and urban planning of Delft University of technology in the Netherlands.

These are some examples of the patterns from the in-field research (fig. 4.2):

FIG. 4.2 Picture shows graphics (left) and photos taken by the author in the *Grota do Antigo Telégrafo* (right). Source: Ana Rosa Chagas Cavalcanti 2015 (left) and Ana Rosa Chagas Cavalcanti 2018 (right).

Intimacy

This category is concerned with the daily practices of the residents of the *favelas* and includes the choices, aesthetics and calculations made by local inhabitants that shapes space. They range from the material that inhabitants chose to add quality to their houses, their resources, their capacities and their organization that shape the space of their living environments.

Religion and Faith
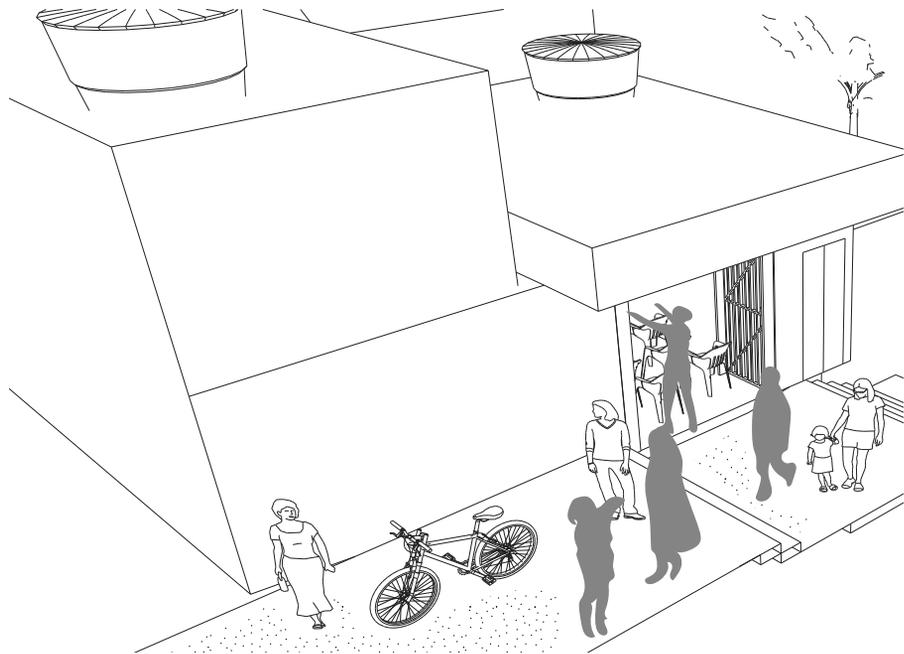
Some dwellings are set as Churches. Mass is leaded by pastors living in *favelas*. Religion is important for the self-esteem and the perseverance of the community.

Social relationships and Solidarity
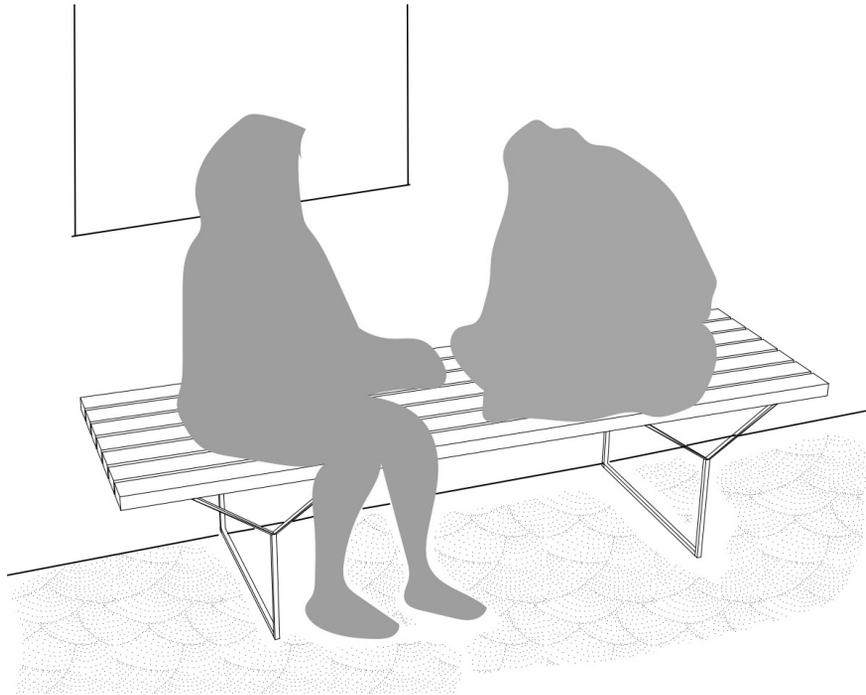
Neighbours, friends and family members, often gather together on benches or set chairs in the front part of the house, mostly at the end of the day. These moments are important opportunities to share information on new jobs, opportunities, news or also to find help. In the favela, solidarity ties are important. Livelihood and social life depend on the social network.

Ornaments
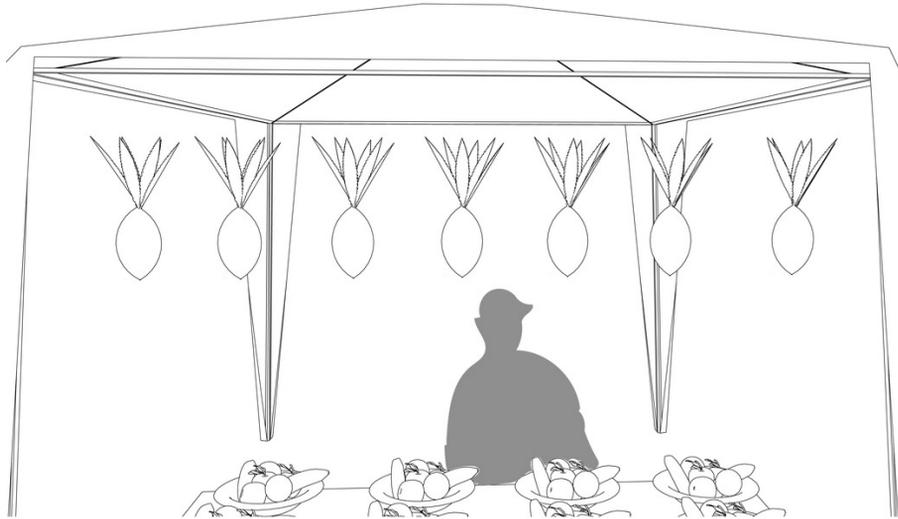
In houses hosting economic activities run by residents, ornaments may embellish the interior spaces according to available resources. Usually residents place also items on the roof of shops or make compositions with the products they sell.

Birthday Party

Living Ro
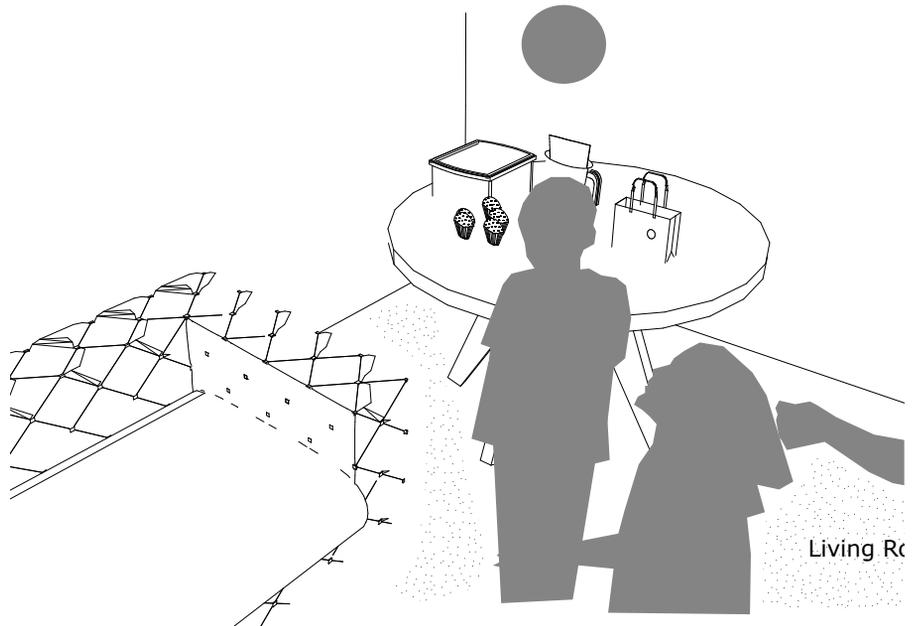
Birthday parties are important venues for the community of the favelas, especially sweet fifteen parties.

Roof Tops
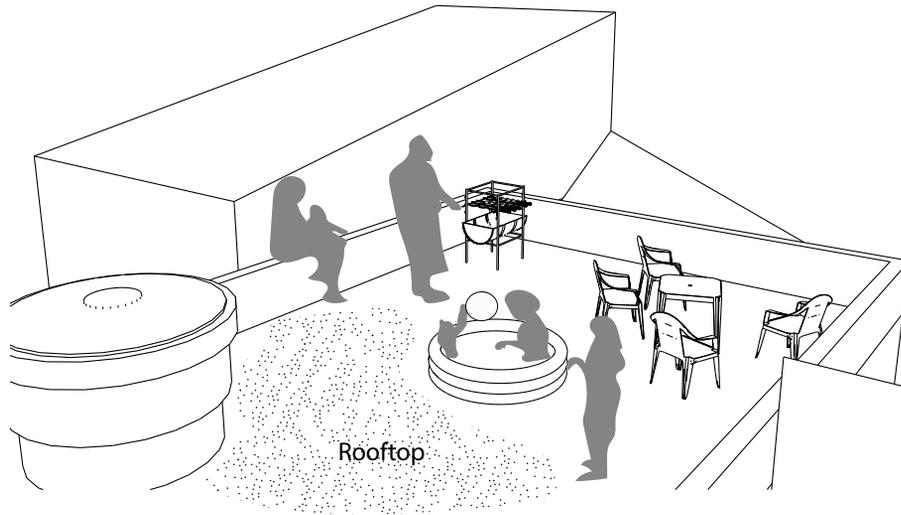
Rooftop

Roof tops are often used for convivial activities, such as for celebrations, barbecues, sun bath

Dwelling

This category tackles the dwelling practices, family life, domestic life and other activities that happen inside the house that are not included within income generation processes, but still shape the ecosystem of houses.

Internal Roof

Many one-storey houses' roofs do not have a slab in between walls and roof. Materials used for roof vary from aluminium up to ceramic. If the owner desires to add a second floor to the house, placing a slab is the first step to perform.

Ceramic tiles
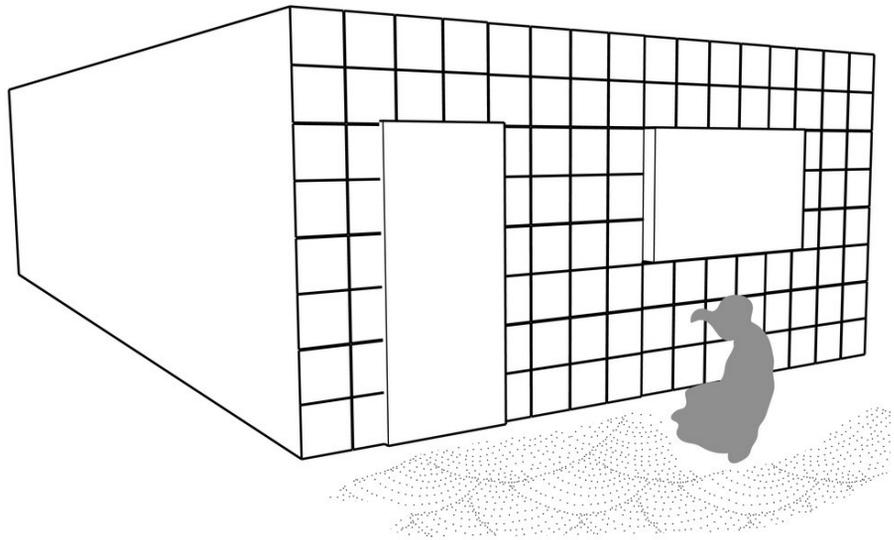
Ceramic tiles represent a valuable strategy used by inhabitants to protect and coat their houses from humidity and rain. Inhabitants often proudly refer that their house is entirely coated by ceramics '*toda na ceramica*'.

Awnings Animals
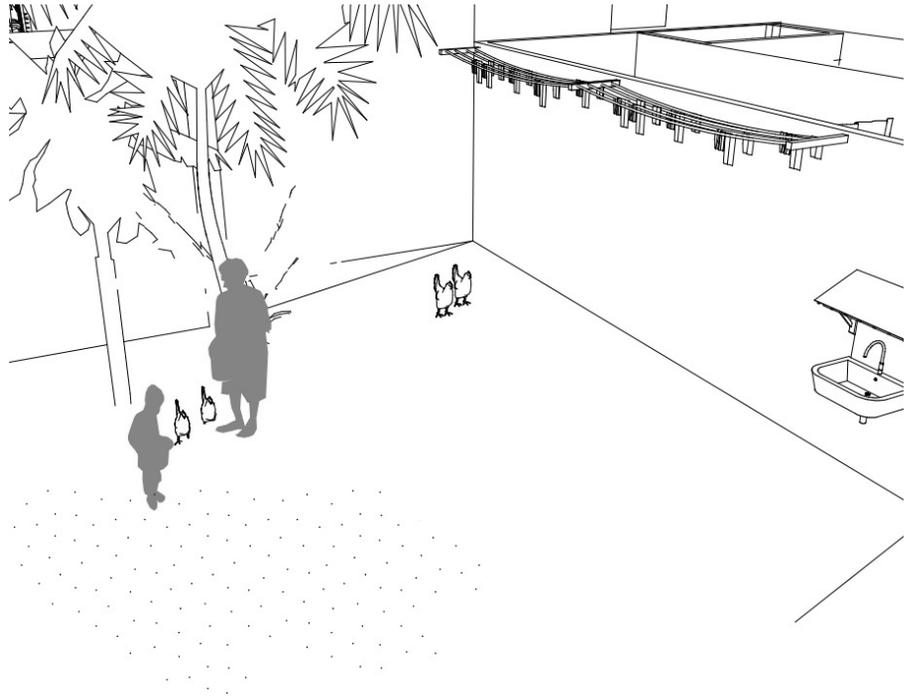
Some inhabitants raise farm animals in the backyard of houses. Pigs, chickens are raised for feeding purposes while horses are valuable resources for carters and waste collectors.

TOC

Ventilation

The need for ventilation systems inside home is a serious issue in the favela. The unpredictable growth of new houses attached can obstruct air flow into the house. Juxtaposition of houses, lack of green areas and lack of shading structures represents a treat for residents' well-being, especially considering the temperature and humidity levels of tropical area. Most inhabitants use more than one fixed or mobile ventilators inside; alternatively they may decide to "open" a new windows through a bearing wall.

Clothes Line
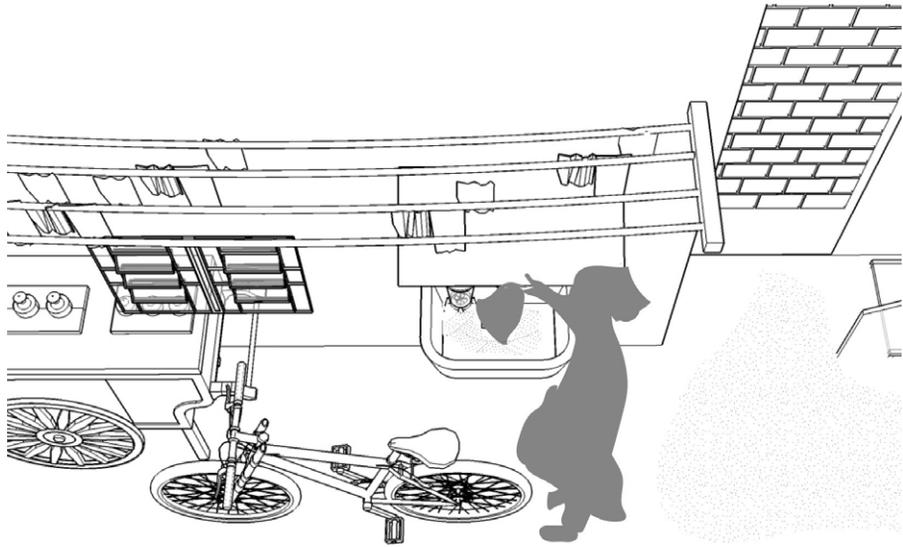
Residents place clothes, often washed in the kitchen or bathroom of the house, outside of their houses for drying purpose.

Cesspools
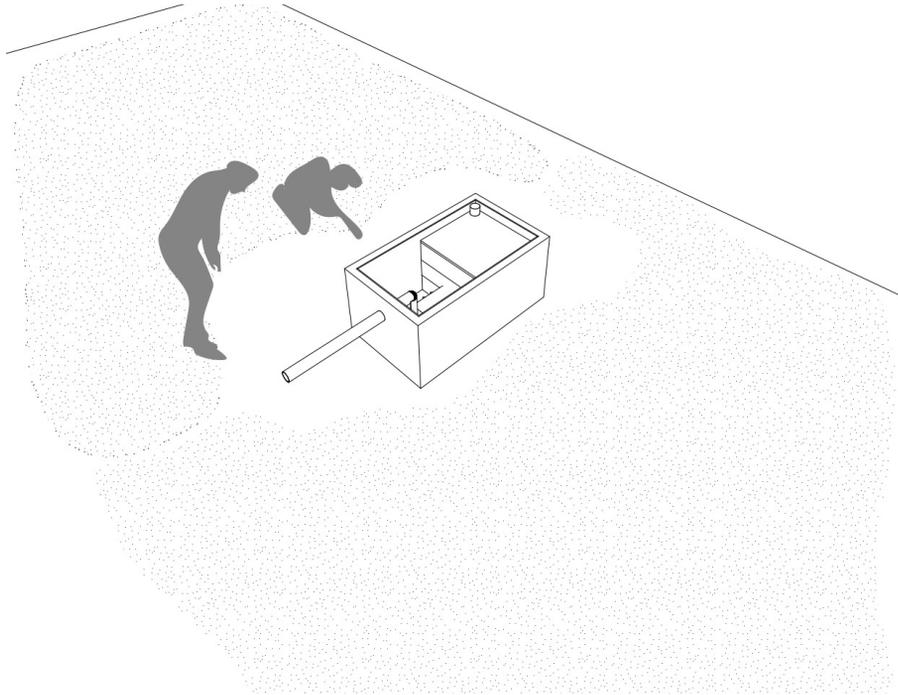
Many houses built in Maceió (both in formal and informal settlements) are not connected to the public sewage system. In the favelas, residents improvise cesspools for the houses of the community. The activity is supervised by experienced masons who live in the favela.

Two colours or two textures
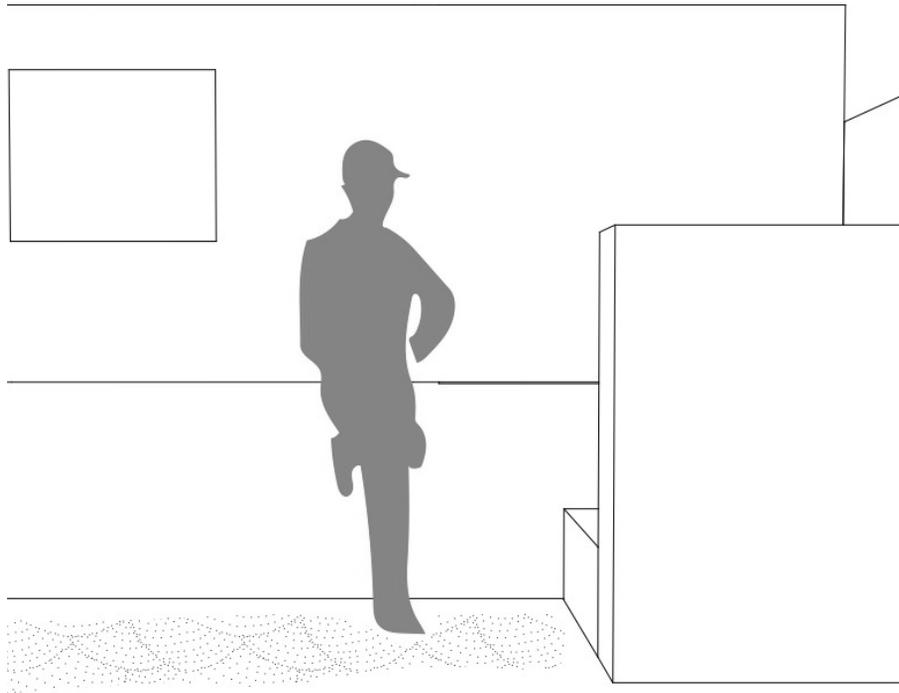
Two different colours or either two textures can be applied on the external surfaces of wall. The lowest part of the wall is coloured with darker nuances, in order to prevent the wall from showing possible early shadows, for instance produced by footprints of inhabitants.

Garages
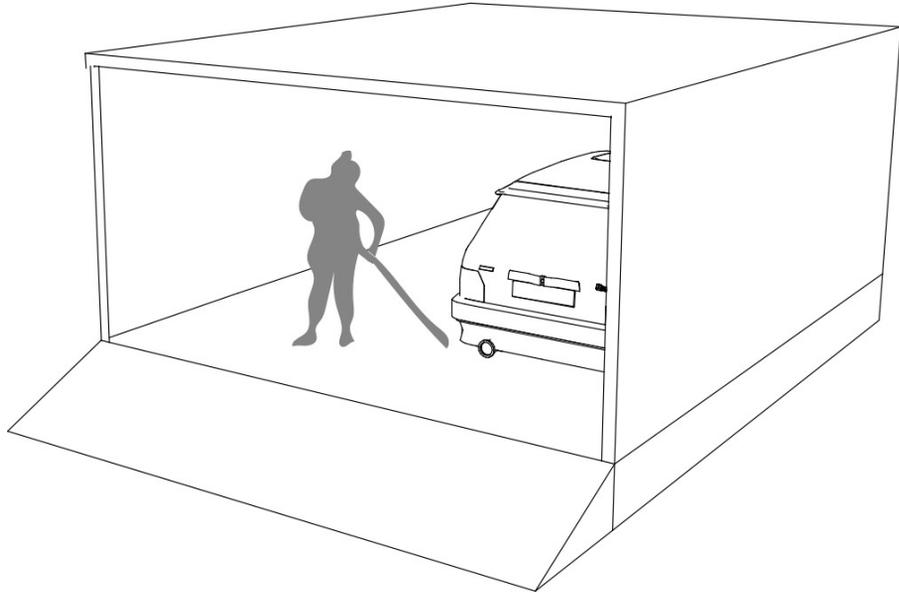
Residents may decide to adapt part of the space of a house accessing the alley as storage room, deposit of walking carts or (in the unlikely event of car purchase) even as box-at.

External Stairways
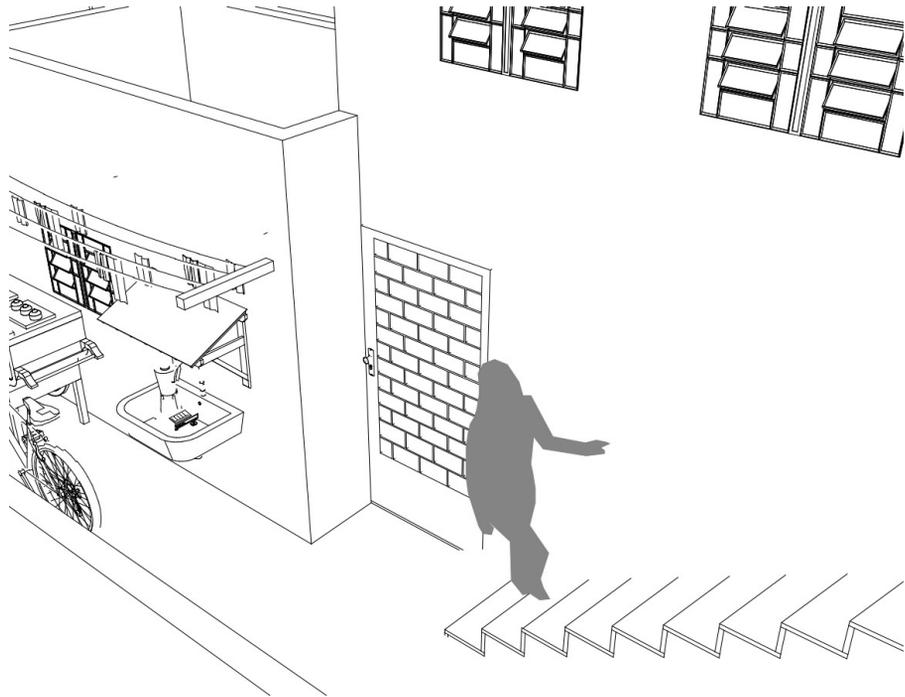
External stairways are recurring elements of many houses. It can happen that the owner decide to split the space of a former house into two new separated domestic spaces, for istance for renting purposes or in the event of family growth; the access to the new house is then often achieved through the erection of external stairways.

Bathroom and tiles
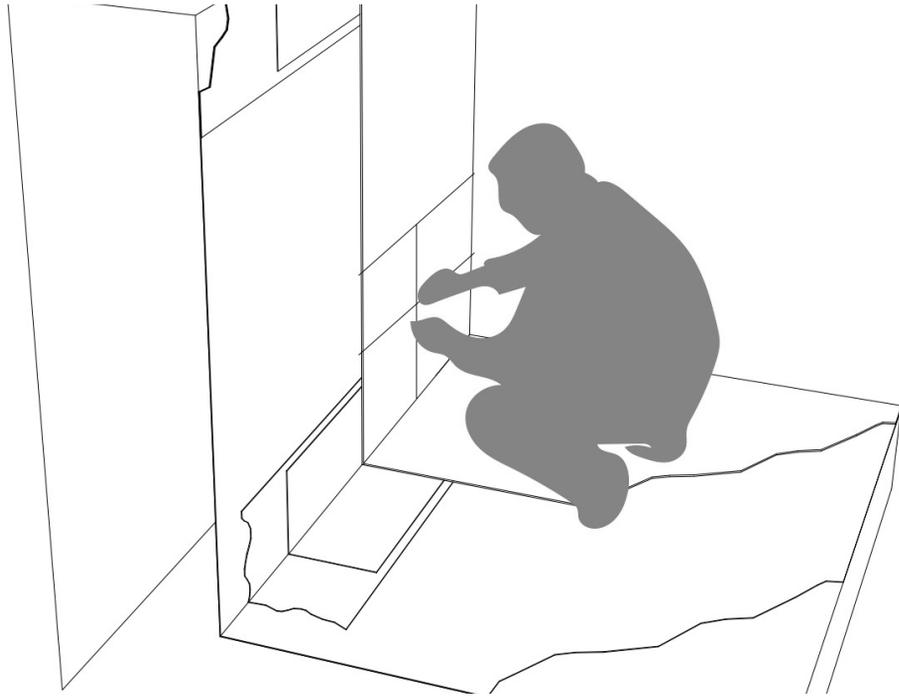
The availability of resources of the resident can be judged according to the quality of the bathroom. Covering tiles on bathroom's walls represents a major achievement for the resident. Windows in a bathroom is a privilege for even fewer houses.

Commonality

Communal issues are remarkable in the favela, relations between private, shared and public spaces (usually not not defined by an architectural program but through specific spatial attributions and human activities). Negotiations and compromises with neighbours that shapes spaces in the favela.

Stairways
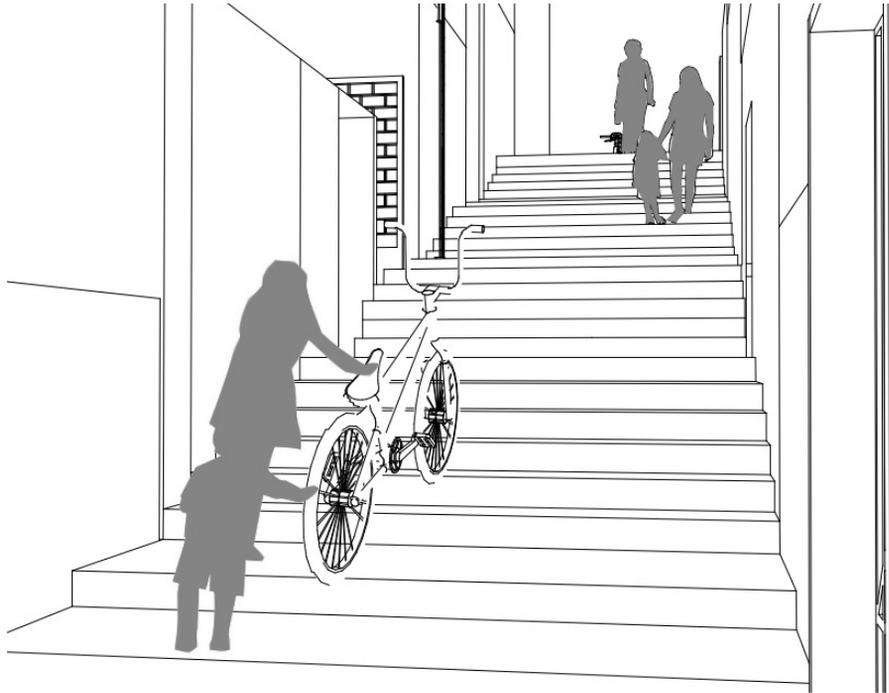
After school, children want to play outside home. This often happens in some spots of the common stairways of the favela. They are gathering spaces for adults too, especially mothers playing with children.

Bica

During the hot summers days, people may dismantle water pipes available on many stairways of the favela, in order to do a "bica" (a shower in the open space), or to fill inflatable pool with water.

Shared Services
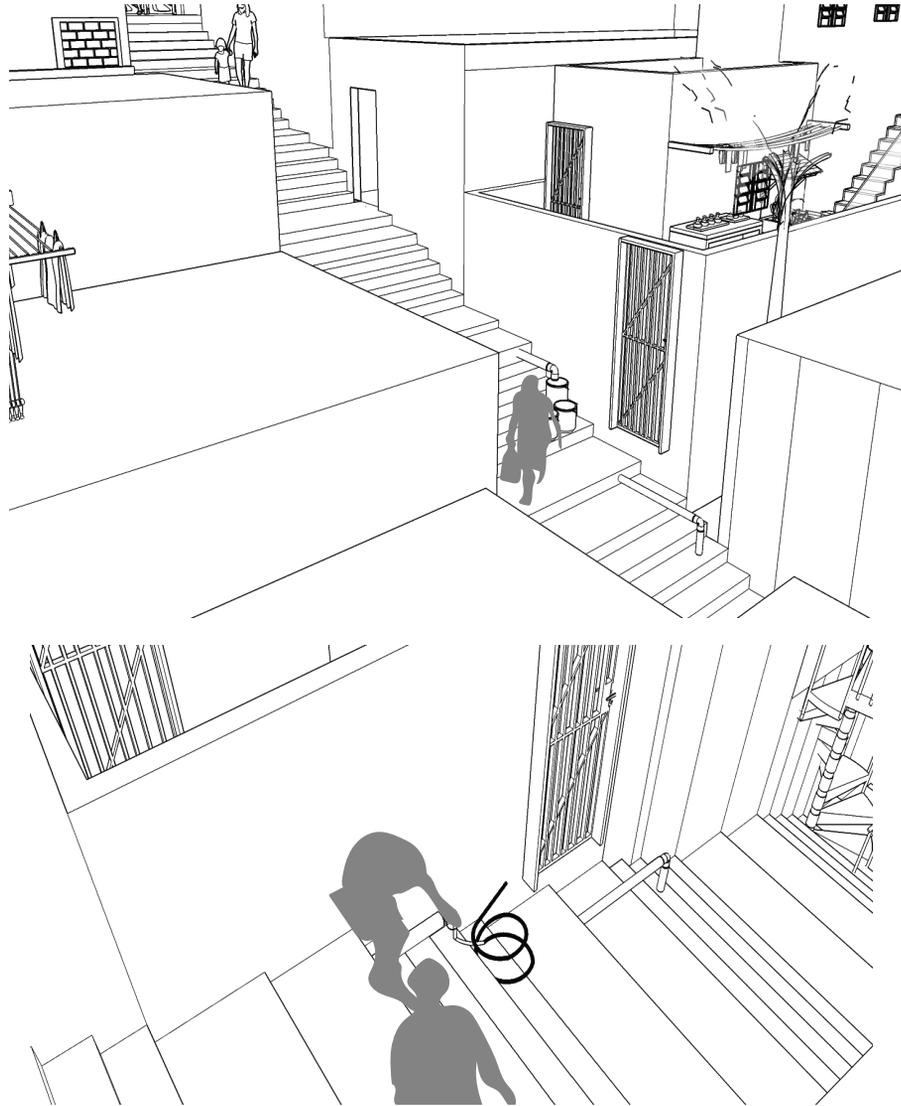
Many common services are shared by the members of the community according to their needs. Water pipes are apparent in the stairways without being fixed, in order to possibly allow new residents to connect them to their houses.

Common tools and techniques
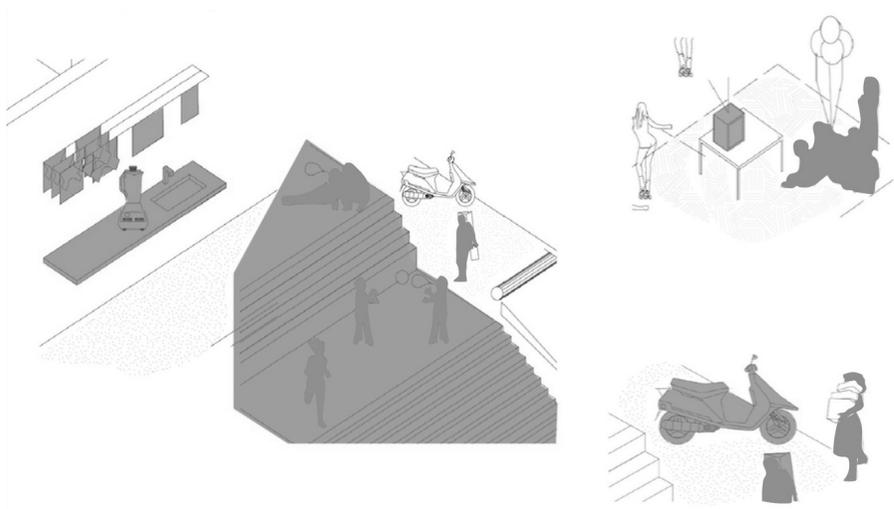
Plugs, devices, alleys, rooftops, stairways and empty terrains are common spaces used by all members of the community for various purposes, from leisure to work.

Compromises
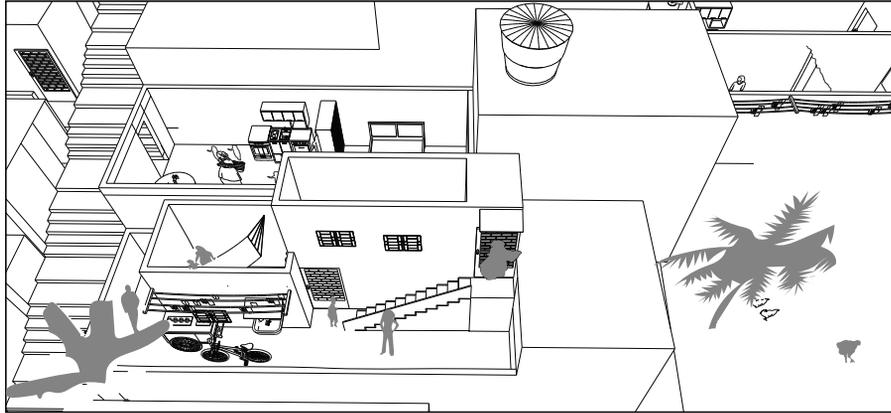
When more residents live in multi-family houses (villas), water tanks must be shared. This implies a compromise in the use of the common resource between the involved residents, according to the mutual needs and priorities, which need to be addressed and respected through unwritten agreements.

Waste
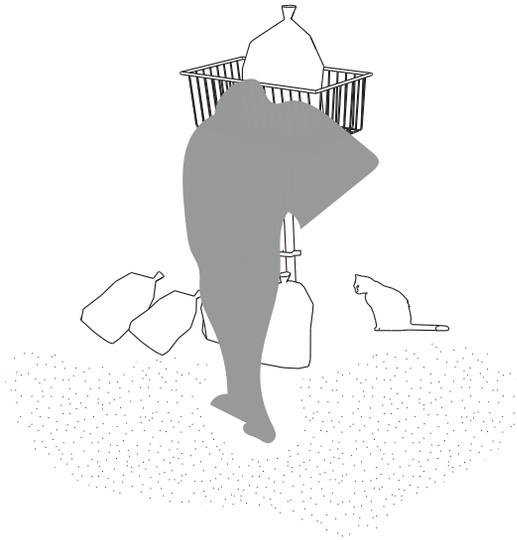
Public waste collection happens only at the borders of the favela. Service is not frequently performed, and usually waste gets accumulated on the streets for days before it is collected. Inside the favela, waste collection is left to the will of the residents. Many residents have to travel long distances from home to deposit their waste at the collecting points.

Soccer field
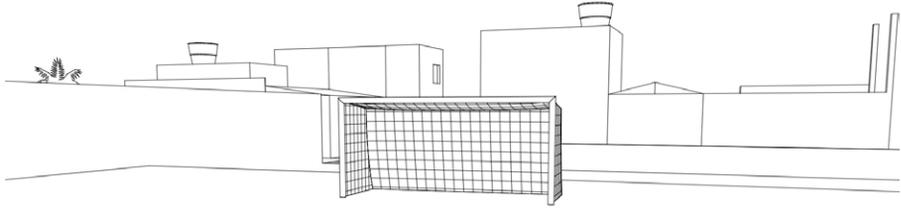
Inhabitants state that the football yard is the most important common space of the slum.

Labor

All actions and practices of favela inhabitants that come from the residents' working actions which shapes spaces in the favelas.

Work at Home
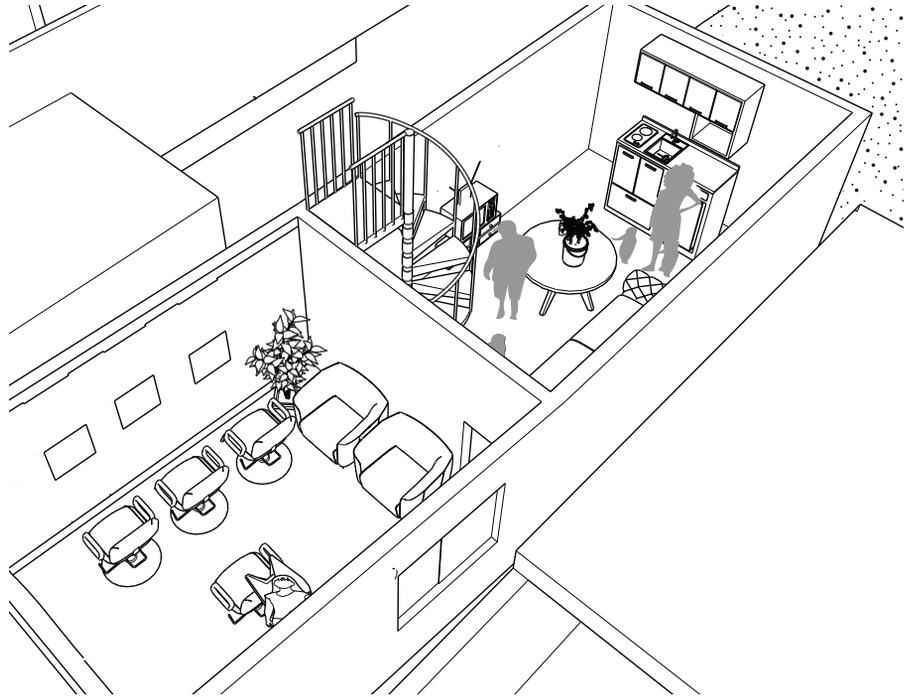
Work at home is a common practice in the favela. Businesses and domestic life often occur under the same roof. Space destined to working activities is separated by the domestic space through the use of curtains, walls and doors. An infinity of activities are run inside the house: from clothes or cars repair to hair dresser, manicure, day care, internet shop, bars, workshops,grocery shop, internet shop, hairdresser, manicure, sewing, laundry, child care, grocery shop, bars, junkyard, recycling, carpenter office. The landscape of the favela results being mixed, with businesses and domestic life sharing proximity in space.

Repair culture
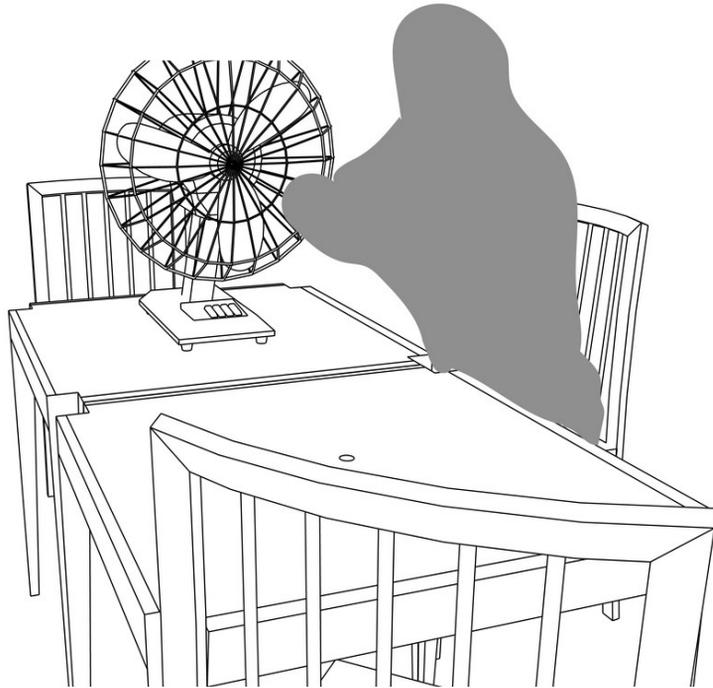
The are many repair shops in the favela (electronic devices, electric devices, tools, infrastructures, clothes and others). Used or broken objects are recycled, re-assembled and sold again.

Window Shop

Windows overlooking alleys of the favela are fundamental spatial attributes which allow people to trade their goods and services directly from their home.

Investing in labor and then, in homes
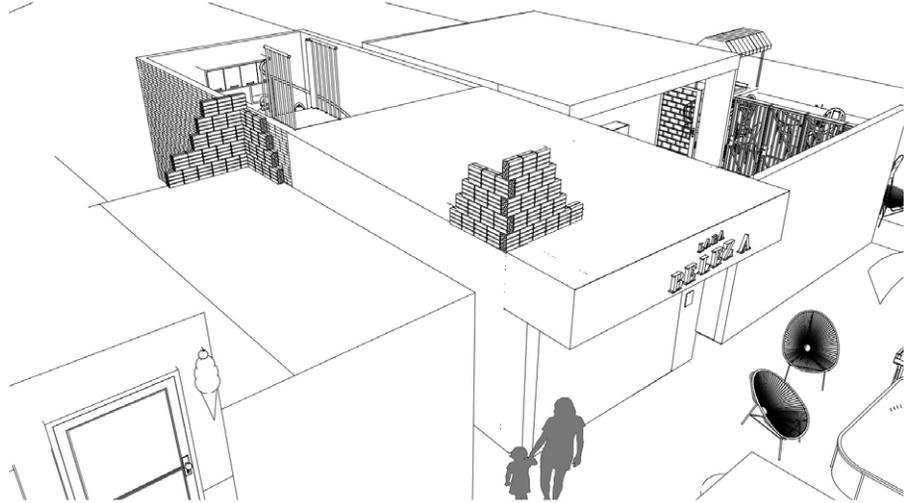
Most residents of the favela prefer to invest in their income generation activities, instead of in the extension or purchase of physical attributes of their domestic space. Location choice, construction process and space management of the house depend more on the working activity performed rather than on domestic needs.

Self-construction related to Work

Self-construction is not just a strategy to build a house but it can be also related to the decision of the resident to set or extend a new economic activity.

Carts of Hawkers
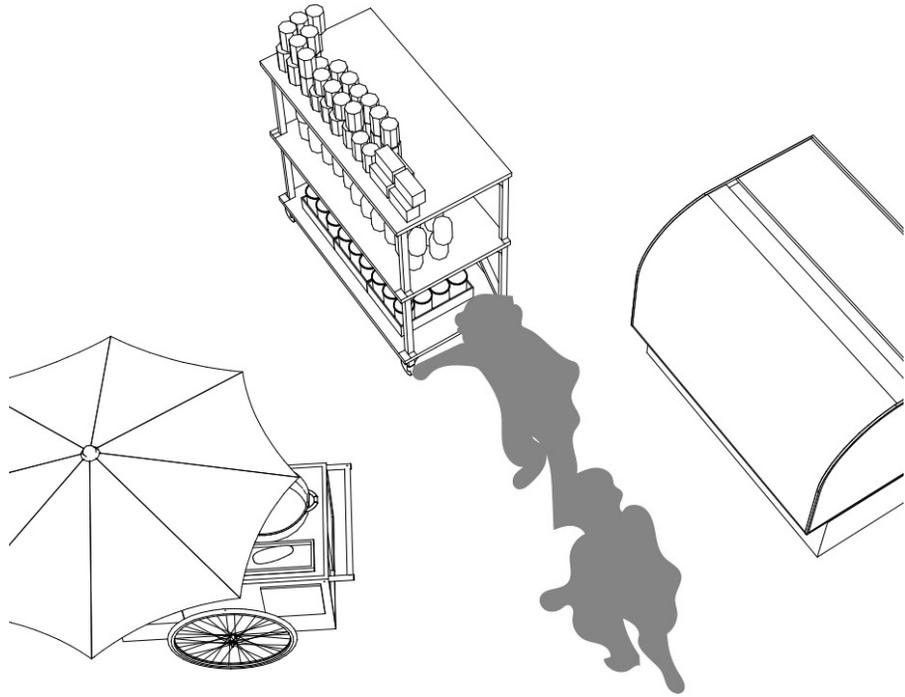
Many inhabitants of favelas use walking carts to sell products and foods. They are carried by the resident on the alleys and stairways of the favelas every day.

Bars restaurants and services:

bar
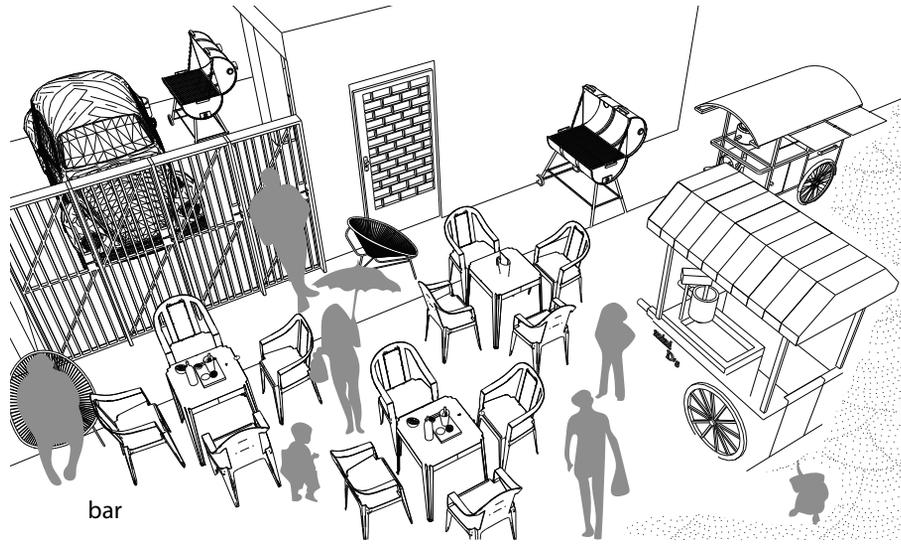
Bars, restaurants and many other services are usually located at the boundaries of the favela with the formal city.

Mobile Structures
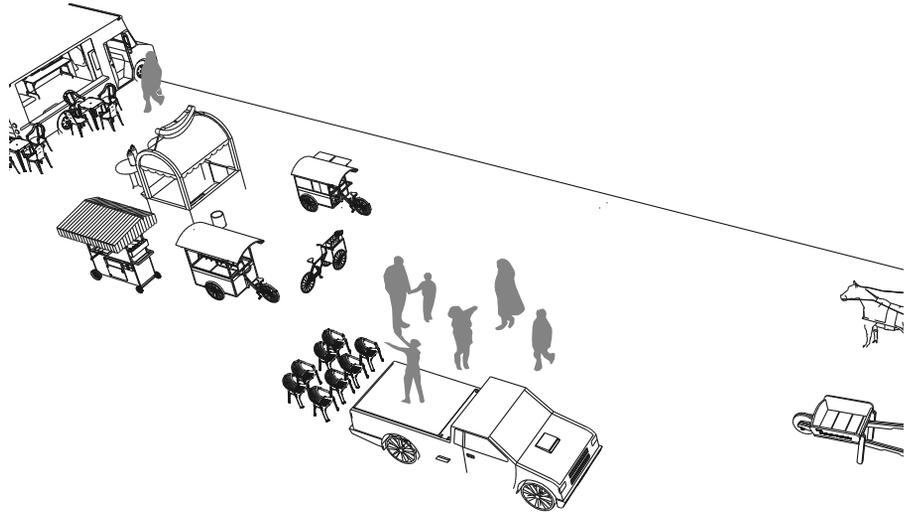
Mobile, foldable and assembled structures are often used as working equipment or as spatial components of services and businesses offered by residents both inside and especially outside the boundaries of the favela. Chairs and tables are set in front of bars or on the alleys and streets of the favelas and then taken back at the end of the work every day.

Alleys shaped by Labor
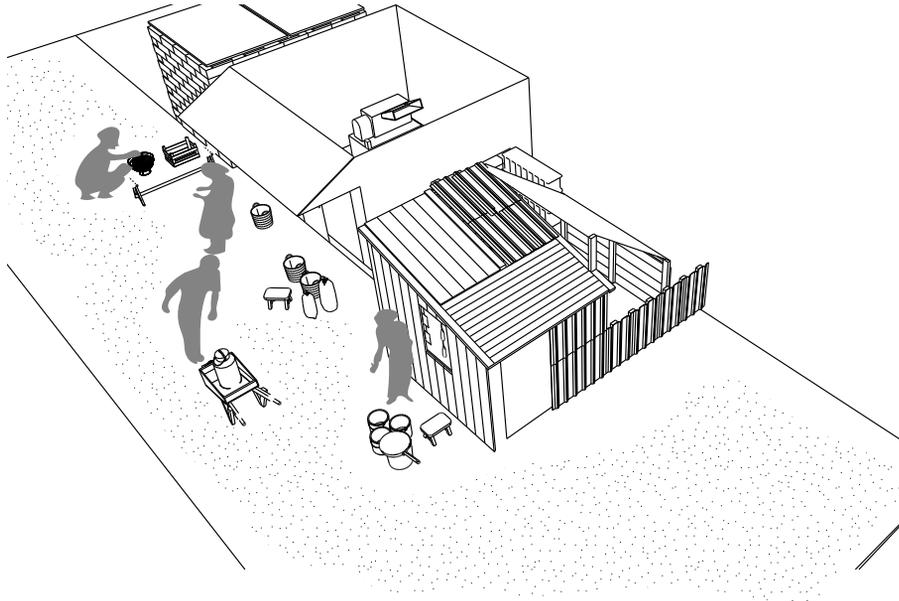
If a working activity inside the favela implies the use of an alley or a common area, forms and directions can be shaped or modified according to income priority by inhabitants involved in the activity.

External Alleys

Repair Services
Borracharia

street/rua
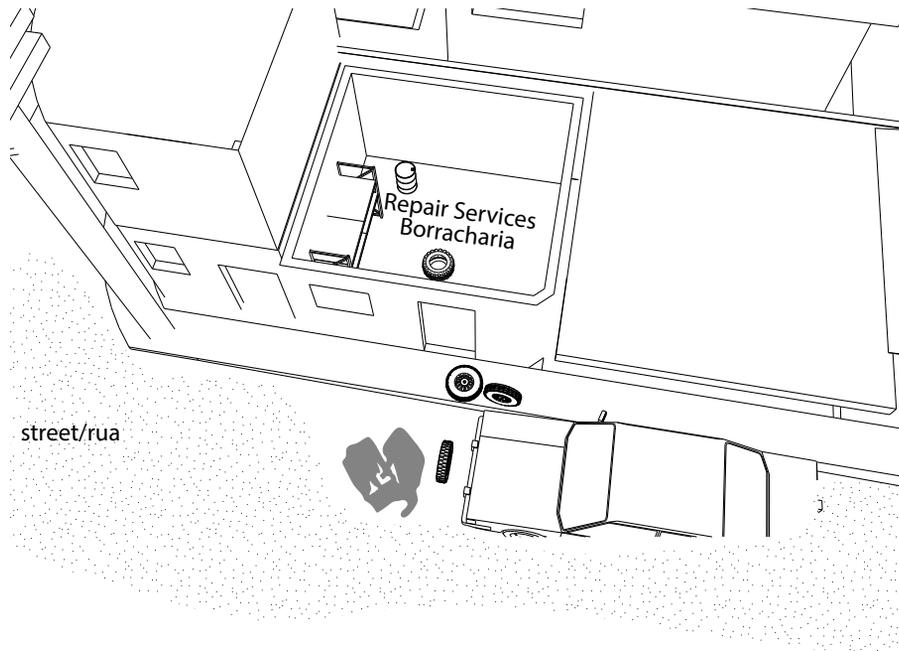
Street and alleys in front of houses premises are strategic features for the success of the business run by the resident of the house, due to the higher chance of attract people's attention.

Double work

Inhabitants have often more than one job. In case of employment in the formal city, this implies double journeys every day.

Work economies of slums

Both the goods and services that are produced by the working practices of residents can have an impact on the economy of borader lands and other countries too. Goods and services produced by favela work force can "travel" long distances around the globe through exportion expeditions. This is the case for instance of food and beauty products.

4.3 Conclusions

Some of the patterns in this article may be used as a reference for planning, while others demonstrate issues that need to be addressed in the slums, such as the emergent issues. All in all, this pedagogic tool aims to unveil details the design challenges architects have to face when they deal with these scenarios.In fact, it does not aim to be an instrument of normalizing or establishing rules to the design of self constructed spaces, but is actually an instrument of encounter between the academic architect and the inhabitant. In doing so, it aims to reverse the logics of traditional architectural education and propose and reflect upon architecture. Hopefully, this pedagogic tool can be used in different contexts in order to stimulate the learning of social practices, ethnographic and economic data for the education of architecture learners. This is a pedagogic tool for architects and academics dealing with informal settlement and the spatial loaceheir residrder to better address the processes of resettlement of residents and redevelotexts. It is a tool to learn the landscape and the cartographies of people, an outline and a vocabulary of the landscape and space that merges sociology, anthropology, geography and spatial analysis and familiarize planners and architects with the settings of the informal settlement.

References

AlSayyad, N.; Roy, A. (2003). *Urban Informality: Transnational Perspectives from the Middle East, Latin America and Asia.* London: Lexinton Books.

Alexander, C. et al., (1977). *A Pattern Language: Towns Buildings, Constructions.* New York: Oxford Univeristy Press.

Alexander, C. (1999). The Origins of the Pattern Theory: The Future of the Theory, and the Generation of a Living World. *IEE Software Journal, 16* (5), 71-82.

Arabindoo, P. (2011). Beyond the return of the "slum". *City,5*, (6), 631–635.

Arabindoo, P. (2011). Rhetoric of the 'slum. *City 15, (6)*, 636–46. doi:10.1080/13604813.2011.609002.

Cavalcanti, A. R. C. (2017). Work, Slums and Informal Settlements Traditions: Architecture in the Favela do Telegrafo. *Traditional Dwellings and Settlements Review, XXVIII(2)*, 71-81.

Cavalcanti, A.R. C. (2016). How Does Work Shape Informal Cities ? The Critical Design of Cities and Housing in Brazilian Slums. *The Plan Journal, 1*, (2) (2016),49–64. Doi:10.15274/tpj.2016.01.02.04.

Cavalcanti, A R C. (2009). Dos Calejados Pés, os Passos dos Filhos de Mãe Lagoa: A Invenção do Espaço a Partir dos Ritos de Sururu (Graduation Thesis). Universidade Federal de Alagoas, Maceió, Brazil).

Cavalcanti, A. R. C. (2015). Hence, We Will Improvise: A Claim for Methods and Approaches through the Perspective of Dwellers. Online Article posted in 31 of January, 2015 in *Favelissues.* Retrieved from: https://favelissues.com/2015/01/31/hence-we-will- improvise-a-claim-for- methods-and-approaches-through-the-perspectives-of-dwellers/.Acessed on January 31, 2015.

Chatterjee, P. (2012). After Subaltern Studies. *Economic and Political Weekly, XLVII*(35), 44–49.

Gilbert, A. (2007). The Return of the Slum: Does Language Matter? *International Journal of of Urban and Regional Research, 31* (4), 697-713. Doi: 10.1111/j.1468-2427.2007.00754.

Simone, A. (2004). People as Infrastructure: Intersecting Fragments in Johannesburg. *Public Culture, 16*(3), 407–429. Doi:10.1215/08992363-16-3-407

Robinson, J., & Roy, A. (2016). Debate on Global Urbanisms and the Nature of Urban Theory. *International Journal of Urban and Regional Research, 40*(1), 181-186.

Roy, A. (2005). Urban informality: Towards an epistemology of planning. *Journal of the American Planning Association,*1 (2), Spring 2005, 147-158.

5 Work as a Housing Right

"… For people who fight against poverty and misery in neoliberal society, the house becomes an accessory to labor needs, necessary to acquire capital and thus, to earn the right to housing."
Cavalcanti, 2018

5.1 Introduction: A New Paradigm for an Old Housing Question

This paper hopes that architects designing social housing for people originally living in informal settlements consider the importance of social practices, namely work activities, held by residents within the established informal settlements. Both the analysis and reflection hinge upon the practices previously established by a group of resettled inhabitants from the *Favela Sururu de Capote*, that exists in Maceió (Brazil) since the 1970's, to *Vila São Pedro*, a housing project developed by Brazilian Government in 2009. In fact, the research shows that labor, the social practice that most of all shapes and governs spaces in the *favela* (Cavalcanti, 2017), also drove the modifications that significantly altered the original shape of the social housing designed according to principles of formal architecture.

The ethnographic research was developed according to participant observation through a multi-year field research started in 2008, before the resettlement of residents and continued after one and seven years from relocation. Information consisted of interviews, audio records of residents' monologues, drawings, photos

and video. In sum, the socio-economic traditions of residents were analysed before and after the resettlement process, both in the *favela* and in the social housing. Already little time after relocation, the social housing was profoundly modified and 'mischaracterized' by residents. Thus, the original project failed its mission, as it happened twenty years before in a similar attempt, in a project designed by the housing program PROMORAR, in 1989. From the analysis, it emerges that the herein emplaced working activities mostly drove residents to profoundly change the social housing designated to them according to traditional design and management schemes. According to this research, nearly 87% of the incremental changes in external spaces and ground level of the 380 housing units of the Vila São Pedro were devoted to give room to labor activities. The elaborated information constitutes the roots of an intellectual reflection about the in-depth reasons of this phenomenon. In fact, all the observed modifications are emplaced to preserve the source of income of residents of *favelas*, needed for the inhabitant to pay their bills and therefore to guarantee their permanence in the new housing units. Thus, these necessities overcome any aesthetic rigor, hygienic standards, canons, program, formal/legal constrains that are inherent the designing criteria of formal housing. This impellent necessity of unprivileged groups of society should question the role of architects within the delicate mission of providing dwelling solutions to informal settlements. But the consequences arising from this reflection invest many sectors, from institutions to academia. In fact, in the context of informal settlements, the right to have spaces to work is embedded in the right to have a housing unit. Possible strategies to rethink policies, knowledge on incremental processes, urbanization, design strategies, and the right to dwelling in a neoliberal society to consider the socio-economic tradition of labor within both the context of the architecture in informal settlements or, the resettlement process of its inhabitants, are presented in this paper.

5.2 **Sugar, Sururu and Labor/
The Favela Sururu de Capote:**
A Spatial Analysis of the Emergence
and Growth of an Informal Settlement
around Labor Practices

The *Favela Sururu de Capote* has emerged at the margins of northeaster city of
Maceió, which is one of the fastest urbanizing cities in the world (Rojas, 2008; Cities
Mayor Foundation, 2015). This is a middle-sized city, as most cities undergoing fast
urbanization in developing countries (World Bank, 200, p. 129; UN Habitat, 2016,
p.1). Maceió is characterized by strong social polarities, poverty, and inequality. The
city accounts for 42.261 deficit of housing units.The Brazilian Institute of Geography
and Statistics (IBGE), the main government agent responsible to keep record of
the country's data, accounts that there are 114.659 people living in 32.359 houses
(IBGE, 2010) in 163 subnormal settlements (IBGE, 2010) in its urban area but this
number can be even higher since only the settlements with more than 50 houses
can be considered a 'subnormal settlement.' These informal settlements are mostly
irregular occupations in areas of environmental preservation such as the borders
of sea, rivers and lagoon, especially along the margins of the *Mundaú* Lagoon and
in declivity areas of the city, mostly concentrated along the Vale do Reginaldo, a 30
kilometer valley in the city. The typology of these settlements varies, from *palafitas*
(along the flooding areas), *grotas* (*favelas* in craters or declivities of the city,
the most prevalent form of informal settlement to imaginaries of the residents of
Maceió, due to geomorphological characteristics of the relief the city) and in *morros*
(commonly depicted *favelas* on the top of hills). The *Favela Sururu de Capote* is
situated in the southwest portion of city, along the Lagoon *Mundaú* which was one
of the first urbanizing areas of Maceió. On the one hand, this area is key to programs
of urbanization due its potential for becoming a tourist area in the city, and on the
other hand, there is a concentration of poor settlements such as informal settlments
and formal residences of unprivileged groups whose livelihood derive from small
economies such as small commercial activities or provision of services. Located in
the Neighbourhood of *Levada, Vergel do Lago*, *Ponta Grossa* and *Trapiche*, the *Favela
Sururu de Capote* is composed by four different communities, *Mundaú, Muvuca,
Torre* and *Sururu de Capote*, along 2,3 kilometres of the coast of the lagoon. The
popular nomination of these four communities as "Sururu de Capote" is mostly
because its residents derive their livelihoods from the fishing of a typical mussel,
the *sururu*. The settlement is extremely precarious, with a few houses having an

improvised sewage system and residents reported than almost all houses do not have a proper toilet. The actual *favela* landscape is composed by houses made by all materials that modern society discards: cardboards, canvas, aluminium sheets, wood plates and a few houses made by bricks. Houses are predominantly self-constructed barracks of one storey high, and *palafitas* houses close to the potential flooding areas, but there is also a smaller incidence of houses made by bricks and having up to two storeys. According to the interviews performed with residents, the appearance of the *favela* dates back in the decade of 1970's when there was a high incidence of demission of workers in sugar cane farms (*Usinas de açúcar*) of the state of Alagoas (Cavalcanti, 2009, p. 21). The migrants have found in the margins of the lagoon, in the middle of an empty and still barely populated region, colonies of fishermen living in *taipa* houses (rammed earth houses), and there stopping and starting to fish as well as a mean of subsistence.

The fishing verve of this settlement is nowadays still present in the landscape of the *Favela Sururu de Capote*, which accounted for around 2500 residents in 2009, but the typologies and landscape configurations barely recall the descriptions of the first occupations. The field roads of clay that were predominant amidst the native tropical vegetation and mangrove had gave way to roads in which high speed cars pass frenetically on the daily basis (fig.5.1).

FIG. 5.1 Modifications in the landscape of the area of the lagoon within the particular context of the *Favela Sururu de Capote*. Source: Excerpt from author's thesis, 2008.

In 1982, a main avenue has been completed, the *Dique Estrada*, linking the region to other areas of the city (within the ambit a program of urbanization of the lagoon). It denotes the opposite border of the *favela,* which has the lagoon on the other edge.

Research performed by the author in the field has revealed that many of the logics of the *favela* are orchestrated by the activity of fishing the *sururu*. They divide the community through age and gender. Starting from the noon, the young men leave their houses and follow the alleys in the direction of the lagoon. While diving they cave with their hand the soil of the deep parts of the water to find *cocotes* of *sururu* (concentrations of the mussel shells). They then return to the *favela* in the early hours of the morning, where carriers of *sururu* will be already waiting for them, with their walking carts. (fig. 5.2).

FIG. 5.2 Fishermen *Favela Sururu de Capote.* Source: Ana Rosa Chagas Cavalcanti, 2008.

Then, from men, the work begins to be performed by young and elderly women, who after receiving the *sururu*, clean the shells. Further, the carriers transport the *sururu* through the alley up until the margins of the lagoon where it boiled and sold to entire parts of the city from within improvised kiosks. Clients from diverse parts of the city stop in front of the *favela* with their cars to buy the mussel. It also can be sold to central market by carters, where it is distributed to all parts of the city. The extensive work of residents who navigate the *favela* is payed per amount of work in the settlement where residents earn less than a dollar per day. Circa one third of the population lives fixedly from the practice of *sururu* and most residents interviewed by the author referred to work with the *sururu* seasonally, part time or full time. The corporeal process of going to the lagoon to fish, cleaning the mussel in the house, and then selling the products around the borders of the so-called formal city cannot be disturbed. The working activity dominates the planning of the *favelas* and constitutes an expression of the individuals and groups. These practices and traditions influence the design of alleys, that are straight originating from the lagoon up to the margins of the *favela* with the formal city, along circa 70 meters (Cavalcanti, 2009, p.20). (fig.5.3).

FIG. 5.3 Alley of the *Favela Sururu de Capote.* Source: Ana Rosa Chagas Cavalcanti, 2008.

These are evidences of labor physically shaping the infrastructures of that settlement, recalling the ancient way of building cities before industrialization with the body as a measure to plan, the corporeal paths as a measure to alleys and the ergonomics of the body in the field. Also the process of emergence of *favelas* can be traced back to the labor practices of residents, by the migration of job seekers from country side, migrants, family members to the *favela*, which enforce the initially established traditions of the first fisherman settlement who originated the *favela*.

Sururu does not constitute the only source of income for people living in the *Favela*. Many other forms of work predominant in the settlement includes all sorts of manufacture, commercial activities and providing services, yet small agricultural practices and raising animals for both subsistence or transportation purposes are also noticed. Many of the microbusinesses serve both the internal community of the informal settlement and also occasional clients from the formal city. These activities repeat over and over, especially at the borders of the *favela* and the avenue: car wash services, several repair services and businesses such as bike repair, electronics repair, bars and restaurants, carter services, grocery shops, and diverse forms of craftsmanship. They also influence the design of houses built by residents and the incremental process of construction of house, since many of them occur inside the homes of residents. (fig. 5.4) (table 5.1).

FIG. 5.4 Car wash service in the *Favela Sururu de Capote*. Source: Ana Rosa Chagas Cavalcanti, 2016.

TABLE 5.1 Work activities performed by residents living in the Favela Sururu de Capote. Source: Ana Rosa Chagas Cavalcanti, 2017.

Economic activities in the Self-Constructed Neighborhoods in Maceió	Economic Activities outside of the Self-Constructed Neighborhoods in Maceió
Favela Sururu de Capote	Favela Sururu de Capote
Fisherman	Hawker
Mussel cleaner	Carter
Mussel cleaner assistant	Garbage recycler
Mussel vendor	Carriers
Craftsman (wood, glass, iron, furniture)	Maid
Upholstery furniture makers	Vendor
Caregiver	Seller
Vendors	Carpenters
Hairdressers and manicures	Mason
Owner of grocery shop	Business Assistant
Car washing services	Motorcycle Courier Services (motoboy)
Car repair services	Cashiers
Electronic repair services	Carter
Prayer services	Garbage recycler
Nurseries	Ocasional Worker
Tattoo chops	
Groceries	
Cake shops	
Restaurants	
Bars	
Construction shop	
Clothes repair shop	
Vendors of international companies	
Internet Shop	
Bakery	
Meat Shop	
Deposit of Construction	

Convivial and domestic activities occur in the house, meanwhile working, usually separated by curtains or improvised walls, in the fragile home landscape of the *Favela do Sururu*. Whilst hard and constant cooking, sewing, repairing, or selecting, separating and transforming raw materials into forms and objects through craftsmanship. While marketing groceries, hygiene and beauty products. Among offering prayer services, repair services, carrying, transporting with carts and walking carts.

These activities occur usually in the front portion of the house, or in the entrance rooms of houses such as home businesses related to commerce and services, and home industry. But they can also occur through spatial attributes of the house, such as in the case of window shops. (see fig. 1.2, chapter 3)

Moreover, noisy and craftsmanship activities occur in the backyard, such as carpentry, repair, and other home industry works. This brings back the notion of the house as a production space in the realm of the non-fully industrialized cities, a space for thriving livelihood, before it stopped becoming a space of production until becoming a commodity (Madden and Marcuse, 2016, p.18-26). These small economic activities occur in the domestic space and is typical of economies in the so called Global South, characterized by houses of small scale intertwined with commercial activities in the landscapes of cities and not by strong sectorial demarcations as industrialized cities of the global north. Mostly prevalent forms of employment in the formal city includes carters, filler jobs, hawkers, masons, maids, carriers, guards (domestic economies and street economy).

All in all, the entire labor activities of residents is a testimony of the phenomena of how taking profit of surrounding resources, using limited resources and the constant learning of skills produce urbanities. The traditions of this informal settlement revolve around the need to work and the settlement logics based on the organization of the community to govern and manage the resources. Residents established these traditions as a manner to organize and govern the common resources of the community and the community itself, who in their turn are inserted in broader economic system through resistance and resilience as could describe Michel de Certeau. They follow the rationale of cities of the evolution of cities, in which dwellings emerges from the encounter of labor and domestic life (Arendt, 1958; Mumford, 1961, p 281;Madden & Marcuse , 2016, p. 18) and settlements emerge and grow to store and create the goods of civilization (Mumford, 1961; p. 38-39).

The work shapes, plans and governs the logics of the planning of the *favela*, resulting in straight alleys and houses that were planned and incremented to accommodate work activities, the strong presence and invention of microbusinesses to the livelihood of residents, houses as production spaces, and strong presence of spaces for the storage of working material that in the *favela* translates into horses, carts, cannons, walking carts and hawkers' cars. It is indeed, signed by the resident's reference to the lagoon as a factory.

"*The lagoon is the factory of God*"
Vania Teixeira, 2008. (Cavalcanti, 2008, p. 19)

Today the *Favela Sururu de Capote* is still existent and in process of expansion, in the landscape of a city marked by strong polarities, contradictions and inequalities and despite several programs that aim to tackle urbanization in the area and resettle the residents and redevelop the *favela* such as the *Conjunto Virgem dos Pobres*, after a flood, in 1889 by PROMORAR and the National Housing Bank, *Vila São Pedro,*

Conjunto Santa Maria, Cidade Sorriso, in 2009 within a program of redevelopment of *favelas* (*Projeto Integrado da Orla* Lagunar) designed by Brazilian Government in 2007. They reveal the same strategies and weaknesses to approach this settlement, omitting the importance of labor to the production, design and planning of housing to the unprivileged.

5.3 The Transfer of Residents from Favelas to Social Housing and the Transformation of Housing Units

This chapter analyses and debates what happened during the transfer of inhabitants from the *Favela Sururu de Capote* to a social housing, the *Vila São Pedro* (fig. 5.5-5.7) (Table 5.2).This social housing, built in front of the *favela,* was designed to shelter the residents who live from the fishery of *sururu.*

The housing project of the *Vila São Pedro* is part of an ambitious program aiming at transferring the inhabitants of the *Favela Sururu de Capote* into the houses projected by the government. According to the Ministry of the Cities, in Portuguese, *Ministério das Cidades,* back in 2009, the project consisted on the 'eradication' of the *Favela Sururu de Capote*, through the urbanization of both the *favela* and the areas near the Lagoon *Mundaú* (MINC, 2009).The initiative was subsidized by the Brazilian Government, within the Program of Acceleration of Growth (PAC) English for *Programa de Aceleração do Crescimento*, within the activities of the Program of Urbanization of *Favelas,* in Portuguese, *Programa de Urbanização de Favelas*. These projects act in joint efforts for the re-urbanization of the *Mundaú* Lagoon, the Program of Integrated Urbanization of the Shore of the Lagoon, English for *Programa de Urbanização Integrada da Orla Lagunar.* Moreover, it was expected that the development related to the urbanization process of the lagoon could reinforced tourism all that it revolves in Maceió, and its construction could generate capital liquidity and employment for the economy of the city.

The project cost 35, 8 millions of Brazilian *Reais* and, benefited 1181 families through the production of 1181 family units with water provision, sanitary sewage system, drainage, pavement and street design (MINC, 2010). In order to facilitate the transfer of the inhabitant from *favela* to *non-favela*, families were divided by

groups according to the places where they worked. Theoretically, while the fishermen were supposed to be resettled in a terrain close to the lagoon in the *Conjunto Vila de São Pedro* the families who did not live from fishery were transferred to a peripheral area of the west part of city, the *Conjunto Santa Maria* and a few to *Cidade Sorriso*, both located 23,5 kilometres away from the *favela,* in the neighbourhood of *Benedito Bentes.* Practically, though, a great number of fishermen and marisqueiras was also transferred to the *Conjunto Santa Maria* and to *Cidade Sorriso.*

FIG. 5.5 *Vila São Pedro* (green block). Source: MINC, 2010.

FIG. 5.6 Playground in the green block of *Vila São Pedro.* Source: MINC, 2010.

PLANTA BAIXA

FIG. 5.7 Floorplan of the housing units in the *Vila São Pedro.* Source: SEPLAN, 2010.

TABLE 5.2 Some numbers and characteristics of housing of the 'Program of the Re-urbanization of the Lagoon' within the the Brazilian federal program 'Reurbanization of the Favelas' (Program of Aceleration of Growth). Source: Ana Rosa Chagas Cavalcanti, 2017.

Numbers of the "Program of Re-urbanization of the *Mundaú* Lagoon":	
Number of Families	1181 families. (divided as 360 Fishermen families/Housing Vila S. Pedro; and 821 non-fishermen families/other sources of income/ Housing Santa Maria and Housing Cidade Sorriso).
Housing Vila S. Pedro Number of housing units Typology of housing Components of housing Layout of a single housing unit	60 housing units/ located in 5 areas in front of lagoon Vertical housing of Two floors and four apartments. 1 church, 3 football yards, 4 piazza, garden, playground, gym equipment. One Living Room, Two Bedrooms, One Bathroom, One kitchen, One Laundry
Housing Conjunto Santa Maria e Cidade Sorriso Number of housing units:	821 serial houses/located 23 kl far from lagoon One Living Room, Two Bedrooms, One Bathroom, One kitchen, One Laundry
Cost	35,8 Million Reais

The *Vila São Pedro* and the *Conjunto Santa Maria* diverge in form, location and size. Dwellings in the *Vila São Pedro* are composed 360 vertical multifamily units with two floors, and four apartments of 45 square meters and facilities such as a church, 3 football yards, 4 piazzas, playground gyms, located between buildings. *Santa Maria*, is composed by 821 individual serial housing units. Other inhabitants of the *Favela Sururu de Capote* who did not received houses to live in the previously mentioned projects were resettled in *Cidade Sorriso*, another social housing project aimed to the inhabitants of *favelas* in the North of Maceió, in 2009.

The interviews and monologues transcripts of residents occurred in the period between 2008 and 2009, before the transfer of the residents and after their resettlement in the social housing. Participant observation tools such as photography, documentation, drawings and mapping were conducted throughout the period between 2009 and 2017. The first questions raised by residents hinged upon the expectations regarding the new houses:

"*this surely will not work, see, they[the community] will find a way to sell their houses as soon as they get the right to live there [in the social housing], they always invite someone else from their family to come here [to the favelas], it isn't possible to afford a living there, the favela will continue*". (Resident monologue, 2008)

The fisherman actually tells that the reason why inhabitants would not keep living in the housing projects, and return to the *favela* (a problem that is constant in resettlement and redevelopment context of residents of informal settlements) was

unrelated to the social housing as a space that would provide shelter and quality of life to the inhabitants but, rather, with social practices of the inhabitants, such as, the ties of residents of *favelas* with their families and friends that are important to the livelihood of individuals and groups living in the informal settlement, that are relevant due to their contingent context. He wasn't thinking about the aesthetic features of the new houses, nor on the fact that he would have more living space in the social housing, nor that his house would be coated and insulated; he was predicting what would happen based on his possibilities, and contingent resources, the possibility to pay the bills of his new house, that would be higher than the lower cost typical of the life in the *favela*. His speech opens a non-parochial and reversal post-colonial argument that does not depicts the ties and commons of the *favela* a*s a romantic practice or promote an 'aesthetization' of poverty.' (fig. 5.8).His monologue tackles the universal need to preserve livelihood.

FIG. 5.8 A fisherman and his house in the *Favela Sururu de Capote*. Source: Ana Rosa Chagas Cavalcanti, 2008.

FIG. 5.9 Pictures show the housing project *Vila S. Pedro* in 2009 (after delivery). Source: Agência Alagoas, 2010.

FIG. 5.10 Pictures show the housing project *Vila S. Pedro* six years later, 2016. Source: Ana Rosa Chagas Cavalcanti, 2016.

FIG. 5.11 Pictures show the diferent economic activities that changed the houses in *Vila S. Pedro.* Source: Ana Rosa Chagas Cavalcanti, 2016.
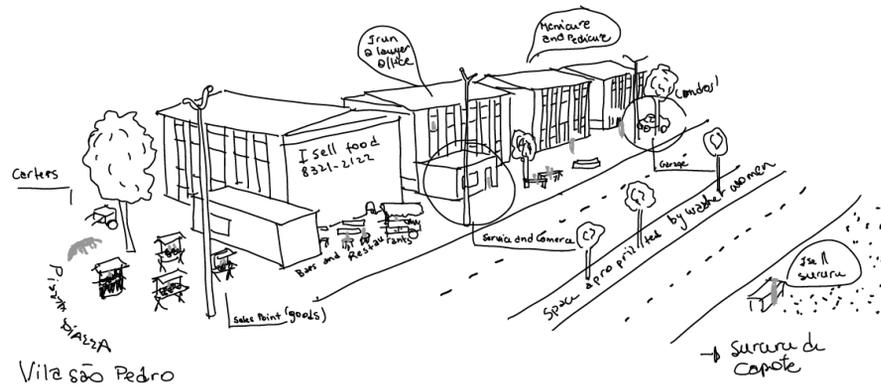
FIG. 5.12 Graphic describes and shows the appropriation and uses of space by people after 6 years of relocation. Source: Ana Rosa Chagas Cavalcanti, 2017.

Indeed, the design and planning strategy did not facilitate the social and working practices of inhabitants. Overall, from a distance of seven years since the transfer of inhabitants, the social housing *Vila São Pedro*, as it was originally thought, is nowadays unrecognizable. Field research revealed that it was strongly adapted to incorporate working activities both in the ground floor and in the upper floor. Many inhabitants extend the ground floor of the housing units to place a microbusiness spaces to storage goods related to their work. Meanwhile, modifications on the top floor of units range from extensions of rooms, changes in the interior of the houses and work related to provision of services. Letter boards and paintings at the façade of the housing buildings also emphasize the presence of working activities in the houses (fig. 5.9 - 5.12).

There is a significant presence of services, trades and commerce in in the mediations of the social housing. As it occurs in business in the *favela*, these micro businesses serve also communities in other neighbourhood. The small economic activities repeat in the landscape of the social housing, there are many hairdressers, grocery shops, sewing services, restaurants, internet shops, print shops, prayer services, street food, key repair, construction material shops, electronic repair services, resellers of international companies, hawkers, car repair services, carpenters, iron workers. In total, almost 87% of housing changes where performed by residents to provide a livelihood activity. (table 5.3 -5.6)(fig.5.13)
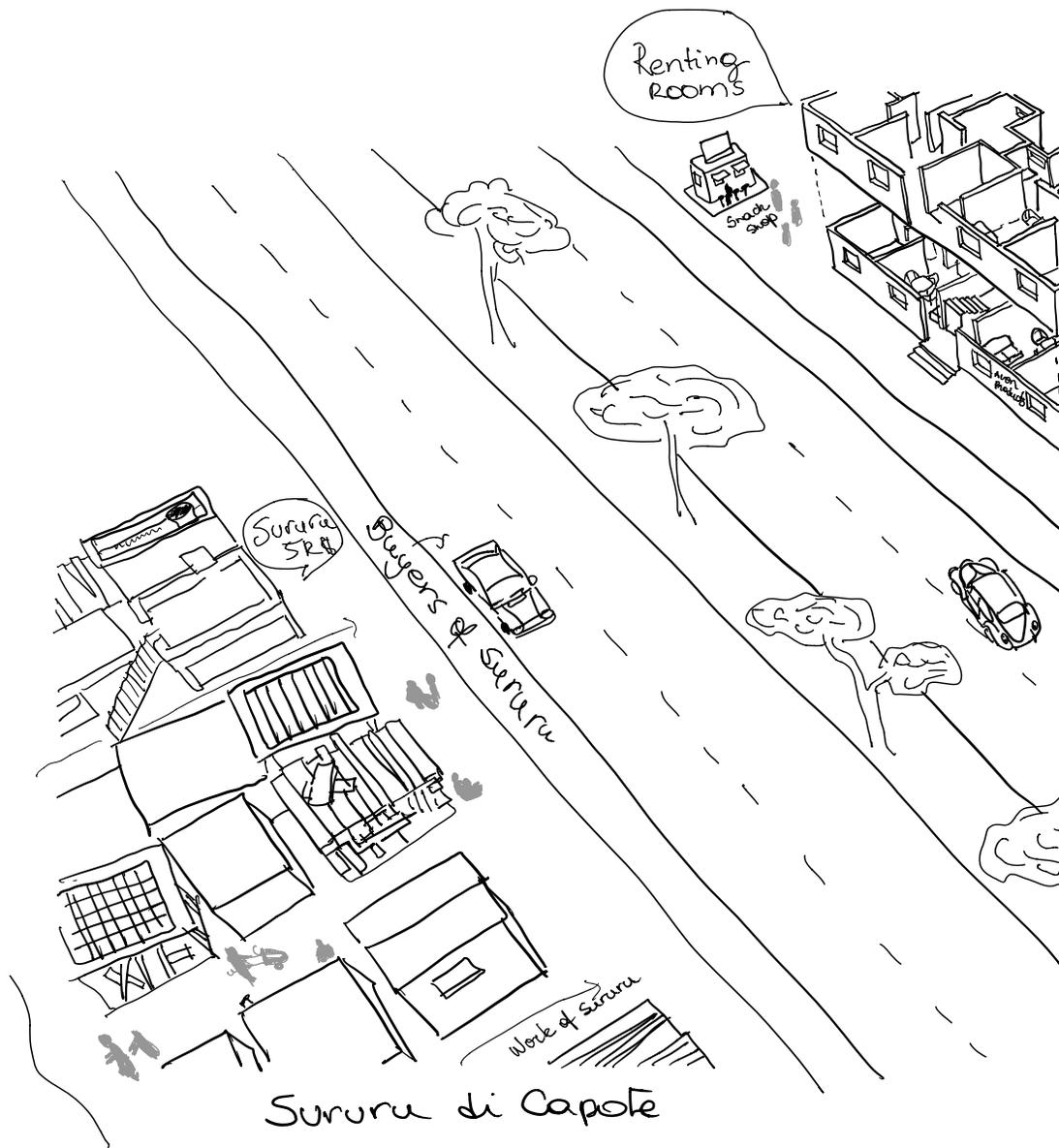
FIG. 5.13 Work Activities in the *Favela Sururu de Capote* and in the *Vila São Pedro*. Ana Rosa Chagas Cavalcanti, 2017.
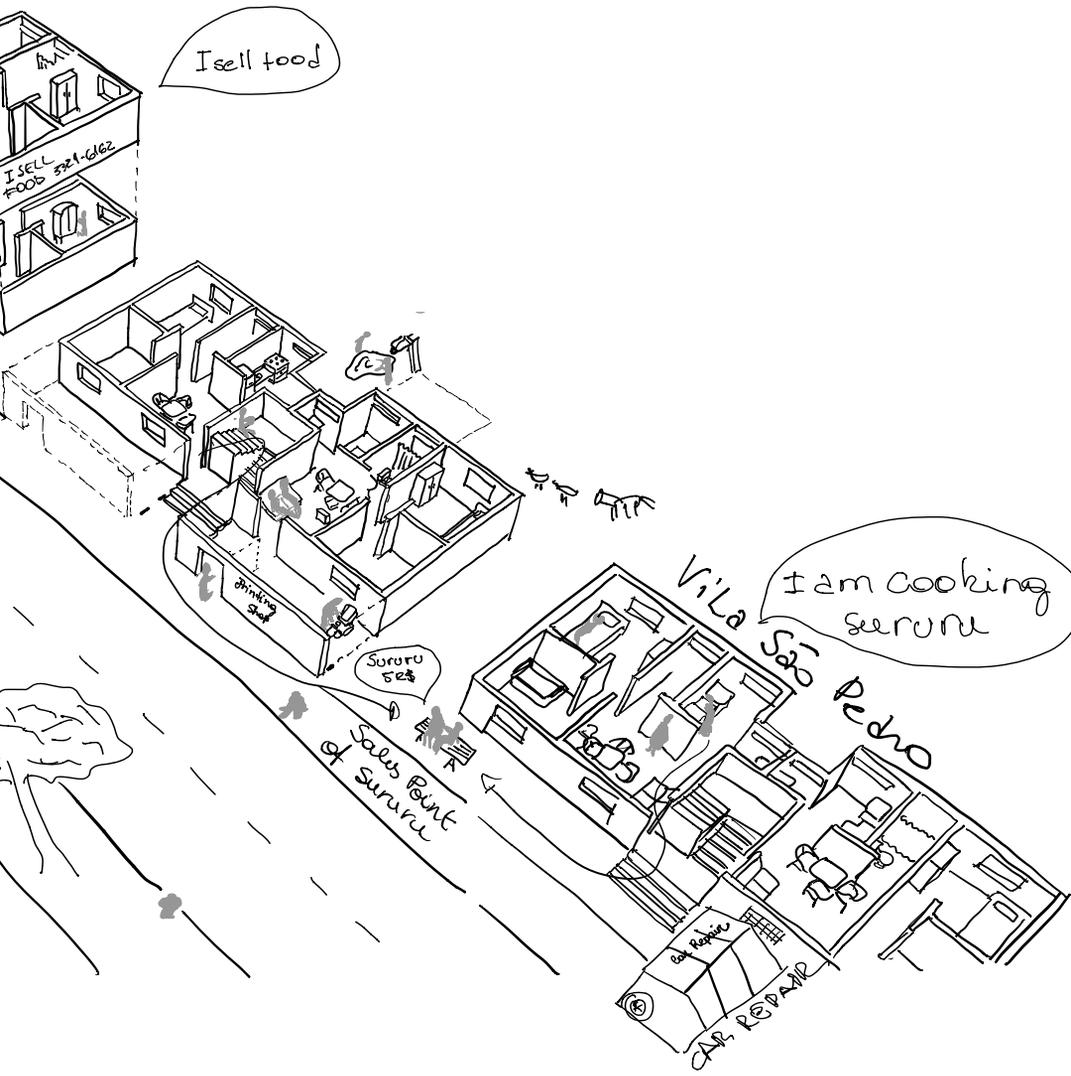
TABLE 5.3 Purpose of incremental changes in Vila São Pedro (Blue Block). Source: Ana Rosa Chagas Cavalcanti, 2017.

Number of Housing Blocks	15 blocs
Number of Housing Units	15 blocks of 4 dwelling units
Number of changes in the external structure	14
Characteristics of the Activities:	1. Sururu (shop)1 2. Sururu (shop)2 3. Sururu (shop)3 4. Sururu (shopt)4 5. Sururu (shop)5 6. Iron worshop 7. Garden/ cultivation of fruits and vegetable 8. Deposit of Beverages 9 Stable for horses (carters use) 10. Service Microbusiness 11. Snacks Bar 12. Condominium2* 13. Condominium1* 14. Extension of House*
Change of units (external areas) for working purposes)	78,58%
Change of units for other purposes*	21,42 %
Sururu work	35,71%
Changes per block	15 blocks and 14 changes

TABLE 5.4 Purpose of incremental changes in Vila São Pedro (Yellow Block). Source: Ana Rosa Chagas Cavalcanti, 2017

Number of Housing Blocks	17 blocs
Number of Housing Units	17 blocks of 4 dwelling units
Number of changes in the external structure:	15
Characteristics of the Activities:	1. Grocery Shop 2. Shop of sweet potatoes 3. Snack shop (coxinhas) 4. Fruits shop 5. Hawker 6. Food Shop 7. Repair of furniture (shop) 8. Room for private parties and religious events 9. Barbecue Vendor 10. Car Repair Shop 11. Services of Repair and commerce of electronics 12. Garage * 13. Garage 2* 14. Canopy for several purposes* 15. Condominium*
Change of units for working purposes (external areas):	73,34%
Changing Units for other purposes.*	26,66%
Sururu Work	0%
Changes per block	(17 blocks and 15 changes).

TABLE 5.5 Purpose of incremental changes in Vila São Pedro (Green Block). Source: Ana Rosa Chagas Cavalcanti, 2017

Number of Housing Blocks	9 blocs
Number of Housing Units	9 blocks of 4 dwelling units
Number of changes in the external structure	3
Characteristics of the Activities:	1. Snack Bar 2. Sururu (shop) 3. Stable
Change of units for working purposes	100%
Change of units for other purposes*	0%
Sururu Work	50 %
Changes per block	9 blocks and 3 changes

TABLE 5.6 Purpose of incremental changes in Vila São Pedro (Pink Block). Source: Ana Rosa Chagas Cavalcanti, 2017.

Number of Housing Blocks	18 blocs
Number of Housing Units	18 blocks of 4 dwelling units
Number of changes in the external structure:	20
Characteristics of the Ativities:	1. Scrap Yard 2. Bar1 3. Room for private parties or religious celebrations 4. Food Shop 5. Shop pf Cassava 6. Car washing services 7. Sandwich shop 8. Bar2 9. Bar3 10. Fruits Shop 11. Bar 4 12. Sururu (shop) 13. Cultivation of fruits and vegetables. 14. Deposit of beverages 15. Condominium* 16. Snack Bar 17. Printing shop 18. Service Shop 19. Car Wash Service 20. Scrap Yard 2
Changing units for working purposes	95%
Change of units for other purposes*	5%
Sururu Work	5%
Changes per block	18 blocks and 20 changes

While relocated in the social housing, the inhabitants kept the practices previously performed in the *favela*, being included the practice of fishing and selling *sururu*. Although the inhabitants who now live in this social housing are still working with the *sururu*, the *favela*, which continued to grow by new migrations despite of the transfer of residents, has still a central role in the production processes of the *sururu* in the city and, most of the selling points of *sururu* are still located in the *favela*. Nowadays, the resettled inhabitants no longer work in front of their houses in the alleys of the *favela*, women can cook the *sururu* in their apartments and they clean it in front of the social housing, together with groups of other *marisqueiras*.[15]The fishermen and the marisqueiras cross the streets on a daily basis in order to fish the *sururu*. They sell the *sururu* in front of their new homes in self-constructed barracks in front of the housing blocks since the housing project did not built spaces for their working practices. The numerous passers-by and "clients" now have the choice to buy the *sururu* either from self-constructed kiosks in front of the lagoon or, from self-constructed kiosks in front of the social housing. Indeed, the 'workers' of the social housing are still connected to the 'workers' of the *favela* through their everyday working practices.

The residents adapted the social housing to their needs. All the social practices have been maintained and simply transplanted in vertical houses. The social and working practices, that happened in the *favela* are not brought by the transfer of inhabitants, being included the domestic, the common and the traditional social practices. The logics of incrementing the buildings barely changed, as well. All the 'ecologies of working' and all it revolves persisted after the transfer. Design and planning have not predicted and facilitated these working practices. The lack of consideration of spaces for work in the new houses in *Vila São Pedro*, was also observed in the *Conjunto Santa Maria*, and *Cidade Sorriso*, where the inhabitants were also transferred (fig. 1.14). These groups are commuting daily by bus over the distance of 23 kilometres from the social housing to the *favela* in order to work in the *favela* or meet family members and friends who now live in the *Vila São Pedro* (fig. 1.15). In fact, Vânia Teixeira, the community leader of the *favela* who nowadays live in *Cidade Sorriso* claims that many families are being involved in criminal activities due to the lack of employment which is emphasised by the peripherical location of the project. This implies in the resistance of the *favela* as a central working space for the residents, and emphasizes that housing strategies did not addressed the need to work of residents.

---

15 Marisqueiras is Portuguese for "women shellfish cleaners."

FIG. 5.14 Photos of housing units in *Cidade Sorriso* before (upper-left) and after (upper-right) the relocation of residents with the presence of commercial and services activites run by residents, and satellite image of the project (bottom). Source: Agência Alagoas, 2011 (top left), adaptation by author (top right), and Agência Alagoas, 2011 (bottom).

Conjunto Cidade Sorriso vira pasadelo para famílias

Por Jamylle Bezerra - Gazeta de Alagoas   03/03/2013 08h06

Moradores transferidos de favela reclamam de descaso

Conjunto Cidade Sorriso vira pasadelo para famílias (Foto: Ailton Cruz)

A realização do sonho da casa própria virou sinônimo de problema para os moradores do Conjunto Cidade Sorriso 1, no bairro do Benedito Bentes, em Maceió. Desde que receberam as moradias, em 2009, a comunidade, que antes vivia às margens da orla lagunar da capital, tem enfrentado muitas dificuldades para sobreviver. Longe da lagoa, de onde tiravam o sustento, famílias inteiras precisam, atualmente, buscar alternativas que possam garantir o pão de cada dia.

Longe da lagoa, fica difícil achar trabalho

O problema da falta de escolas é apenas um enfrentado pela comunidade que, de fato, tem crescido a cada dia. Muitas pessoas que viviam lagoa, não foram beneficiadas com as casas e não queriam ficar longe dos amigos e familiares, acabaram também se mudando para a parte da cidade, formando uma nova favela, batizada de Santa Cruz. Segundo Vânia Teixeira, hoje existem quase 500 barracos de lona erguidos em amplo terreno localizado próximo às casas construídas pela prefeitura.

Lá, muita gente ainda arrisca sobreviver do trabalho com o sururu. Com a longa distância da lagoa, essas famílias enfrentam um verdadeiro martírio para trabalhar. Maria Irene da Silva, 42 anos, diz não saber fazer outra coisa da vida. Ela decidiu morar em um dos barracos na parte para poder ficar perto do filho e da nora, que foram contemplados com um imóvel no Cidade Sorriso 1.

Para ter acesso ao sururu, um grupo de pessoas sai do Benedito Bentes, todos os dias, de ônibus, nas primeiras horas da manhã, em direção orla lagunar. Além da distância entre a parte alta da cidade e a região das lagoas, os pescadores e marisqueiros enfrentam dificuldades para transportar o marisco, já que motoristas, cobradores e passageiros reclamam, a todo instante, da sujeira e do mau cheiro causados pelo sururu.

FIG. 5.15 Picture shows an article in the newspaper Gazeta de Alagoas which explicits the dificulties faced by residents living in the *Favela Sururu de Capote* who were resettled in the formal housing units of *Cidade Sorriso*. In particualr, their critiques regard the distance from the units to the laggon where they work. Source: Gazeta de Alagoas, 2015.

In both cases, residents perform these practices to preserve the work activity that were previously established in the *favela*, which could have been planned and considered in the social housing. This occurs at the expenses unprivileged groups whose right to housing is usually translated in providing them a roof, and transforming the unprivileged into a small owner of property, whose housing quality usually low. In fact, it is highlighted how both the dramatic 'disfiguration' of housing structures, the lack of though on systems and infrastructures and mobility regarding their labor, and the 'failure' of the housing scope to prevent inhabitants from selling their housing units and return to the *favela*, can be traced back to the defence of working practices and the modalities of everyday life as they were undertaken by inhabitants.

The study shows that inhabitants did not change their planning behaviour and their planning strategies when they moved to the social housing units. It also points out that they 'urbanized' the housing complex'. Therefore, forms of legitimizing and understanding the socio-economical practices, especially the working needs of the residents of the *favelas*, must be inquired beyond a mere technocratic approach of city plan and their codes, in order to address the work of residents of *favelas* for the purpose of resettlement or redevelopment of unprivileged groups living in the informal settlement. An architecture of the social practices must be inquired. Finally, it emphasizes that social housing design could have been better addressed considering income generation activities. The modifications of the residents in both cases show the construction of neighbourhoods and cities typical of the global south in which small economic activities intertwined along manufacture, commercial and services activities that occur inside the houses. The same logics of appropriations occurred in the social housing *Conjunto Virgem dos Pobres* (CVP) I II e III in the mid 1980's. That social housing was built by PROMORAR, subsidized by Brazilian National Housing Bank (BNH), and aimed at relocating the inhabitants of the area of the *Favela Sururu de Capote*. In comparison to the patterns of labor observed, the changes in the housing units, in the FSC, in the *Vila São Pedro* and those observed in the social housing CVP, the are equal (fig. 5.16-5.19). Looking at these aspects is important, especially, by taking into consideration that a new housing project by Brazilian government is being formulated to the inhabitants of the *favelas* near the lagoon.
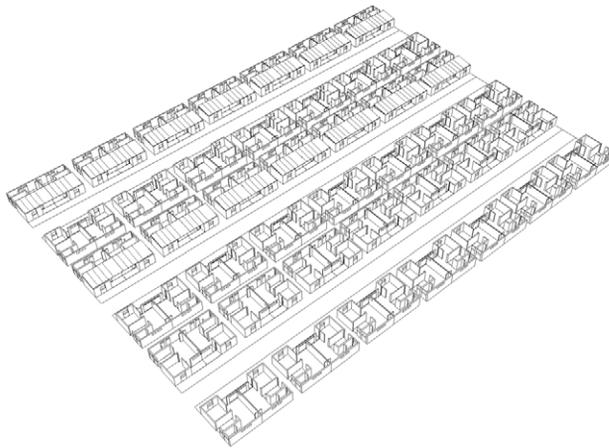
FIG. 5.16 Spatial design of geminated houses in the *Conjunto Virgem dos Pobres.* Source: Ana Rosa Chagas Cavalcanti, 2016.

FIG. 5.17 Temporary houses and the site in wich the residents of the self-help project *Conjunto Virgem dos Pobres* were settled, in order to build their houses via a '*mutirão*' (self construction) in 1989. Source: Gazeta de Alagoas, 1989.
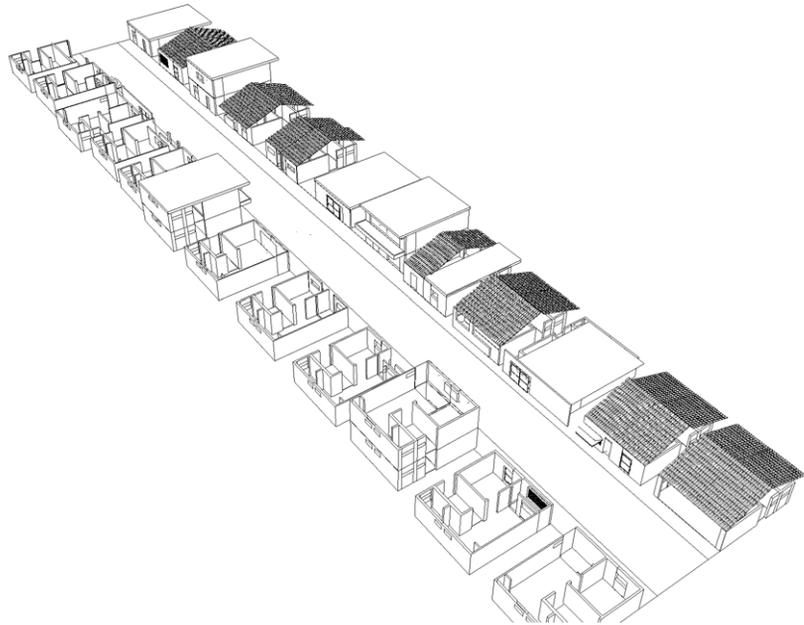
FIG. 5.18 Later transformations in *Conjunto Virgem dos Pobres* self employed by residents, revealing the aspect of houses nowadays. Source: Ana Rosa Chagas Cavalcanti, 2016.

FIG. 5.19 Both the areas of *Favela Sururu de Capote* and of the Housing Project Virgem dos Pobres before(left) and nowadays (right). We can notice the persistence and growth of the informal settlmeents near the lagoon, despite of housing projects aimed at re-urbanizing the *favela,* or to the resettlement the residents of informal communities. The urbanization of the housing project has acquired spatial characteristics of the surrounding neighbourhood. Source: Gazeta de Alagoas, 1989 (left) and Google Earth (2016).

FIG. 5.20 *Indiranagar*, *Lucknow* Project in India, restaurant (left). Source: *justdial.com.* Photo of a business shop in the Housing project *Kariobangi* in Kenya (centre). Source: mutula.com.ke. Business in *Quinta Monroy* Project (right) in Chile source: Google map.

Moreover, the appropriation of working activities in the social housing is not only a feature of Brazilian Cities. It can be deducted from the analysis of several texts in the literature of housing around the world, about the post occupation of housing by ex-residents of informal settlements, in incidental sentences. Weisner described a site and services scheme in the heart of African informality in which after completion, only 13% of the initial occupants (ex-residents of informal settlements) remained in the plot. The others sold it illegally. Four years later: 200 hundred illegal business took over the 732 plots, that is, businesses activities took over more than one third of the total number of plots. Moreover, the initial density of the plot doubled, with 17 people per plot instead of 8 people per plot (Weisner, 1976). These are similar evidences of the priority of livelihoods to unprivileged residents. Many other cases outside of the contexts of the informal settlement can be described in minor proportions. For example, the *Lucknow* project (Sinha, 2004, p. 26) and even the iconic Quinta Monroy. It is a universal need of the human being. (fig. 5.20)

5.4 Work as a Housing Right

Data collected in the present study does not find a correspondence/validation in the traditional definitions of architecture. Many observations emerge from the narrative of this case study. At an epistemological and ontological level, the manner through which inhabitants changed and adapted structures in the presented social housing can not only be reduced to a speculation on the materiality of the social housing because that cannot anticipate the urgent needs of inhabitants. But they can be understood through the flows and ecosystems of people that are asked to populate them. Ananya Roy already highlighted the importance of looking at the 'land ownership' and plot cartographies of livelihood', instead of focusing on the aesthetic features of informality (AlSayyad and Roy 2003, p. 296). Also, according to Ananya Roy and Jenifer Robinson, an effort has to be made in order to contextualize the study of these settlements beyond common frames used to describe urban knowledge in the Global North, because this is apt to imply a colonial perspective to these studies (Robinson & Roy, 2016). In this sense, efforts have to be made in order to read the urban spaces of informal settlements as if they were any other place in the world, starting from an ethnographic perspective, as suggested by Partha Chatterjee (Chatterjee, apud Robinson & Roy, 2016) and the reversal colonial perspective. Thus, ethnography must look upon the social practices. These practices in their turn are traditions established in the everyday, as defended by Nezar Alsayyad and IASTE community (AlSayyad, 2006).All these claims of the literature of informal settlements operatively implies to analyse, interpret and finally design the practical contexts in which space in informal settlements is produced and addressed (Cavalcanti, 2017).A change in the way of teaching and educating architecture, that place people over technicalities in the design and planning process must be also inquired.

The main message of this paper is that for people living in informal settlement, the need to work is a priority, overcoming the need to occupy a space designed with principles of formal housing. Thus, this need is placed over any aesthetic value, any principle of sanitation, any details on the light, on the proportion of windows, on the ordination of spaces. What it does prevail is the functional role of dwellings for making a living. For people who fight against poverty and misery in neoliberal society, the house becomes an accessory to labor needs, necessary to acquire capital and thus, to earn the right to housing. In this sense, for the inhabitants, labor is essential to afford the costs of maintenance of the received house and thus to gain the final ownership of the house in the long term, that is the scope of formal housing programs. This discourse deserves a deeper reflection from the academic community starting from a multidisciplinary perspective, such as an institutional perspective and

from the policies. In fact, this message is apt to have significant consequences also at a practical/operative level of planning and design, of economies and geographies of the informal settlement.

In the realm of norms, human right documents such as the Universal Declaration of Human Rights (UDHR) of 1948 (UN, 1948) indicates the right to housing as inserted in a group of other rights, such as food and clothing. Although Brazilian Constitution of 1988 and constitutional amendment of 2001 follow this guideline of United Nations, the design of housing which prevents to access the initial form of livelihood is detrimental, especially within the realm of housing as a commodity and the disparity of land and capital of the poor. Planning can address these issues by expanding the notion of dwelling beyond a providing a mere roof to unprivileged groups. A revision of these concepts pervades a step necessary for citizens to acquire the right to the city, that is the right to change the city by changing ourselves (Harvey,2006).

In the practical realm of architecture, within formal social housing, this work may suggest that the shape of the social housing itself can be an indication of its success. Resettled inhabitants take profit on the characteristics of surrounding areas near the social housing, on the location, on the availability of common spaces, as an asset to create spaces for labor. The design of the social housing itself must be thought in order to guarantee and facilitate inhabitants to create and foster their working conditions. Models of architecture of housing and social housing are still based on the 'ideal of housing for the industrial which travel to the working places in order to work workers' (Engels, 1844; Lefebvre, 1968, page 34; Mumford, 1071, p. 552-553), but does not consider the ideal needed for housing planning and design, to address the work of the microentrepreneurs in the global south. Social housing were born to shelter working groups (Madden and Marcuse, 2016, p.23) and they refute their aim of their scope when they do not tackle the needs of workers, when they provide them a mere roof.

Second, still in the operative realm of architecture: planning policies not often allow mixed functions in the social housing and this should also be revised. Brazilian urban law such as the *Plano Diretor* is not specific about the construction of commerce and services in social housing areas and this does not address the real needs of inhabitants resettled from the *favela* (Cavalcanti, 2017)..

Third, vertical dwelling units do not prevent residents of informal settlements to stop their social practices. In this sense, inhabitants of the Vila São Pedro opened their businesses either in the ground floor and in the top floor of the housing units. The modification strategies employed by inhabitants are adapted to the configuration of pre-existing contexts and according to the diversification of activities.

Fourth, as observed in the field, resettled favela inhabitants have the capability to reproduce many services previously provided within the favela. Thus, small ecosystems linked to the city nearby were created. Inhabitants' working activities resulted in a un-contestable benefit for the city who could 'benefit' of the 'cheap labour and services' provided by inhabitants of the social housing, as it already occurs with the services and commercial activities in the favela. They created a specific porosity in the city that is characterized by the labour practices of inhabitants (Cavalcanti, 2017) (fig. 1.21-1.22).

Not only do these rights refer to the reality that people in in the northeast of Brazil face, but they speak about the subsistence, needs and priorities of the human being. Working is a priority for people living in informal settlements and it is necessary to earn the right to housing and gain the ownership of housing.
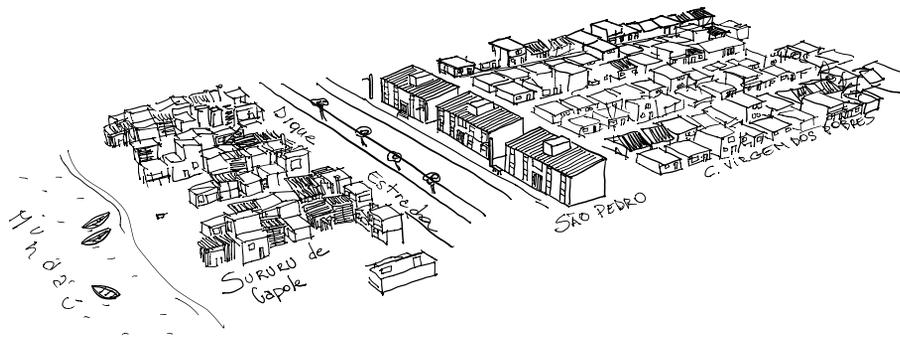
FIG. 5.21 *Vila S. Pedro* Housing Project with respect to the *Favela Sururu de Capote.* Source: Ana Rosa Chagas Cavalcanti, 2017.
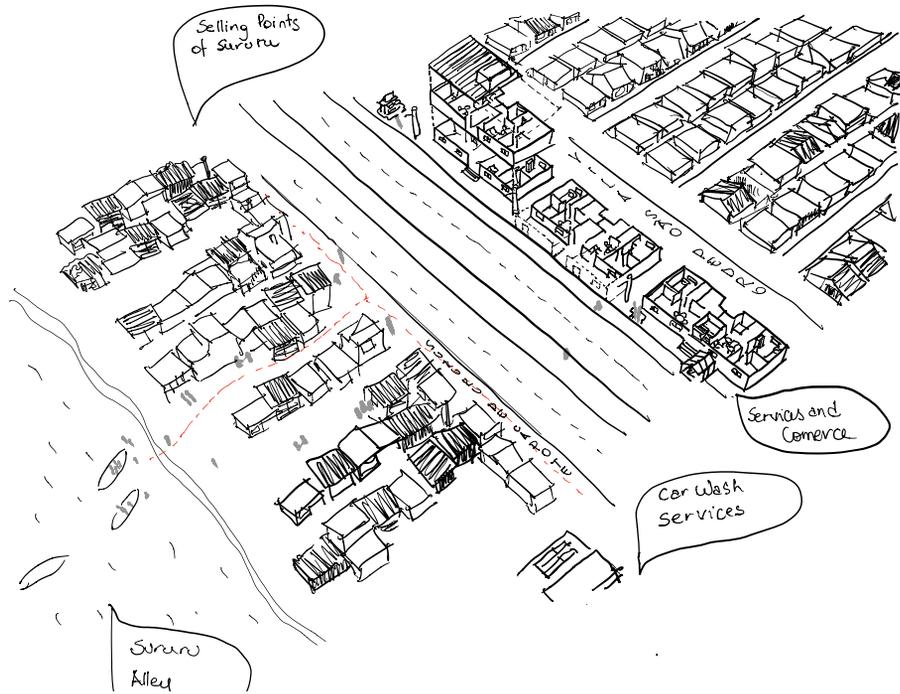
FIG. 5.22 Same economic activities are performed either in the social housing and in the *favela*. Source: Ana Rosa Chagas Cavalcanti, 2017.

References

Alsaayad, N (2006). *The End of Tradition?* London: Routledge.

AlSayyad, N., & Roy, A. (Eds.). (2003). *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia.* Oxford: Lexington Books..

Arendt. H. (1958). *The Human Condition.* Chicago: University of Chicago Press.

Brazil. Ministério das Cidades (2010). "Deficit Nacional de Habitação no Braszil." Brasília, MINC.

Brazil, *Instituto Brasileiro de Geografia e Estatística IBGE (2011).* Aglomerados Subnormais - Primeiros Resultados. Brasília, IBGE.

Brazil, Ministério das Cidades(2010).*Urbanização de Favelas: A Experiencia Do PAC.* Brasília, MINC.

Brazil, Instituto Brasileiro de Geografia e Estatística (2011) - *IBGE. BOG 2010 (17/06/2011) - SISTEMA DE DELIMITAÇÃO DE SETORES - TABELA DE AGLOMERADOS SUBNORMAIS.* Unpublished Internal document, IBGE.

Cavalcanti, A. R.C. (2009). *Dos Calejados Pés, Os Passos Dos Filhos de Mãe Lagoa: A Invenção Do Espaço a Partir Dos Ritos Do Sururu.* (Graduation Thesis), Universidade Federal de Alagoas, Maceió, Brazil.

Cavalcanti, A. R.C. (2017). Work, Slums and Informal Settlements Traditions: Architecture of the Favela do Telegrafo. *Traditional Dwellings and Settlements Review. XXVIII*(2): 71-81.

Certeau, M. (1990). *L'invention Du Quotidien 1: Arts de Faire.* Paris: Gallimard.

City Mayors Foundation. (2015, July 20). The world's fastest growing cities and urban areas from 2006 to 2020. Retrieved from : http://www.citymayors.com/statistics/urban_growth1.html. [Accessed on 20 July 2015].

Engels, F. (1982). T*he condition of the working class in England in 1944*, trans.Florence K Wischnewesky. London: Swan Sonnenschein. Originally published in 1845 by Otto Wigand, Leipzig Germany.

Gazeta de Alagoas (2013). Cidade Sorriso vira pesadelo para famílias. Article published on the 03 March of 2013 at *Gazeta de Alagoas.* Retrieved from: http://gazetaweb.globo.com/gazetadealagoas/noticia. php?c=218862. [Accessed November 2, 2013].

Harvey, D (2006). The Right to the City. *Interventions: International Journal of Postcolonial Studies 7*, (3): 321–25, Doi: 10.1080/13698010500268189.

Lefebvre, H. (2014). *Il Diritto alla Città.* Verona: Ombre Corte. 34. Originaly published in 1968 by Éditions Anthropos, Paris.

Madden, D. & Marcuse, P (2016). *In Defense of Housing.* London: Verso Books.

Mumford, L. (1961). *The City in History: Its Origins, Its Transformations, and Its Prospects.* New York: Harcourt.

Robinson; J.; Roy, A. (Eds) (2016). "Debate on Global Urbanisms and the nature of Urban Theory." *International Journal of Urban and Regional Research, 40* (1), 181- 186. Doi:10.1111/1468-2427.12272

Rojas, E. (2008). 'Governance and City Making in South America,' presentation at the Urban Age in South America Conference, São Paulo, December 3-5, 2008.[Acessed 12 July 2015]

Sinha, A. (2004). Participant Observation: A Study of State Aided Self Help Housing in Lucknow, India. In A. G.Tipple and K. Willis (eds), *Housing the Poor in the Developing World: Methods and Analysis, Case Studies and Policy.* London and New York: Routledge.

United Nations (1948). The Universal Declaration of Human Rights, 1948. Retrieved from: http://www. maitreyasangha.org/DOCS/2012-The Four Freedoms-UNCharter.pdf%0A. Retrieved from: http://www. ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng. pdf.[Acessed on 13 June 2017]

UN Habitat (2016). *Urbanization and Development Emerging Futures Key Findings and Messages.* World Cities Report. Nairobi, UN Habitat.

Weisner. T (1976). Kariobangi: the case history of a squatter resettlement scheme in Kenya. In Arens, W., editor, *A century of change in East and Central Africa*, The Hague: Mouton.

World Bank (2000). "Dynamic Cities as Engines of Growth," (World Development Report 1999/2000, 2000), 129. Retrieved from: https://doi.org/10.1596/0195211243_Chapter6. [Accessed 12 September, 2017]

6 Housing by people and work

This chapter is based on "Housing by people and work: design principles for favelas residents in economies of commerce and service" (2019)

"… to derive extraordinary theorization in the field of social housing from the ordinary everyday of unpriviledged people living in informal settlements…"
Cavalcanti, 2019

The article takes its roots from a participatory research accomplished by the corresponding author in Brazilian *favelas* between 2009 and 2017. Ethnographic research, combined with time series analysis and post occupation studies, revealed the everyday practices of residents of informal settlements in Brazil, both in informal settlements and formal housing where residents were eventually resettled. The research proved that labor is the social practice which most of all shapes, plans and governs space of informal settlements. (Cavalcanti, 2017a). The economic activities, which may depend also on the raw materials locally available, morphology of the territory and cultural traditions of the community, are found mainly related to the provision of commerce and service (Cavalcanti, 2017a). These activities take place mostly inside the house, which accommodates both labor and domestic life (Cavalcanti, 2017a; Cavalcanti, 2016). Moreover, also the space outside the house, as well as the design of streets and common spaces are determined by the working activities emplaced by the resident (Cavalcanti, 2017a; Cavalcanti, 2016). In the last years, fast-urbanization is 'involving mainly middle size cities' (UN Habitat, 2016). Addressing the spatial dynamics established by inhabitants in informal settlements is becoming of paramount interest for governments and international institutions. In fact, in the time-series analysis phase of the research, it was proved that these social practices are maintained or restored by the resident of informal settlements in the short term also after being transferred into formal social housing with pure domestic function (Cavalcanti, 2018). Inhabitants are moved by contingency to change and mischaracterize the original planning of the formal projects in order to restore the economic activities originally performed in the informal settlements. In fact, interviews in the field revealed that the possibility of performing working

activities overrides the right to possess a shelter designed according to principles of formal housing; right in turn paid through the source of income of the inhabitant (Cavalcanti, 2018). On the other hand, besides the legal issues of such a mischaracterization, these modifications often result in an early decay of the hygienic standards initially designed and also in severe structural safety issues, implying a "re-favelization"[16] of the social housing (Angelil and Hehl, 2011).

This research combines experimental data with the critical analysis of current theoretical and operative approaches in the field of informal settlements' re-location strategies and processes. This is the approach of the "extended case method," to "extract the general from the unique […] to connect the present to the past in anticipation of the future […] all building in preexisting theory." (Burawoy, 1998). The goal of the study is to derive extraordinary theorization in the field of social housing from the ordinary everyday of unprivileged people living in informal settlements.

This article presents a new approach of design of social housing for residents of *favelas* in Brazil based on the integration of space aimed for labor and domestic life. This integration derives from the depiction of social practices which are certainly not new nor limited to current *favelas*, but rather ancient and rooted in the history of mankind and cities around the world (Arendt, 1958). In many historic-economic contexts characterized by a vocation to commerce and service, the domestic space was still embedded with the production of work (Mumford, 1961). Productive system has also lately determined the development of modern social housing characterized by pure domestic function in industrialized societies (Le Corbusier, 1923; Kenneth Frampton, 1980). Thus, the simple transfer of models of social housing typical of industrialized countries within contexts of the so called "Global South"[17], with economy predominantly based on commerce and service, is neither effective nor beneficial for the people and their cities. The critique is not related to the cogent productive systems in the different areas of the world, but rather to the capability of the architect, meant as a political actor of the society, to understand the deep relationship that not only dwelling but rather the concept of space itself establishes with labor in the domain of the city. Thus, the proposal for a new conceptof social housing passes through the critique of the housing methods currently emplaced

---

16 In Brazil it is common knowledge that social housing get transformed by residents soon after they are delivered to residents. The presented literature, mentions the transformation of the social housing 'Cidade de Deus', (located in the periphery of Rio de Janeiro, Brazil) into one 'Favela.'

17 Term that appeared in the historiography of urban scholarly post-colonial production to explain the socio-economic inequalities, the intertwined connections derived from colonialism and exploitation, sub-alternatives of countries before known as underdeveloped.

to relocate residents from informal settlements in the countries of the Global South, both when working activities are prohibited in the house as well as when, as an emerging trend, architects accept or even encourage the modifications emplaced by the future inhabitants to formal housing projects. (Turner, 1976). Both approaches are discussed in the following paragraphs. Instead, the series of operative suggestions proposed in this article for the design of social housing aimed to residents of informal settlements takes roots in the history of mankind meant as a social entity. They restore the integration between labor and domestic life with a triple purpose: an improvement of life condition of the resident; an advancement of his/her socio-economic status; a progress of the economy of the formal city. Thus, apart from the intellectual critique, the content of this article can be operatively beneficial within projects of slum rehabilitation or resettlements processes.

6.1 The "Industry" of Social Housing for Workers in the Context of Informal Settlements of Brazil

The lack of inclusion of social practices within the design of social housing in countries of the Global South has foremost an historic-economic reason. It is to be referred to the outdated and warped adoption in current projects of entire cannons of modern architecture (Tafuri, 1976; Wolfe, 1981). In turn, these have been developed and consolidated in the countries of Global North especially through the years coming after the end of the second world war (Benevolo, 1980). Until the industrial revolutions, the concept of home was still linked to working activities, which often lead to a mixed definition of space in the dwellings and an organic growth of the city (Arendt,1958). Instead, modern architecture emerged as a response to specific historic, economic and social demands of an era dominated by the principles and needs of a progressively mechanistic society after advent of industrialization (Madden & Marcuse, 2016). Architects often resulted influenced by the Tayloristic belief that progress is linked to the compartmentalisation and rationalization of the social functions of the human being (Le Corbusier, 1946). This often resulted into a complete planning strategy of the city (*tabula rasa*) based on zoning, that is the segmentation of areas of the city according to their functions: residential, commercial, industrial and leisure (Droste, 2015). Large, polluting and noisy fabrics were located where residents of central neighbourhoods could not be disturbed (Mumford, 1961, p.284). The largest portion of the city was

constituted by neighbourhoods only for residential use. The design of dwellings must be inspired by a pure domestic use of the space (Le Corbusier, 1933). Working activities were supposed to be reached by the use of transport systems, especially cars, symbols of a modernity that in this original vision should have been possessed by everyone despite social conditions (Le Corbusier, 1923;1945). These principles and their development can be noticed cronologicaly in the projects and plans of Le Corbusier, which aimed for social reform. For example, projects and principles such as: '*Unité d'habitation'* (circa 1920), '*Ville Contemporaine des Trois Millions d'habitants'* (1922), '*Plan Voisin'* (1922-25), and the 'Functional city', which have particularly marked the 'Athens Charter' (1943) and the *Congrès Internationaux d'Architecture Moderne* (CIAM) in Athens (1930, CIAM IV) and Brussels (1933, CIAM V). (fig 6.1- 6.4). Both are seminal modernist projects that condensed both the ideals and planning principles of functionalism, technocracy and segmentation that have influenced and indoctrinated generations of architects and planners in the course of history. An iconic example is the scheme of *Ville Radieuse*, by Le Corbusier in 1924-1930 (fig. 6.5).
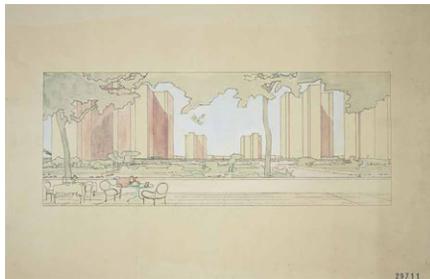
FIG. 6.1 Perspective from '*La Ville Contemporaine des Trois Millions d'Habitants*, ' unbuilt project by Le Corbusier, 1922. Source: Fondation Le Corbusier (taken from Le Corbusier et Pierre Jeanneret, *Oeuvre complète*, volume1, 1910-1929).

FIG. 6.2 Plan from '*La Ville Contemporaine des Trois Millions d'Habitants*', unbuilt project by Le Corbusier, 1922. Source: Fondation Le Corbusier (taken from Le Corbusier et Pierre Jeanneret, *Oeuvre complète*, volume1, 1910-1929).

FIG. 6.3 *Plan Voisin,* unbuilt project by Le Corbusier 1922-25. Source: Fondation Le Corbusier.
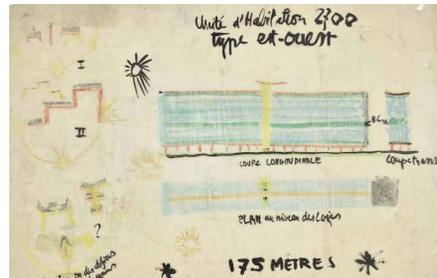
FIG. 6.4 Sketch of *'Unité d'habitation'* concept that was firstly developed by Le Corbusier between 1922-25. Drawing shows studies of Le Corbusier in 1944. Source: Fondation Le Corbusier.
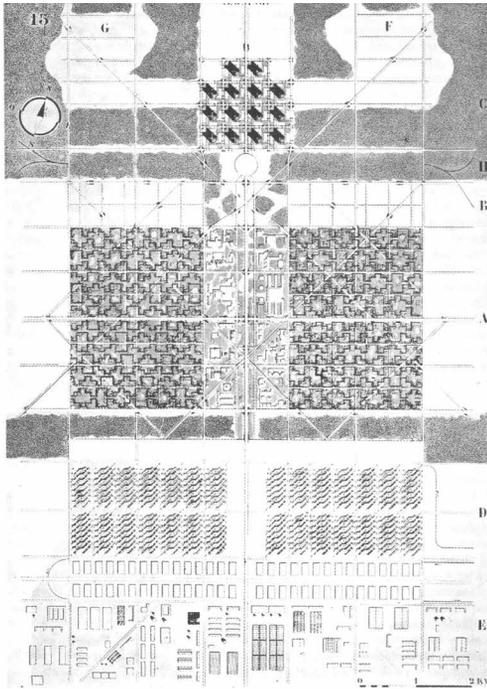
FIG. 6.5 Plan of the *Ville Radieuse*, by Le Corbusier, 1924. There is a clear segmentation of the functions of the city: A/dwellings, R/Hotels and Embassies, C/Businesses, D/industries, E/Heavy Industries, F,G/Government and Institutions, H/Airport and Train Station .Source: Le Corbusier, 1924.
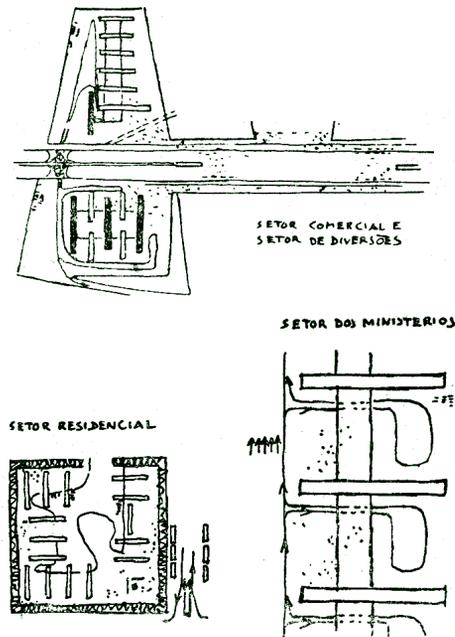
FIG. 6.6 Detail from the Pilot Plan of Brasília, *Superquadra* and *Corredores Residenciais*, (Lef). Source: *Plano Piloto de Brasilia* by Lúcio Costa, 1956.

It condenses an utopic vision of a city canonized according to the aesthetic and philosophical principles of modernity. Such a view has greatly influenced dwelling design and urban planning, not only in European and US countries but also in countries of the Global South such as Algeria, India, and also, Brazil. The planning of Brasília is its contemporary reflection. In the proposal by Lúcio Costa in 1956, the city was sectored in residential blocks (*superquadras*, containing houses designed with *pilotis* and *cobogós*), commercial areas (*entrequadras*) and industrial complexes connected by and industrial complexes connected by rail tracks and roads (Costa, 1956). Labor activities in residential neighborhoods were not contemplated in the planning of the project, and a few *superquadra*s were equipped with basic services such as schools, churches, and cinemas ("107," "108," "307" and "308"). Also, commercial activities were only allowed in *entrequadras (*fig.6.6). The project lied on the auspice of a fast industrialization and economic progress in Brazil. In the words of Lúcio Costa, this city was planned for an "ordered and efficient labor," at the same time being a "lively and appraisable city" (fig. 6.7) (Costa, 1956).

FIG. 6.7 Zoom of a *Superquadra* in the 1960s, composed by residential buildings with *pilotis* (stilts) and *cobogós*. Source: unknown.

FIG. 6.8 : Detail of comercial/services activities (dentist, grocery shops) in the self constructed houses of *Cidade Livre*. Source: Archive from Cronologia do Pensamento Urbanístico.

However, besides sophisticated city centers, in the suburbs of the city (cidades satélites) spread diffusions of informal settlements have soon started, further consolidated over time in some of the largest *favelas* in Brazil (*Favela do Sol Nascente*) [18]. These settlements were first inhabited by low class workers (manual laborers migrating from several regions of Brazil), who also contributed to the construction of the entire city (*candangos*) as it originally designed. In these settlements, working activities have been often emplaced inside the space of the dwelling (or in open markets illegally organized by residents in the streets of informal areas, as for the case of the iconic neighborhood *Cidade Livre* (fig.6.8).

In fact, the vision of modernity is based on the hypothesis of a complete process of industrialization of society (Le Corbusier,1923; Frampton,1980; McLoyd, 1983). Nevertheless, the market logics early twisted the utopic vision of modern architecture, in favour of the exasperation of its profitable benefit according to principles of reproducibility, massification, and cheap construction methods. This happened mainly at the expenses of workers of the lowest social classes, often destined to live in small houses of standardized housing blocks built in areas of the city dislocated from the center, where the price for land is cheaper (Madden & Marcuse, 2016). If the approach proved not to unveil all its potential in presence of a not fully industrialized society, its application in contexts where different productive systems prevail is even less effective. Instead, in the last decades, these models of social housing have been often copied and transferred in many countries of the Global South, whose economy is mainly based

---

18 For more information on this favela please refer to: Renata Mariz, Sol Nascente, a Favela de Brasília Que Caminha Para Se Tornar a Maior Do Brasil, Epoca, July 16, 2018, https://epoca.globo.com/sol-nascente-favela-de-brasilia-que-caminha-para-se-tornar-maior-do-brasil-22882335.

on commerce and service. This is particularly the case of Brazil, where industrialization was lately exported from Europe and not really even planned, as observed by leading architects such as Lina Bo Bardi. (Bo Bardi, 1994).

In Brazil, 73% of the Gross Domestic Product (GDP) is related to the tertiary sector, while industry accounts only for 21%, and it absorbs more than 10% less of the national labor force with respect to commerce and service (CIA, 2017). Even if industry is only a little portion of the economic processes of the country, the first social housing prototypes in Brazil, the so called vila operárias, were aimed at sheltering industrial employees based on the model of worker dislocated from their working site (fig. 6.9, bottom) (Bonduki, 2014) .

The principles of this model are commonly applied in the country also when social housing are provided for residents of informal settlements of Brazil, namely *favelas.* Block-apartments for pure domestic use have been often designed to relocate residents from slums into formal dwellings.[19] An iconic example of the lack of effectiveness of these types of housing solutions is the case of the project *Vila São Pedro* for the resettlement of residents from the *Favela Sururu de Capote* (Ministry of Cities, 2010). (fig.6.9, top, left). This project by Brazilian government within the Program of Acceleration of Growth (PAC) contained 360 housing units for families living in the *favela.* The houses contained a living room, two bedrooms, one bathroom, one kitchen, and one small laundry area and gyms; playgrounds and piazza were designed as well in the social housing project. Delivered in 2009, the space of the social housing formally designed experienced early and heavy modifications operated by the new residents, finally resulting into a process of space mischaracterization modifications operated by the new residents, finally resulting into a process of space mischaracterization (Cavalcanti, 2018). According to the results of the participative observation research by the author covering the pre and post phases inherent residents' relocation process in 'Vila São Pedro', almost 90% of the space modifications performed by residents in the social housing were ascribable to the emplacement of working activities within the domestic space of the dwellings (Cavalcanti, 2018). They happened both inside the new apartments and within the common spaces of the social housing. Working activities were mainly devoted to the provision of commerce and service (fig. 6.9, top, right) (Cavalcanti, 2018).

---

19 Many authors in the field of sociology and anthropology explain the process of resettlement from *favela* to social housing, unveiling the views from residents about the relocation. For more on this subject please refer to Janice Perlman, Favela: Four Decades of Living on the Edge of Rio de Janeiro (Oxford, UK: Oxford University Press, 2010), 93—146.

FIG. 6.9 Top: Comparison between an official image of the original project delivered in *Vila São Pedro* in Maceió and photo of the delivered houses including modifications three months after relocation. Bottom: *Vila Operária Luis Tarquínio*. Source: image from Agência Alagoas, 2009 (top left) and adaptation by author, 2015 (top right).. Ewald Hackler, approximately 1907-1908 (bottom).

They range from retailers, resellers, carriers, masons, iron workers, carpenters to receptionists, entrepreneurs, nurseries, hair dressers and much more. Table 6.1 lists all the possible activities performed by the residents observed in the favela. In fact, research revealed that the same types of working activities performed in the original favela are often transferred by residents in the new social housing, restored in order to guarantee the persistence of the source of income necessary to pay the monthly rent of the social housing (Cavalcanti, 2018). The number and typologies of services being performedwithin Brazilian favelas have been increasing in the very recent years: restaurants, grocery shops, internet shops, laundries, repair shops are spreading in many informal settlements, solicited also by an increase of the demand of low cost goods and services from formal city.

TABLE 6.1 List of economic activities run by residents in informal settlements in Brazil. Source: Ana Rosa Chagas Cavalcanti, 2017.

Economic activities in the Self-Constructed Neighborhoods in Maceió	Economic Activities outside of the Self-Constructed Neighborhoods in Maceió
Sururu de Capote e Antigo Telégrafo	Sururu de Capote e Antigo Telégrafo
Fisherman	Hawker
Mollusk Cleaner	Carter
Mollusk cleaner assistant	Garbage recycler
Mollusk Vendor	Taxi driver
Owner of Grocery Shop	Maid
Car Washing Services	Vendor
Car Repair Services	Selling Mollusks
Prayer Services	Masons
Carpenter	Carpenters
Nurseries	Assistant of Commercial Activities
Help with pedagogical activities (Professor Particular)	Policemen
Tattoo chops	Taxi driver
Groceries	Firefighter
Cake shops	Plumber
Restaurants	Mason
Bars	Receptionist at Hotel
Construction material	Professor at primary school
Carpenters Clothes repair	Shopping Mall Vendor
Market Vendors	Maid
Hairdressers and Manicures	House painter
Several Repair Services	Car seller
Work at home	Business Assistant
Vendors of international companies	Motorcycle Courier Services (motoboy)
Craftsman (Wood, Glass, Iron, Furniture)	Assistant at the "Secretary of Maceió"
Internet Shop	Esthetician at Beauty Salon
	Telephone operator
	Commercial activity assistant
	Assistant at Tre Al
	Confectioner
	Assistant at storeroom
	Handcrafts seller
	General services assistant
	Employee at Plotter
	Support for dentist assistant,
	Machine operator at industry

TABLE 6.1 List of economic activities run by residents in informal settlements in Brazil. Source: Ana Rosa Chagas Cavalcanti, 2017.

Economic activities in the Self-Constructed Neighborhoods in Maceió	Economic Activities outside of the Self-Constructed Neighborhoods in Maceió
Sururu de Capote e Antigo Telégrafo	Sururu de Capote e Antigo Telégrafo
	Glasses vendor
	Clothes shop vendor
	Telemarketing
	Vendor of health security
	Cook at chain of food,
	Vendor of meals* (marmitas)
	Cashier in Supermarkets
	Assistant in handling materials
	Make-up professional
	Manicure and pedicure
	Hairdresser
	Assistant of Pizza Chef (Pizzaiolo)
	Cook
	Waiter
	Seller boutique
	Cashiers
	Charter
	Garbage recycler

6.2 A Phenomenological Approach for the Desing of Social Housing in the Context of Informal settlements

A different approach for the design of social housing for unprivileged groups has been progressed starting from 1970's (Charles Abrams, 1964; Turner, 1976). In opposition to the principle of *tabula rasa*, in this case the intervention of the architect when designing social housing is reduced to the minimum. Instead, this is oriented to pursue and encourage the processes of creation and adaptation of spaces that are naturally emplaced by residents in the original informal settlements. Quinta Monroy, a social housing designed by Alejandro Aravena in Iquique (Chile), constitutes an example of this approach (Aravena, & Iacobelli, 2009). This social housing, located in Iquique, is constituted by 125 half-built houses. Each house is a two-storey concrete masonry box which contains a bathroom, a kitchen and two rooms. Aside the house, a further empty block of concrete one storey high is provided by the firm (fig.6.10 top). This was designed in respect of budgetary constraints to allow the residents to modify the housing system according to their needs, culture and traditions. This strategy of design was based on the knowledge that the construction of houses in informal settlements occurs gradually, namely according to processes of "incremental growth," based on the resources of the residents or due their social practices, such as for example the usual tradition to build extra rooms for new members of the family [20].

The authors define this approach for social housing as a phenomenological approach, in opposition to the canon of the tabula rasa. Its meaning is tied to scientific interpretation of models which address empirical phenomena and mutual relationships in a way consistent with theory but not founded on any pre-defined theoretical framework and interpretation of reality.

---

[20] "When you create an open system, it customises itself, it corrects itself, it is more adapted to the reality - not just to the family but also for cultural diversity.", As Arevena said in interview by Winston.
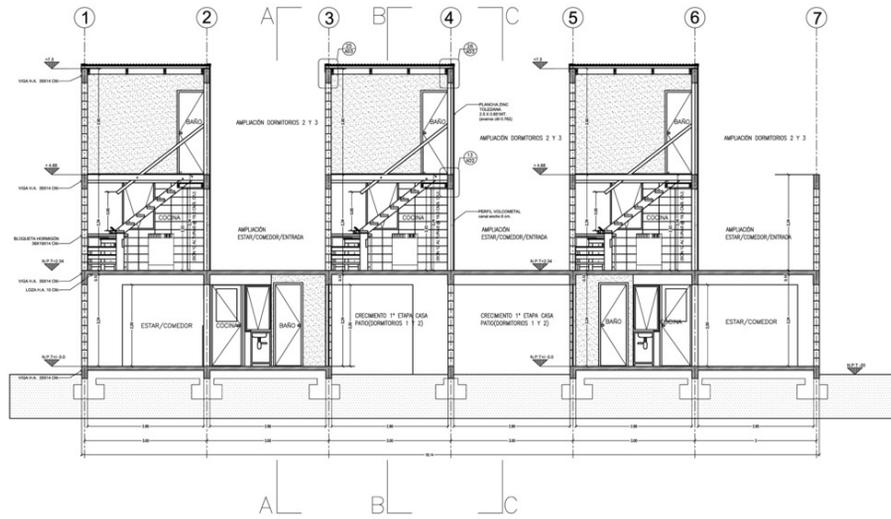
1

2

FIG. 6.10 Top, section of *Quinta Monroy*. Source: Image by elemental, 2003.; Bottom, residents dwelling and working in the field of construction of housing in the "*Conjunto Virgem dos Pobres*", social housing located in Maceió, Alagoas, built by the future residents in 1989, as an example of self-help social housing (*Mutirão*). Source: Pictures from the Newspaper Gazeta de Alagoas in 14/0/1989.

This category includes a wide range of solutions emerging in the last years, from "sites and services" to "self-help housing" and "core housing" (Abrams, 1964, p. 164-178). They are usually promoted by governmental organization or private housing construction companies. Examples of these types of social housings are present also in Brazil (Bonduki, 2012, p. 79-81). [21](fig. 6.10 bottom).

Such a general approach has the positive attribute that it acknowledges the importance of social practices of inhabitants when dealing with social housing for unprivileged groups. Furthermore, it often allows a more central location of social housing in the city employing minimization of building material costs with respect to limited funds. However, also this approach is prone to suffer from significant contradictions and distortions with respect to the goals of a social architectural project. On the one hand, it "formally" confers the resident the role of "informal" architect of the house, even if this implies to emplace practices, habits and strategies which are performed in informal settlements due to pure contingency, which in the medium and long term may determine a decay of the initial attributes of the project, health and hygienic conditions up to structural safety issues. hand, the role of the architect is deprived of its socio-political function of investigator of reality as promoter of wellbeing. And the primary needs of the poor do not find formal assessment in the expert's analysis use and planning of space as it happens instead for residents of the city moved by secondary needs. Instead, a drift of this approach may lead architecture firms and institutions to maximize profit or to accept heavy budgetary constraints through ex-ante design of cheap houses with incomplete design or lack of comfort, as coherent with the practices emplaced by the recipient residents, even if determined by conditions of poverty or lack of space (Boano & Perucich, 2016, p. 37-46).

---

21 . The capacity of self-construction of unprivileged communities in Brazil has inspired many housing projects. One of these examples, typical of Brazil, is the 'mutirão' (a process in which groups of residents self-manage and -build houses). Projects of this type can be found in the Southeast and northeast of Brazil, dating especially from the 1980s.

6.3   Work in House: from Bottegas to Favelas

In the previous sections, two opposite strategies currently adopted for the design of social housing for people living in informal settlements were described: a tabula rasa principle that follows the "one size fits all" and a phenomenological one, closer to a laissez faire approach. They do not include directly working activities within the boundaries of the home. Nevertheless, examples in which social practices, including labor, constitute a space-shaping variable within the planning of social housing can be encountered also in the last century (Choay, 1969, p. 29-31). However, founding theories often based on utopic visions imbued with Platonian ideals of a society governed only by a full and spontaneous harmonization of human needs and desires (Choay, 1965), often failed operative applications, besides few prototypes of self-contained communities for workers of industry separated from the rest of the town (Fourrier, 1849) (fig. 6.11).
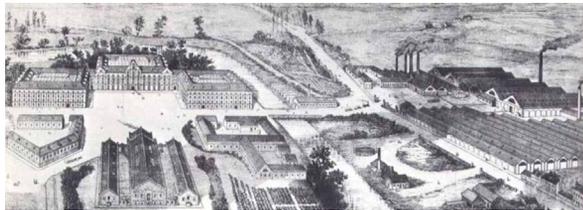
FIG. 6.11 Perspective view of *Le Familistère,* project realized by Godin (in Guise, France) in 1882 based on theory of *Phalanstère* by Charles Fourier. Source: Collection Familistère de Guise, 1871. Right: "Life as it was in Pompei", painting by Luigi Bazzani, 1836-1927.

FIG. 6.12 *"Life as it was in Pompei",* painting by Luigi Bazzani, 1836-1927.

Instead, practical examples in which the integration of working activities in the domestic life is inserted with harmony within the urban fabric of the city are clearly visible along all the history of pre-industrial societies (Mumford, 1961, p. 281-287). Actually, work was found inherent to the physical space of dwellings since the early emergence of groups of humans at the event of the discovery of agriculture (Jacobs, 1969). Ancient age also provides evidence of the bond between working and living activities with the first studios, *bottegas* or taverns, inserted on the ground floor of insulae of the Roman Empire (Figure 6.12) (Vitruvio Pollione, around 27BC). The conception of house also as a workshop continued in the European villages of middle age, where domestic and working spaces resulted progressively embedded (Mumford, 1961, p. 281). The loosening of the proximity of domesticity and labor proceeded only over centuries later after industrial revolutions (Madden & Marcuse, 2016).

The link between realities so far away in the line of history and space such as Latin antiquity and informal settlements of contemporary cities in Brazil takes its roots in the logics of special distribution of urban environments of societies with productive systems of commerce and service vocation. In the following sections, a comparative analysis is shown of some social practices which influence and shape space in Brazilian informal settlements (studied between 2009 and 2018) with respect to traditions and practices commonly emplaced in the typical Italian bottega-houses from the Middle Age (later on simply referred to as *bottega*). Spread in Europe, social dynamics and vernacular practices of this type of dwellings remained broadly emplaced especially in Italy still in the modern age.[22] The *bottega* was a typical dwelling-productive unit which integrated working activities inside specific portions of the house. The ground floor hosted the economic activities, from the learning on the job process to the production of goods and service, to advertisement, distribution and selling functions. Residents of bottega used to live and work in textile shops, bakeries, pharmacies, iron laboratories, flower shops, perfume shops, clothes shops, butcheries, jewelry shops, metals workers, fabric shops, fur shops, etc (Pini, 1986) . The cycle of production was typically held by a master, which not only produced goods according to his expertise but also used to dispense knowledge to his helpers through practice and observation. Internal space could also have deposit and/ or laboratory function. Products were usually sold in the front part of the house, which had an access to the public street. This was often filtered by arcades, structural elements with mainly comfort purposes with the aim of favoring the trade of goods. (Pini, 1986).

In turn, products were exposed on banks and tables in order to let people buy trade. The residential function of the dwelling occurred on the upper floor(s). The house had a mainly longitudinal development, with a narrow front facing the street, and it used to end on the other side of the entrance with a courtyard for domestic or commercial destination. Animals were also often raised in fenced backyards. Despite typically mono-familiar units, the bottega were often attached one another, constituting concentrations of houses often with similar productive vocation.

This brief introduction already suggests resemblances with respect to the findings of recent experimental campaigns performed in contemporary informal settlements (Chagas Cavalcanti, 2017a, 2017b In the following paragraphs, analysis is solely meant to reveal the most relevant practices emplaced in Brazilian favelas, showing their connections with their sources of income generation and inherent productive systems.

---

22 Educalingo Online, s.v. "Bottega," accessed November 10, 2016, https://educalingo.com/en/dic–it/bottega.

TOC

The analysis is distinguished in four categories: morphology of houses; nature of economic activities; influence on labor on the outside space; learning, developing and defending working skills.

6.3.1 Morphology of houses (House and workspace)

In favelas, domestic and labor activities take place within the space of the house. Working activities may take place on the ground floor, whereas domestic functions can be hosted on the upper floor(fig 6.13). It also frequently happens that the familiar domain takes place at the same level of the working activities. This actually constitutes the most frequent spatial relationship observed between working and domestic spaces (fig. 6.14). In this case, space destined to working activities can be separated from the domestic domain by means of walls or curtains. Craftsmanship activities (i.e. carpentry, glass or ironworking activities), laundry services, recycling activities and small agricultural activities usually take place in the back. Instead, services such as hairdressers, nurseries, bars, grocery stores, food services, pharmacies, car repair services, clothes repair services and numerous commercial activities take place in the front portion of the house (fig. 6.15-6.16).

In both cases, advertisement and selling functions are integrated within the boundaries of the domestic space also in favelas. Residents perform a number of modifications in the house to allow visibility of the performed activities, often advertised also using letter-boards. A typical example of this practice is the window-shop, windows located in the front side of the house, equipped by steel grids or protected by glass, which are used during the day by its resident to trade goods and sell finished products to clients walking on the front street of the favela; whereas food preparation for commerce purpose takes place in the kitchen of the house (fig. 6.17- 6.18).

FIG. 6.13 Photo of a grocery shop on the ground floor of a two-storey informal house in Alagoas, with domestic space hosted on the first floor. Source: Ana Rosa Chagas Cavalcanti, 2018.

FIG. 6.14 Photo of a barber shop on the ground floor of a one storey informal house in Alagoas, with domestic space hosted next on the ground floor.Source: Ana Rosa Chagas Cavalcanti, 2018.

FIG. 6.15 Front view of an ancient *bottega* selling spices. Source: Tacuinum sanitatis, Codex 2644 by unknown master (XIV Century, Wien-Osterreichische National Bibliothek, Austria.

FIG. 6.16 Activities of commerce and service (pharmacy and bakery) run in an informal settlement of Recife (right). Source: Ana Rosa Chagas Cavalcanti, 2018.

FIG. 6.17 Grocery shop in a *bottega*. Source: "*Aspetti di vita quotidiana*", Tacuinum sanitatis, unkown master, XIV Century)

FIG. 6.18 "Window shop" in an informal house of a *favela* in Brazil. Source: Ana Rosa Chagas Cavalcanti, 2008;

FIG. 6.19 *Bottega del Sarto* (Tacuino Sanitatis, unknown master, XIV century)

FIG. 6.20 Example of traditional craft activitiy developed inside informal settlements. Source: Alagoas Feita a Mão
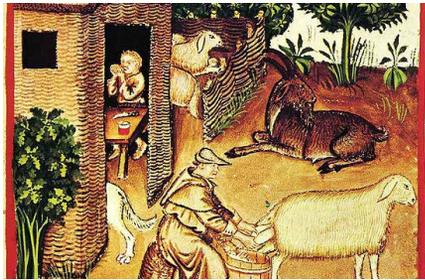
FIG. 6.21 Animal farming for production of food and milk. Source: "*Alimenti, Latte*", Tacuinum sanitatis, XIV Century, unknown master.

FIG. 6.22 Pig and chickens grazing in the common space of a favela in Brazil. Source: Ana Rosa Chagas Cavalcanti, 2008.

FIG. 6.23 Fishing in antiquity. Source: Tacuinum sanitatis, XIV century, unknown master.

FIG. 6.24 Fishing in the *Favela Sururu de Capote* .Source:Ana Rosa Chagas Cavalcanti, 2008.

FIG. 6.25 Fish selling in a *bottega*. Source: Tacuinum sanitatis, XIV Century, unknown master.

FIG. 6.26 Sururu selling at the borders of the *favela*. Source: Ana Rosa Chagas Cavalcanti, 2008.

6.3.2 ## Nature of economic activities

Working activities commonly emplaced in favelas have been already listed in the previous sections. In general, labor activities taking place within the domestic space of dwellings in favelas are mainly related to production of commerce and service. Manufacture activities are also largely spread. Many residents are craftsmen: they work with wood (*carpinteiro*), iron (*serralheiro*), glass (*vidraceiro*), building materials and all possible resources locally available (Governo do Estado de Alagoas, 2017) (Figure 6.19-6.20). Manufacture activities in favelas usually take place in specific areas of the house. Craftsmen, as the most of working residents, usually absorb their job skills in the *favela*, which are though lately offered both in the context of informal settlement and in the formal city (Cavalcanti, 2017a; Cavalcanti, 2017b, Cavalcanti, 2017c).

Also agricultural activities, such as cultivation of fruits, vegetables and herbs (manioc, guava, papaya, banana) or farming of chickens and pigs happen in the proximity of the domestic space. Animals such as horses and mules are also raised for transportation of goods, especially by carters. Animals are often kept in fenced backyards at the rear back of the house but they can also be left to graze in the common spaces of favelas (fig. 6.21-6.22).

Aside commerce and services, the dominant economic activities emplaced in the informal settlement often depend on the natural vocation of the area. For instance, in *Sururu de Capote*, a favela in the north-east of Brazil close to the *Mundaú* Lagoon, the activities of production, fishing and manufacture of *sururu* (a little mussel declared as immaterial heritage of Alagoas by Culture State council of Alagoas (O Globo, 2014) constitutes the main source of income for the large majority of the residents. It is sold at the margins of the favela every day mainly to residents of formal neighbourhoods (fig. 6.23-6.26).

6.3.3   Influence of labor outside of the domestic space

The activity run inside the house influences the assessment of the exterior space, starting from its surrounding environment. In case of restaurants or bars in favelas, space in front of house is often used for the provision of inherent services by means of tables or chairs; hawkers' cars are placed in front of houses as well. Furniture is put by residents on the street and sidewalks during the opening hours of the activity and they are pulled back at closure. (Cavalcanti, 2017a).

The shape of the streets itself is often decided according to the most significant working needs of inhabitants. This happens for instance in the favela *Sururu de Capote*, where straight streets must connect the lagoon where fishermen work to the borders of the formal city where *sururu* is sold. In fact, relative location of streets, especially with respect to the formal city, may come to a fundamental role for the resident to decide and plan the vocation of the working activity run by the boundaries of the dwelling. Commercial and services activities are largely abundant around the main avenues located at the margins of the favelas, because residents from central neighbourhoods of the city are attracted by cheap prices (fig. 6.27). The toponymical distribution of the economic activities inside the favelas often recalls peculiar features of ancient bottega. In antiquity, from spatial concentrations of bottega with the same economic vocation, streets may have resulted progressively named accordingly to the typology of economic activities hereby emplaced. Many squares or streets in Italy still recall this peculiarity: *Piazza Degli Orefici, Via dei Calzolai, Via dei Falegnami* [Goldsmiths Square, Shoemakers Street, Carpenters Street - ed.], etc (…) (Cricco &Theodoro, 2002). This feature can be "informally'' encountered also in favelas. In the Favela *Sururu de Capote* for example, some specific alleys are named by residents as Alley (*Beco*) of *Sururu*. This happens because working practices inherent processing of *sururu* are usually emplaced in those alleys. This approach corresponds to an effective strategy to recognize streets in informal settlements based on visible working activities (beco da mercearia, beco do maceneiro). In addition, other alleys can be named according to the name of a well-known resident of the area.

FIG. 6.27 Top: Streets and bottegas in the city of middle age (Source: "*Allegoria ed Effetti del Buono e del Cattivo Governo*", by Ambrogio Lorenzetti, 1339, Public Palace, Siena, Italy); Bottom: Graphic by author of the street "*R. Manoel Fontes Fontan*", at the margins of the *Favela do Telegrafo* in Brazil. Source: Ana Rosa Chagas Cavalcanti, 2018.

Learning, developing and defending working skills

The resident of a favela is proud and committed with respect to the working activity performed. This nurtures the feeling of self-esteem but it also determines the role and social position held in the informal society of the favela. Notably, having a job represents a status of citizenship (and a key factor for success in life) in the informal settlement, while not having a job represents a lack of dignity (Perlman, 2010, 230).

As for bottega, in favelas, houses are spaces in which residents can also learn, practice and perfect their working skills. Residents learn their future labor by observing and reproducing the work of masters, family members or piers in their houses. This is common practice for young craftsmen of favela, such as future masons, iron makers, bread makers, as well as maids and hairdressers. After this process, the resident can open his/her own studio in the favela or be employed in the formal city. There is a strong sense of acknowledgement on the capacities and responsibilities of the masters also in the favela.

Expertise in building materials and construction processes are highly acknowledged in favelas. They address the primary need of having an as decent as possible shelter for the family of the resident. In fact, in favelas the single owner can construct his/her own house (mutirão, fig. 6.28). To this end, they can be also helped by neighbours, returning the favour in money, goods or help in future manual activities. In some cases, they can also hire professional masons (fig. 6.29) (Cavalcanti, 2017c). They often form an elite working class highly acknowledged in the favela. In fact, masons live in the favelas where they have also learnt the job at first but they are often employed in construction companies in the city. Therefore, they possess crucial competences for the inhabitants in need for a house, having to deal with its entire construction process, from the operation of initial design to the procurement and emplacement of building materials, from the decision of the building technique to the interior design. It then happens that the "informal" architect of the favelas plans, designs and builds the house, resulting still embedded in field work like architects of antiquity.

There are rather spontaneous forms of mutual help and collaborations in the favela. For example, working tools and devices are commonly shared among residents dealing with similar activities. This happens especially for the most costly devices, such as those pertaining to the construction sector: drillers, iron, cutters, cake tabs for bakeries, etc. Actually, also in antiquity this used to happen in a similar way: tools were often available for rent in determined *bottega* located in specific areas of the city (Morello, 2016).

FIG. 6.28 *Mutirão* construction in the *Favela Sururu de Capote*. Source: Ana Rosa Chagas Cavalcanti, 2008

FIG. 6.29 Houses of bricks in the *Favela do Telégrafo*. Source: Ana Rosa Chagas Cavalcanti, 2015

6.4 The Social Function of Space in the Formal Design of Houses for the Unprivileged

Residents of informal settlements in Brazil address space primarily to allow the conducting of economic activities mainly related to the commerce and service sector. These activities influence the space of both inside and outside the boundaries of the house. This happens similarly to what used to happen in many other historical contexts with similar economic vocations. Residents maintain these economic activities even after being resettled into social housing with pure domestic vocation. Current municipal and national codes of building and urban planning in Brazil do not formally prohibit the design and construction of mixed used buildings, given limitations on its location in the city and its internal distribution and layout (in order to limit noise, pollution or health threats and promote adequate accessibility to the different functions taking place in the building) (SEPLAN, 2008). Because of this, offices may be allowed to be designed on the ground floor of buildings where residential use also happens. A possibility that represents an option for the resident of the "formal" city constitutes the cogent priority to be addressed for the residents of the informal city, who find in the activity performed the only source of survival, including the obligation to pay a monthly rent when living in a social housing, in a society where welfare of the poorest is often neglected. (Cavalcanti, 2018). Thus, conceiving labor as spatial variable in the domain of the city allows architecture to promote personal and societal welfare. The nature of economic activities emplaced to survive implies solutions aimed at restoring the proximity between labor and domestic functions in the design and urban planning practice. Within the design of formal social housing for unprivileged people in economic contexts with commerce and service vocation, this is translated into the direct inclusion of the variable of labor in the housing space domain, by means of its rapprochement and integration with the domestic function of the house. This integration should not being passively "accepted" nor slavishly canonized, but carefully thought and planned by the architect, with the well-being of the recipient in mind. In fact, Richard Sennett already emphasized the miserable life conditions, the inhuman rhythms of work, the noise pollution and the low hygienic standards, not to mention the scarce human and family relationships, experienced by residents living in the bottega of the Middle Age. (Sennett, 2009). This happens in whatever situation the working activity is the only chance for the physical survival of the human being in societies where social protection does not exist. Therefore, the formal translation of labor within the design of social housing for residents of favelas must be intended to dignify permanently work meant

as a housing right, to increase hygienic and health standards, safety requirements, while improving social and family relationships (Cavalcanti, 2018).

To this end, inclusion of space destined for working activities in the space of a house must be harmonized through the planning and design of structural and non-structural elements of the building and the house, aimed at assuring planned standards and requirements along all the entire cycle of life of the building while promoting comfort and wellbeing for the resident family (fig. 6.30).
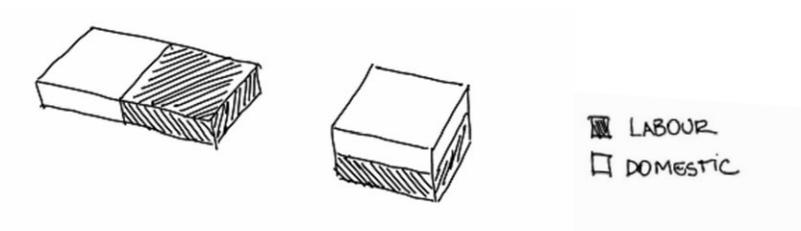
FIG. 6.30 Labor and domestic space in a house: horizontal (left) and vertical (right) possible spatial relationships. Source: Ana Rosa Chagas Cavalcanti, 2018.

The building aimed at resettling unprivileged people from informal settlements should have a mixed productive-domestic vocation. Promotion of the economy produced by the residents can be fostered using spatial solutions such as arcades, galleries, patios, pilotis, terraces, corridors, porches used outside the domain of the house (fig. 6.31).
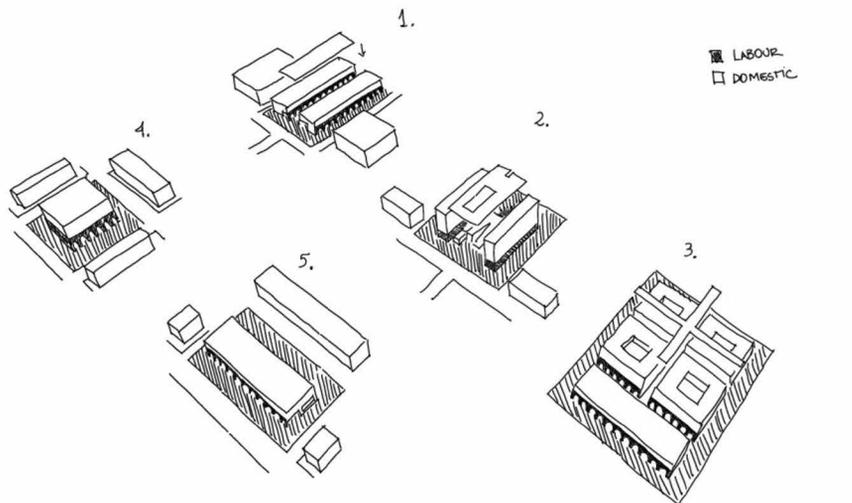
FIG. 6.31 Design of social housing with mixed domestic-labor vocation: use of arcades/*pilotis* for different building shapes and spatial configurations. Source: Ana Rosa Chagas Cavalcanti, 2018.

The design of social housing and the relative location of its inherent architectural elements must promote the trade of goods and service and they should be integrated as much as possible in the urban fabric of the formal city. Location of social housing itself should be strategically emplaced with respect to the main streets of the city. Planning of streets which enhance connections with city center by means of pedestrian circulation or other forms of mobility such as bicycles and motor vehicles is encouraged (fig. 6.32).
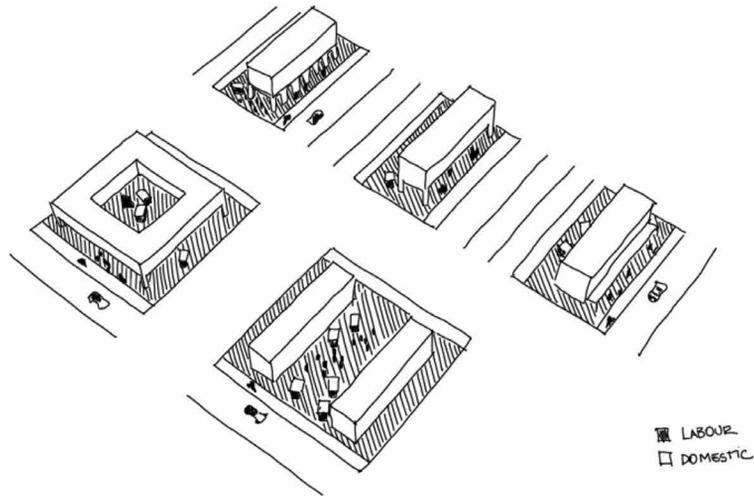
FIG. 6.32 Integration of social housing in the urban fabric of formal city: proximity to principal streets for different building shapes and spatial configurations. Source: Graphic by Ana Rosa Chagas Cavalcanti , 2018.

An approach of design of social housing for the unprivileged that also plans economic activities has the further merit to allow the emersion of informal economies, promoting the conversion of underpaid informal jobs into sustainable formal sources of enrichment for both the resident of the social housing and the formal city. The development of economic activities should be promoted through the design of social housing. To this end, spaces designed for the valorization, perfection and teaching of activities of craftsmanship are encouraged. Spaces with social functions such as libraries and schools should be promoted as well. The spatial integration with the formal city should happen also at a social level. This could be for instance fostered through forms of barters of complementary competences and knowledge between professionals of formal society and craftsmen living in the social housing (fig. 6.33). The author has already proposed possible forms of collaborations (Cavalcanti, 2015).

TOC

FIG. 6.33 (Shared) Laboratory of craftsmanship (top, left), library and laboratory (top, right) and "The School of Favelas", prototype of a school of Architecture planned by author for the *Favela do Telégrafo* (bottom).Source: Ana Rosa Chagas Cavalcanti.2018.

6.5 Conclusions

Throughout this article, an approach is proposed that aims at fully recovering the social function of the variable of space for the planning and design of houses and built environments. Within the design of social housing desti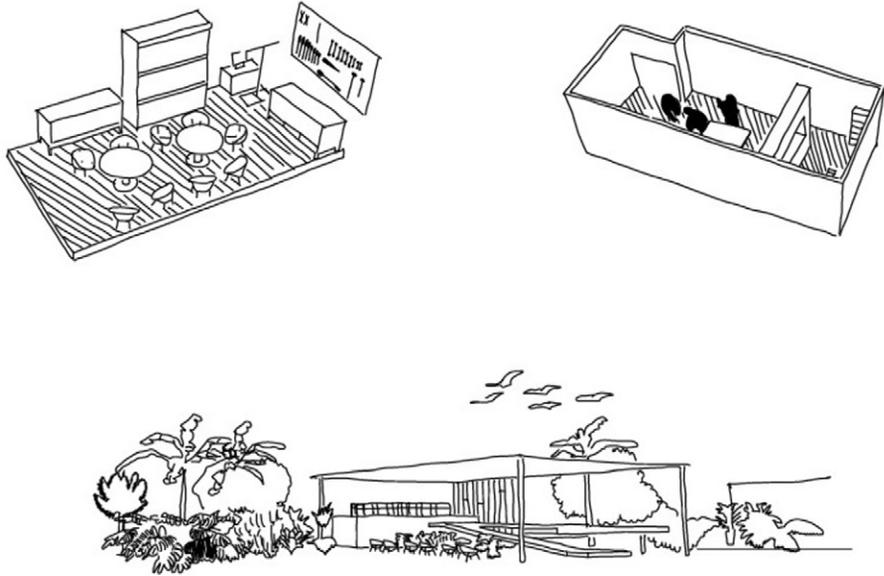ned to residents living in informal settlements with vocation to commerce and service, this is operatively accomplished through the integration of the labor and domestic functions. This need vividly emerged from the observations in the field on the use of space made by residents of favelas inside and outside home boundaries. In informal contexts, where nothing is prescribed by formal laws, rules and standards, space has an entirely social function, which is mainly aimed at assuring a source of income for residents to accomplish primary needs of survival. In economies of commerce and services, families survive from production and trade of goods and service which for their nature are easily implemented in the proximity of the house. The optimal assessment of space depends and is determined by the productive system, meant as the needs and habits to work established by the given productive activity. Those needs and habits change over time and space, resulting from traditions and history, nature and technological development.

Understanding, interpreting and addressing the needs of every inhabitant of the city is duty of the Architect, both in the case of the wealthy family living in the central neighborhood or also in the case of an ex resident of the informal settlement. The sophistication of the secondary needs that must be addressed through design must not disperse the primary dimension of living spaces by the human being, that is the social function of space. Nowadays, often tangled by mechanistic and technocratic approaches, which also happen to crystalize policies and standards, the architect must recover the role of a political actor of society as Leon Battista Alberti once advocated, meaning to unveil the adapting needs of persons living in the society of the presentor.

References

Abrams, C. (1964). *Housing in the Modern World.* London: Faber and Faber.

Angélil, M.; Hehl, R. ed, (2013). *Cidade de Deus–City of God.* Berlin: Ruby Press.

Aravena, A. Iacobelli, A (2009). *Elemental: Incremental Housing and Participatory Design Manual.* Berlin: Hatje Cantz.

Arendt, H. (1958). *The Human Condition.* Chicago: The University of Chicago Press.

Benevolo, L. (1980). *History of modern architecture.* Massachusetts: The MIT Press.

Boano, C. (2016). "Bajo escasez. ¿Media casa basta? Reflexiones sobre el Pritzker de Alejandro Aravena.". *Revista de Arquitectura, 21*, (31). Arquitecturas colectivas, 37-46.

Bo Bardi, L. (1994). Tempos de Grossura: O Design No Impasse. São Paulo: Instituto Lina Bo e P. M. Bardi.

Bonduki, N. (2014). *Os Pioneiros da Habitação Social (Volume 1).* São Paulo: Sesc São Paulo| Fundação Editora UNESP.

Bonduki, N. (2012). *Cem Anos de Política Pública No Brasil -Volume 1* .São Paulo: Edusp. 79-81.

Brasília, Companhia do Desenvolvimento do Planalto Central, Departamento do Patrimônio Histórico e Artístico, 1991. Plano Piloto de Brasília. (Originaly Published in 1958 by Lucio Costa)

Brazil, Maceió, Secretaria Municipal de Planejamento (2008). Código de Edificações e Plano director da Cidade De Maceió. (SEPLAN, 2008).

Brazil, Ministry of Cities (2010).*Urbanização de Favelas: A Experiencia Do PAC.* Brasília: Ministry of Cities.

Burawoy, M. (1998). The Extended Case Method, *Sociological Theory 16(1)*, 4–33. Doi:10.1111/0735-2751.00040.

Cavalcanti, A. R. C.(2016). How Does Work Shape Informal Cities ? The Critical Design of Cities and Housing in Brazilian Slums. *The Plan Journal 1*(2), 319–33, doi:10.15274/tpj.2016.01.02.04.

Cavalcanti, A. R. C. (2017a). Work, Slums and Informal Settlements Traditions: Architecture in the Favela do Telegrafo.*Traditional Dwellings and Settlements Review, 28* (2), 71- 81.

Cavalcanti, A. R. C. (2017b). The Knowledge of Masons in the Informal Settlement: An approach. Dangerous Landscapes. Hannover, October, 2017.

Cavalcanti, A. R. C.(2017c). The Knowledge of Masons in the Informal Settlement Dangerous Landscapes. Hannover, October, 2017. Speech of award reception. Retrieved from: https://www.youtube.com/watch?v=l4J9pyGo3ew\

Cavalcanti, A. R. C.(2018). Work as a Housing Right: the Transfer of Inhabitants from Favelas to Social Housing. *Traditional Dwellings and Settlements Review, 306*, Housing and Social Change.

Cavalcanti, A. R. C. (2015). 'Escola de Arquitetura da Favela'. *Vitruvius.* Retrieved from:http://www.vitruvius.com.br/revistas/read/minhacidade/16 [Accessed 20 December 2017]

Choay, F. (1969). *The Modern City, Planning the 19th Century.* New York: George Braziller.

Choay, F. (1965). *L'urbanisme, utopies et réalités.* Une anthologie. Paris: Editions du Seuil.

Cricco G. , DiTeodoro, P. (2002).La Citta Quattrocentesca Fra Medioevo e Rinascimento. Gli Esempi Di Firenze e Roma, in *Itinerario Nella Città.* Modena: Zanichelli.

Dicionario di Lingua Italiana Educalingo. Accessed 10 november 2016. Retreived from: https://educalingo.com/en/dic-it/bottega [Acessed 12 November 2017]

Droste, M. (2015). The Bauhaus: 1919 - 1933 : Reform and Avant-Garde.Taschen America Llc.

Frampton, K. (1980). *Modern Architecture: A Critical History* (World of Art). London: Thames and Hudson Ltd, 1980.

Frampton, K. (1980). Le Corbusier and the Ville Radieuse 1928-46. In: *Modern Architecture: A Critical History.*London: Thames and Hudson Ltd,179-181.

Fourier, C. (1849) *L'harmonie Universelle Et Le Phalanstere.* Paris: Phalanstérienne, Librairie.

Governo do Estado de Alagoas (2017). *Alagoas Feita a Mão.* Maceió: Graciliano Ramos.

Jacobs, J. (1969). *The Economy of Cities.* New York, Vintage Books.

Le Corbusier(1935). *La Ville Radieuse: éléments d'une doctrine d'urbanisme pour l'équipement de la civilisation machiniste.* ed. Editions de l'Architecture d'Aujourd'hui. Paris. First published in 1935 under the title of: La ville radieuse : éléments d'une doctrine d'urbanisme pour l'équipement de la civilisation machiniste, Paris, Éditions de l'Architecture d'aujourd'hui, coll. 'de l'équipement de la civilisation machiniste.'

Le Corbusier (1957). *La Charte D'Athènes.*Paris: Les Editions de Minuit. Written in 1941 and first published in 1943 under under edition from Le groupe CIAM-France.

Le Corbusier (1959). *Les trois établissements humains.* Paris: Les Editions de Minuit. First published in 1945, under edition of Le Corbusier et Bézard, Commelin, Coudouin, Dayre, Hya, Dubreuil in Paris by Denoël.

Le Corbusier (1963). *Manière de Penser l'urbanisme.* Paris: Denoël. First published in 1946 in Paris, by Denoël.

Le Corbusier (1985). *Towards a New Architecture.* Paris: Dover. First published in 1923, edited by Le Corbusier–Saugnier under the title of Vers une architecture, in Paris, by Les Editions G. Crès et Cie.

Madden, D. &; Marcuse, P (2016). *In Defence of Housing.* London: Verso.

Maynart, R. (2014). Sururu é registrado como Patrimônio Imaterial de Alagoas.Article published in *O Globo*, in December 11, 2014, http://gazetaweb.globo.com/portal/noticia-old.php?c=384042&e=6.

Mariz, R. (2018).Sol Nascente, a Favela de Brasília Que Caminha Para Se Tornar a Maior Do Brasil, Article published in *Época* in July 16, 2018. Retrieved from: https://epoca.globo.com/sol-nascente-favela-de-brasilia-que-caminha-para-se-tornar-maior-do-brasil-22882335.

McLeod, M. (1983). Architecture or Revolution: Taylorism, Technocracy, Social Change,"*Art Journal 43* (2) 17.

Morello,M. (2016). L'organizzazione Del Lavoro Nelle Botteghe Artigiane Tra XIII e XV Secolo, Il Contrato Di Apprendistato, *Historia et Ius Rivista Di Storia Giuridica Dell'eta Medievale e Moderna,10,*-2-32

Mumford, L (1961). *The City in History.* San Diego: Harcourt.

Perlman, J. (2010). *Four Decades of Living on the Edge of Rio de Janeiro.* New York: Oxford Univeristy Press .

Pini, A. I. (1986). *Citta, Comuni, Corporazioni nel Medioevo italiano,* ed. Bologna: Clueb.

Sennett,R. (2009). *The Craftsman.* New Haven: Yale Univ Press.

Tafuri,M. (1976) *Architecture and Utopia. Design and Capitalist Development.* Trans. Barbara Luigia La Penta. Cambridge: MIT Press.

Turner, J. F. C. (1976). *Housing by People: Towards Autonomy in Building Environments.* London: Marion Boyars.

United Nations Settlements Program (2016). *Urbanization and Development: Emerging Futures - World Cities Report 2016.* Nairobi: United Nations Settlements Program. Retrieved from: https://www.unhabitat.org/wp-content/ uploads/2014/03/WCR-%20Full-Report-2016.pdf [Accessed 20 December 2017]

United States of America, Central Intelligence Agency (2017). Cia World Factbook, 2017. Retrieved from: https://www.cia.gov/library/publications/the-world-factbook/.

Vitruvio Pollione (2002). *De Architectura.* Milan: BUR. Written around 27 BC and first published in 1486.

Winston, A. (2016). 'Architects are never taught the right thing says 2016 Pritzker laureate Alejandro Aravena, *Dezeen*, Retrieved from: https://www.dezeen.com/2016/01/13/alejandro-aravena-interview-pritzker-prize- laureate-2016-social-incremental-housing-chilean-architect/#disqus_thread. [Accessed November 2016].

Wolfe, T (1981). *From Bauhaus to our House.* New York: Farrar, Straus & Giroux.

7 Conclusions

"... Understanding, interpreting and addressing the needs of every inhabitant of the city is a duty of the architect that requires a change in education..."
Cavalcanti, 2019

This research endeavoured to answer a set of questions related to how space in informal settlements is shaped by the everyday activities of its inhabitants, and how this understanding can help planners and designers provide better solutions for redevelopment or resettlement of citizens, by providing designs and strategies that are culturally sensitive and place-bound. It did so by conducting an ethnographic investigation that included years of participatory observation in two Brazilian favelas located in the Northeast of Brazil, since 2008, followed by a post-occupation analysis after the residents of one of the favelas studied were resettled into formal housing units in 2010, through a time-series analysis.

The main methodology used to analyse the data of the research, the extended case study method, has allowed me to connect the data collected in the field to broader questions of human habitat, unveiling the spatial needs of the most deprived groups of society. Thus, the finding of the importance of labour to housing the poor brought by this thesis to the study of informal settlements and housing is not only valid to Brazilian Favelas and its inhabitants but may be generalised to informal settlements and its residents all over the world, as both the findings and challenges of this research were contextualized with the challenges and deficiencies of housing and informal settlements of other countries in the Global South and were connected to fundamental and universal needs of the poor (Chapter 2-3-5-6).

The main question of this research was to understand if and how labor, together with other social practices, influence the design of spaces in informal settlements. I have concluded that labor is a fundamental category to understand how spaces in informal settlements are shaped, planned and governed. Labor, among other basic social practices, shapes spaces and ultimately dictates how informal settlements emerge, consolidate and interact with the rest of the city. I hoped to understand these aspects into both their theoretical, intellectual and practical dimensions, which I believe should be the aim of any research, particularly that performed by planners and architects because of the nature of their profession, which is meant to both

observe and analyse how society and space interact in practice but also to frame and conceptualize ideas that will allow them to act in service of society by means of design and planning.

Hence, another issue tackled by this research refers to how architects must interact with those for whom they design for, in order to conjure spatial designs that dignify their ways of producing and using urban space. In other words, architects must understand how people make cities if they wish to help them make better cities. This has led to the following sub-research questions. Two questions that address the theoretical aspects of housing from a methodological perspective. The first refers on how the connections between social practices and space can be investigated in informal settlements. Thus it was seeked to interpret the spontaneous ordinary language of design of the spaces in favelas in a tool and an asset for architects and planners, unveiling new flexible spatial standards in informal settlements. Finally, the practice and responsibility of architects and planners facing such challenges were questioned with respect on how to address self-construction processes that emerge from the needs of residents.

Several conclusions were drawn by this research. First of all, the attributes that are currently used to define informal settlements do not address their entire complexity (Chapter 2). In fact, the lack of adequate construction and sanitation standards that are generally used to define slums are not sufficient to explain the spatial processes that were observed in the informal settlements studied in their complexity (Chapter 2).

Instead, this research has found that the everyday social practices of human beings producing, and populating space are of paramount importance (Chapter 1). These are practices related to residents' self-esteem, intimacy, inhabitation of the dwelling, communal practices of solidarity, to self-reliance, to community ties in the sphere between private, public and shared spaces, to labor (Chapter 4). And from those everyday practices, labor practices are the most crucial.

According to the findings of my research, I conclude above all that slums are primarily shaped planned and governed by the labor practices of their residents (Chapter 2, 3,4,5). First, in both settlements studied, houses, alleys and overall neighbourhoods are primarily defined by the citizens' working practices (Chapter 2). The façades, interiors, and backyards of the houses in these slums adapt to allow domestic life and work (Chapter 2).

Incremental spaces are constantly being added to include part time or fulltime work; they accommodate both domestic and working activities simultaneously (Chapter 3). Alleys are planned to follow the rationale of labor activities (Chapter 3).

In the *Favela Sururu de Capote*, alleys are straight to facilitate the process of fishing, manufacturing and commercialization of *sururu*, the small mollusc typical to the area; and in The Favela do Telégrafo, alleys are built to facilitate commercial and service activities (Chapter 2,3).

Work governs the logic of informal settlements. Residents usually prefer to set their business activities in the margins of the favela, next to the formal city, or in the main alleys of favelas (Chapter 2). Work prevails again and again (Chapter 2). Both settlements under scrutiny have emerged from the need of the first settlers (usually migrants from the countryside) to access work opportunities (Chapter 2). Those residents have considered the features of the terrain and nearby infrastructures, such as buildings, transportation nodes and other facilities, and natural resources available in the new settlements, following the rationale that they could offer them a source of income and survival (Chapter5). In the case of the *Sururu de Capote*, the lagoon was (and is) the most important source of income to a population composed by fisherman (men) and shell cleaners (women), and in the case of the Favela do Telégrafo, it was the proximity to a street market that allows the possibility of income generation to informal residents, and proximity to the city centre that offered formal work to a population greatly composed by masons (men) and domestic servants (women) (Chapter 3).

Work places the men and women living in the favela in the global economic flows of capital (Chapter 3). Labor practices in favelas influence the rest of the city, and have an impact in the world economy (Chapter 3). The work produced by the residents of the *Favela Sururu de Capote* is exported to other parts of the world, and the products traded and manufactured in the market of Jacintinho travel around Brazil (such as the famous *Feira de Caruaru*, a traditional market-town in the State of Pernambuco). The labor of masons, domestic servants, hairdressers and many more builds the economies of the formal city, and hawkers, peddlers and carters connect both informal and formal realms. (Chapter 3).

The fact that labor should be included in a new conceptualization and definition of slums explains the fact that current housing approaches that aim to resettle inhabitants of informal settlements in traditional housing estates mostly fail (Chapter 5). This was proved by one example of a resettlement of residents from a favela to a social housing designed by local authorities analysed in Chapter 5. Poor residents living in informal settlements and relocated to formal housing characterized by

improvement of the initial sanitary and structural conditions, but without considering the social practices of the prospect users. Users in this case started soon to bring back again the working practices originally performed in the slums (Chapter 5). In fact, these working activities are still the only source of income for the residents, and are used to pay the monthly instalment of the newly received housing unit (Chapter 5).

Thus, work as an analytical category is conceived in this thesis as a housing right (Chapter 5). Labor practices steam from the everyday need of residents to survive, thrive and self-affirm their existence as citizens, as men and women bearers of dignity within society (chapter 5). Therefore, in the thesis, practical solutions and models in which labor may be integrated within the domain of housing are elaborated and frame a new concept of housing for the poor, based on human production and livelihoods (Chapter 6).

I have explained that the favela is an urban ecosystem, and not a residual city, merely created for the purpose of residence of the poor in the city (Chapter 6). It is a 'city' born with the same exigencies of the cities, but it is constrained within the limits of the continence and, it is not actualized with the needs of the 'formal city' (Chapter 6). It is a state of primary order (Chapter 6). Which has been prevented in part from the aim of architects to follow the response (*pars construens*) to the assumption that slums are only spaces of lack of structure and sanitation (*pars desconstruens*) (Chapter 6). Hence, with this new epistemologic paradigm, I hope that architects understand that housing the poor means also restoring the integration between labor and homes, that existed since the beginning of human production, and that has been overlooked by modernism impetus, the determinism of architecture and planning practice, and the industrial modes of production (Chapter 6).

Overall, this doctoral research has gathered empirical and theoretical evidence that allows us to define slums as both an outspring and a nest of work practices, besides their particular sanitary and structural challenges (Chapter 2). Hence, these findings expand and re-conceptualize the theoretical frameworks about slums and raise questions on the scope of knowledge previously produced about this subject (Chapter 2). The aim is not to contest the current ontological definition of "slums" as spaces of poverty and lack of sanitation, because these characteristics are undeniable, but rather to consolidate and sow a new knowledge production and research practice that expands the current definition of slums to one that both shows and explains the complexities of slums, their emergence and expansion as spaces of labor, apart from residence, life and transformation of poor citizens in the city (Chapter 2).

Therefore, new epistemologies and pedagogic tools seemed to be needed to make visible what was invisible in the contexts of informal settlement, namely the social practices, highlighting their crucial influence on space production, so as to understand the real needs of the poor, seeking to reform the hierarchical and parochial, technocratic approach found in the literature of architecture and planning, and taught in schools of architecture. I claim we need to reformulate approaches concerning the study of poverty, and the spaces inhabited by the poor (Chapter 4). This is the favela pattern language I propose in Chapter 4. This is a pedagogic tool for understanding and learning the spaces of informal settlements from an ethnographic perspective, via drawings and descriptions of the everyday life of its residents (Chapter 4). It shows the correlation of social practices of residents with the spaces produced in several categories and contributes to the planning and design literature by unveiling and decodifying the production of space by the poor (Chapter 4).

Finally, this thesis discusses the role of the architect as investigator of spatial realities and as a scholar not only centred in questions of form, creativity, imagination and techniques, but also of humanity, sociology and anthropology (Chapter 1, Chapter 6). I believe the findings of this work call for a change in education in architecture, meaning to unveil the needs of deprived persons living in society (Chapter 6). Understanding, interpreting and addressing the needs of every inhabitant of the city is a duty of the architect that requires a change in education, claiming to recover the role of architect as investigator of spatial realities (Chapter 6). (fig.7.1)

FIG. 7.1 Picture of a workshop of the *School of Favela Architecture* (2009-ongoing) in the Favela do Telégrafo. Source: Ana Rosa Chagas Cavalcanti, 2014.

References

Abrams, C. (1964). *Housing in the Modern World.* London: Faber and Faber.

Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., & Angel, S. (1977). *A Pattern Language: Towns, Buildings, Constructions.* New York: Oxford University Press.

AlSayyad, N., & Roy, A. (Eds.). (2003). *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia.* Oxford: Lexington Books.

AlSayyad, N. (Ed.) (2004).*The End of Tradition?* London: Routledge, .

Angélil, M.; Hehl, R. (Ed) (2013). *Cidade de Deus–City of God.* Berlin: Ruby Press.

Arabindoo, P. (2011). Rhetoric of the 'slum,'. *City 15,(6),* 636–46. Doi:10.1080/13604813.2011.609002.

Arabindoo, P. (2011). Beyond the return of the 'slum.' *City, 15*(6), 631–635.Doi:10.1080/13604813.2011. 644750.

Aravena, A. Iacobelli, A (2009). *Elemental: Incremental Housing and Participatory Design Manual.* Berlin: Hatje Cantz.

Aravena, A. (2013).Alejandro Aravena: The Uncommon Sense and the Economy of Sustainable Construction, [Video of lecture on the 4th Holcim Forum in Mumbai, 40:37, as posted in June 2013]. Retrieved from: https://vimeo. com/68565110.[Accessed 8 June 2016].

Aravena, A. (2016) Reporting From the Front, [Video July, 2016] Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016. Retrieved from: https:// LSECiti.es/u32c6138a. [Accessed 20 November 2016].

Arendt. H. (1958). *The Human Condition.* Chicago: University of Chicago Press.

Armin, R., Bender, J., Macias, A. (2016). "The 50 Most Violent Cities in the World." *Business Insider.* Retrieved from: https://www.businessinsider.com/most-violent-cities-in-the-world-2016- 1?international=true&r=US&IR=T. [Accessed May, 16, 2016].

Avermaete, T. (2016).ABE 012: Cross-Cultural Practice in Architecture and Planning. 18/11/2016. [Powerpoint slides]

Bacon, Francis, and Thomas Fowler. *Novum organum.* Oxford: Clarendon Press, 1889. Originaly published in 1620 under the title of: *Novum Organum. Or, True Suggestions for the Interpretation of Nature*, by unkown (treatise).

Banerjee A., & Duflo, E. (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.*New York: Public Affairs.

Benevolo, L. (1980). *History of Modern Architecture.* Massachusetts: The MIT Press.

Berenstein Jacques, Pa (2001). *Estética Da Ginga: A Arquitetura Das Favelas Através Da Obra de Hélio Oiticica.* Salvador: Casa da Palavra.

Boano, C. (2016). Bajo Escasez. ¿Media Casa Basta? Reflexiones sobre el Pritzker de Alejandro Aravena.". *Revista de Arquitectura 21*(31), 37-46.

Bo Bardi, L. (1994). *Tempos de Grossura: O Design No Impasse.* São Paulo: Instituto Lina Bo e P. M. Bardi.

Bonduki, N. (2012). *Cem Anos de Política Pública No Brasil -Volume 1* .São Paulo: Edusp. 79-81.

Bonduki, N. (2013). *Os pioneiros da Habitação Social*, Volume 1. São Paulo: Edusp.

Bloomberg (2012). Garrabrant Says Brazil Housing Market Is 'Very Strong',[Bloomberg online channel] . Retrieved from: https://www.youtube.com/ watch?v=tnn7RPTIA_k. [Acessed June 8, 2016]

Brazil, Instituto Brasileiro de Geografia e Estatística - IBGE (2011). *Aglomerados Subnormais - Primeiros Resultados.* Brasília, IBGE.

Brazil, Maceió, Secretaria Municipal de Planejamento (2008). *Código de Edificações e Plano director da Cidade De Maceió* (Published building code from the city of Maceió). Maceió: SEPLAN.

Brazil, Ministério das Cidades (2010). *Déficit Nacional de Habitação no Brasil.* Brasília, MINC.

Brazil, Ministério das Cidades(2010).*Urbanização de Favelas: A Experiência Do PAC.*Brasília, MINC.

Brazil, Instituto Brasileiro de Geografia e Estatística (2011) - IBGE. BOG 2010 (17/06/2011) - SISTEMA DE DELIMITAÇÃO DE SETORES - TABELA DE AGLOMERADOS SUBNORMAIS.Unpublished internal document, IBGE.

Brazil, Instituto Brasileiro de Geografia e Estatística (2015). Estimativas Da População Residente Nos Municípios Brasileiros Com Data de Referência 1 de julho de 2015. *IBGE*.Retrieved from:ftp://ftp.ibge.gov.br/Estimativas_de_Populacao/Estimativas_2015/estimativa_2015_TCU_201 0211.pdf

Brazil, Instituto de Pesquisa Econômica Aplicada (Ipea), (2015). Atlas do Desenvolvimento Humano no Brasil. Retrieved from: http://atlasbrasil.org.br/2013/. [Accessed 20 February, 2018].

Brazil Investment Guide (2013), Real Estate Speculation in Brazil´s Favela Communities [Youtube video posted on the 14 March 2013]. Retrieved from: https://www.youtube.com/watch?v=QIIOCQdpJAk. [Accessed 18 March 2016].

Brenner, N. (Ed.) (2014). *Implosions, Explosions: Towards a Study of Planetary Urbanization.* Berlin: Jovis.

Brenner N., Ibanez, D. (2014). Globalization as Reterritorialization, 15 Years Later: Daniel Ibanez in Dialogue with Neil Brenner on the Rescaling of Urban Governance [Harvard Theory Lab/Video, 20:54] . Retrieved from: http://www.urbantheorylab.net/videos/. [Accessed 20 July 2015].

Brillembourg, A., Feireiss K., Kumpner, H. (Eds.) (2005). I*nformal City: Caracas Case.* Zurich: Prestel Verlag.

Burawoy, M. (1998). The Extended Case Method. *Sociological Theory, 16*(1), 3-33. Doi:10.1111/0735-2751.00040.

Burdett. R., & Sudjic, D. (Eds.) (2007). *The Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society.* London: Phaidon.

Burdett, R, & Sudjic, D. (Eds.) (2011). *Living in the Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society.* London: Phaidon.

Castells, M. (1977).*The Urban Question: A Marxist Approach.* London: Edward Arnold.

Caldeira, T., & Holston, J. (2015). Participatory urban planning in Brazil. *Urban Studies, 52*(11), 2001- 2017.

Carlos, A. F. A. (1994). *A Reprodução do Espaço Urbano.* São Paulo: Edusp.

Cavalcanti, A. R. C.(2009). *Dos Calejados Pés, Os Passos Dos Filhos de Mãe Lagoa: A Invenção Do Espaço a Partir Dos Ritos Do Sururu* (Graduation Thesis). Universidade Federal de Alagoas, Maceió, Brazil.

Cavalcanti, A. R. C.(2015). Escola de Arquitetura da Favela. *Vitruvius.* Retrieved from:http://www.vitruvius.com.br/revistas/read/minhacidade/16. [Accessed 20 December 2017]

Cavalcanti, A. R. C. (2016). Critical Roles of Architecture: The Endemic of Labor in the Favela Dwelling system: Towards an Architecture Autonomy, Presented at Critic|all Conference, Architecture Out-tonomy, Madrid, 2016.

Cavalcanti, A. R. C.(2016). How Does Work Shape Informal Cities ? The Critical Design of Cities and Housing in Brazilian Slums. *The Plan Journal 1*(2), 319–33, doi:10.15274/tpj.2016.01.02.04.

Cavalcanti, A. R. C. (2017). Work, Slums and Informal Settlements Traditions: Architecture in the Favela do Telegrafo. *Traditional Dwellings and Settlements Review. XXVIII*(2): 71-81.

Cavalcanti, A. R. C.(2017). The knowledge of Masons in the Informal Settlement: An approach. Dangerous Landscapes. Hannover, October, 2017.

Cavalcanti, A. R. C. (2017). The knowledge of Masons in the Informal Settlement. Dangerous Landscapes. Hannover, October, 2017. Speech of award reception. Retrieved from: https://www.youtube.com/watch?v=l4J9pyGo3ew\

Cavalcanti, A. R. C. (2018). Work as a Housing Right: the Transfer of Inhabitants from Favelas to Social Housing. *Traditional Dwellings and Settlements Review 306* (Housing and Social Change).

Certeau, M. de (1990). *L'invention du quotidien 1: Arts de Faire.* Paris: Gallimard.

Chatterjee, P. (2012). After Subaltern Studies. *Economic and Political Weekly, XLVII*(35), 44–49.

Choay, F. (1969). *The Modern City, Planning the 19th Century.* New York: George Braziller.

Choay, F. (1965). *L'urbanisme, Utopies et Réalités*, *Une anthologie.* Paris, Editions du Seuil.

City Mayors Foundation (2015). The world's fastest growing cities and urban areas from 2006 to 2020. Retrieved from: http://www.citymayors.com/statistics/urban_growth1.html [accessed July 20, 2015].

Clos, J. (2016). The Case for Planning. Video [July 2016], Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016.Retrieved from: https://lseciti.es/u50c213d7. [Accessed 1st July 2016].

Cricco G. , DiTeodoro, P. (2002). La Citta` Quattrocentesca Fra Medioevo e Rinascimento. Gli Esempi Di Firenze e Roma, in *Itinerario Nella Città.* Modena: Zanichelli.

Da Fonseca, E. G. (2016). O Brasil ideal não é um país do hemisfério norte: Temos que valorizar nosso dom de celebrar a vida, *El País*, July 26, 2016. Retrieved from: http://brasil.elpais.com/brasil/2016/07/22/politica/1469207930_487623.html. [Accessed July, 26, 2016]

Davis, M. (2006). *Planet of Slums.* London: Verso.

Deleuze G. Guatarri, F. (2001). *A Thousand Plateaus: Capitalism and Schizophrenia.* Minneapolis MN (USA): University of Minnesota Press. Originally published as '1000 Plateaux Capitalisme et Schizophrenie' in 1980 by Les Éditions de Minuit, Paris.

Dicionario di Lingua Italiana Educalingo. Accessed 10 November 2016. Available at: https://educalingo.com/en/dic-it/bottega [Acessed 12 November 2017]

Droste, M. (2015). *The Bauhaus: 1919 - 1933 : Reform and Avant-Garde.* Taschen America Llc.

Engels, F. (1982). *The condition of the working class in England in 1944*, trans. Florence K. Wischnewesky. London: Swan Sonnenschein. Originally published in 1845 by Otto Wigand, Leipzig Germany.

FAO (2011). *Exigibilidade: Mechanisms to Claim the Human Right to Adequate Food.* Rome: FAO.

Fernandes, E. (2011). Regularization of Informal Settlements in Latin America. Policy Focus Report published by *Lincoln Institute of Land Policy.* Retrieved from: https://www.lincolninst.edu/sites/default/files/pubfiles/regularization-informal-settlements-latin- america-full_0.pdf. [Accessed October, 10, 2015].

Fourier, C. (1849) *L'harmonie Universelle Et Le Phalanstere.* Paris: Phalanstérienne, Librairie.

Frampton, K. (1980). *Modern Architecture: A Critical History* (World of Art). London: Thames and Hudson Ltd.

Frampton, K. (1980). Le Corbusier and the Ville Radieuse 1928-46. In: *Modern Architecture: A Critical History.* London: Thames and Hudson Ltd.

Freyre, G. (1946). *The masters and the slaves (Casa-grande & senzala) a study in the development of Brazilian civilization.* New York: Knopf.

Gattoni, G. (2016). A Case for the Incremental Housing Process in Sites-and-Services Programs and Comments on a New Initiative in Guyana, Washington. *Inter-American Development Bank.* Retrieved from: http://web.mit.edu/incrementalhousing/articlesPhotographs/pdfs/IDB_Guyana_SSIncremental.pdf. [Accessed May 12, 2016].

Gazeta de Alagoas (2013). Cidade Sorriso vira pesadelo para famílias. Article published in the *Gazeta de Alagoas* on 03 March 2013. Retrieved from: http://gazetaweb.globo.com/gazetadealagoas/noticia.php?c=218862. [Accessed November 2, 2013].

Gilbert, A. (2007). The Return of the Slum: Does Language Matter? *International Journal of Urban and Regional Research, 31*, 697-713.Doi: 10.1111/j.1468-2427.2007.00754.x

Governo do Estado de Alagoas (2017). *Alagoas Feita a Mão.* Maceió: Graciliano Ramos.

Harvey, D. (2006) The Right to the City. *Interventions: International Journal of Postcolonial Studies 7*(3), 321–25, https://doi.org/10.1080/13698010500268189.

Harvey, D. (2013). *Rebel Cities: From the Right to the City to Urban Revolution.* London: Verso Books.

Holston, J. (2007). *Insurgent Citizenship: Disjunctions of Democracy and Modernity in Brazil.* Princeton: Princeton University Press.

Jacobs, J. (1969).*The Economy of Cities.* New York, Vintage Books.

Kitchin, R, and Gill V. (2007). *Key Thinkers on Space and Place.* London: Sage, 2004.

Latour, Bruno (2005). *Reassembling the Social: An Introduction to Actor Network Theory.* New York: Oxford University Press.

Le Corbusier(1935). *La Ville Radieuse: éléments d'une doctrine d'urbanisme pour l'équipement de la civilisation machiniste.* ed. Editions de l'Architecture d'Aujourd'hui. Paris. First published in 1935 under the title of: La ville radieuse : éléments d'une doctrine d'urbanisme pour l'équipement de la civilisation machiniste, Paris, Éditions de l'Architecture d'aujourd'hui, coll. 'de l'équipement de la civilisation machiniste.'

Le Corbusier (1957). *La Charte D'Athènes.* Paris: Les Editions de Minuit. Written in 1941 and first published in 1943 under under edition from Le groupe CIAM-France.

Le Corbusier (1959). *Les Trois Établissements Humains.* Paris: Les Editions de Minuit. First published in 1945, under edition of Le Corbusier et Bézard, Commelin, Coudouin, Dayre, Hya, Dubreuil in Paris by Denoël.

Le Corbusier (1963). *Manière de Penser l'urbanisme.* Paris: Denoël. First published in 1946 in Paris, by Denoël.

Le Corbusier (1985). *Towards a New Architecture.* Paris: Dover. First published in 1923, edited by Le Corbusier-Saugnier under the title of Vers une architecture, in Paris, by Les Editions G. Crès et Cie.

Lee, J. (Ed.) (2015). World Migration Report, International Migration Organization. Geneva: IOM Publishers. Retrieved from: https://www.iom.int/worldmigration-report-2015. [Accessed May, 10, 2016]

Lefebvre, H. (2014). *Il Diritto alla Città.* Verona: Ombre Corte. 34. Originaly published in 1968, under the title of 'Le droit à la ville,' by Éditions Anthropos, Paris.

Lopes de Souza, M. (2000). *O desafio metropolitano. A problemática socio-espacial nas metrópoles brasileiras.* Rio de Janeiro: Bertrand Brasil.

Lucan, J. (2012). *Où va laville aujourdhui?.*Paris: Editions La Villete.

McLeod, M. Architecture or Revolution: Taylorism, Technocracy, Social Change,*Art Journal 43*, no. 2,17.

Madden, D. & Marcuse, P (2016). *In Defense of Housing.* London: Verso Books.

Maynart, R. (2014) Sururu é registrado como Patrimônio Imaterial de Alagoas, *O Globo*, December 11, 2014, http://gazetaweb.globo.com/portal/noticia-old.php?c=384042&e=6.

Maricato, E. (2010). The Statute of the Peripheral City. In A. (org.). Carvalho, Celso Santos e Rossbach (Ed.). *The city statute of Brazil: a commentary*. São Paulo: Ministério das Cidades e Aliança de Cidades.

Mariz, R. Sol Nascente, a Favela de Brasília Que Caminha Para Se Tornar a Maior Do Brasil, *Época,* July 16, 2018, https://epoca.globo.com/sol-nascente-favela-de-brasilia-que-caminha-para-se-tornar-maior-do-brasil-22882335.

Marx, B.; Stoker, T., Suri, T. (2013). The Economics of Slums in the Developing World, *The Journal of Economic Perspectives, 27* (4),187–210.

Morello,M. (2016). L'organizzazione Del Lavoro Nelle Botteghe Artigiane Tra XIII e XV Secolo, Il Contrato Di Apprendistato, H*istoria et Ius - Rivista Di Storia Giuridica Dell'eta Medievale e Moderna*, no. 10, 2-32.

Mumford, L. (1961). *The City in History: Its Origins, Its Transformations, and Its Prospects.* New York: Harcourt. 281

Neuwirth, R. (2005). *Shaddow Cities: A Billion Squatters in the New World.* London: Routledge.

Patel S, & Arputham, J. (2008). Plans for Dharavi: Negotiating a Reconciliation between a State-Driven Market Redevelopment and Residents' Aspirations, *Environment & Urbanization 20* (1), 244-253.

Perlman, J. (2010) *Four Decades of Living on the Edge of Rio de Janeiro.* New York: Oxford Univeristy Press .

Pini, A. I. (1986). *Città, Comuni, Corporazioni nel Medioevo Italiano.* Bologna: Clueb.

Rech. D. (2007). *Direitos humanos no Brasil 2: Diagnóstico e Perspectivas.* Rio de Janeiro: Ceris/MauadX.

Robinson, J., & Roy, A. (2016). Debate on Global Urbanisms and the Nature of Urban Theory. *International Journal of Urban and Regional Research, 40*(1), 181-186.

Rocco, R., & Van Ballegooijen, J. (2018). *The Routledge Handbook on Informal Urbanization.* London & New York: Routledge.

Rolnik, R. (2011). Democracy on the Edge : Limits and Possibilities in the Implementation of an Urban Reform Agenda in Brazil, *International Journal on Urban and Regional Research* 35(March), 239–255. Doi:10.11 11/j.1468-2427.2010.01036.

Rojas. E. (2008) Governance and City Making in South America'. Presentation at the Urban Age South America, São Paulo, 3-5 December. Retrieved from: http://downloads.lsecities.net/0_downloads/pdf_presentations/SaoPaulo/_conf/003_EduardoRojas.pdf. [Accessed, February 20, 2014].

Roy, A. (2009). The 21st-Century Metropolis: New Geographies of Theory, *Regional Studies 6* (6), 819–30. Doi: 10.1080/00343400701809665.

Roy, A (2004). Transnational Trespassings: The Geopolitics of Urban Informality. In Alsayyad, N. and Roy, A. (ed.), *Urban Informality: Transnational Perspectives from the Middle East, Latin America and Asia*, London: Lexinton Books.289-316.

Roy, A. (2005). Urban Informality: Toward an Epistemology of Planning. *Journal of the American Planning Association 71* (2) 147-158.

Salvador, Evilásio (2016). Perfil da Desigualdade e da Injustiça Tributária: com Base nos Declarantes do Imposto de Renda no Brasil 2007–2013. Brasília: INESC.

Sassen, S. (1991). *Global City: New York, London, Tokyo.* Princeton, NJ: Princeton University Press.

Sassen, S. (2015). Entrevista Saskia Sassen,Fronteiras do Pensamento [Video, 28:52],Retrieved from: https://www.youtube. com/watch?v=jlPq2eugt94. [Acessed November 9, 2015.].

Sassen, S. (2016). Global Capital and Urban Land, Lecture presented at London School of Economics. Retrieved from: https://LSECiti.es/u18fe1280.

Secchi, B. (2010). A Cidade Informal No Século 21,presentation at the seminar 'A Cidade Informal,' São Paulo: Sehab SP. Retrieved from: http:// cidadeinformal.prefeitura.sp.gov.br/ wp content/ uploads/2010/06/CONF_ BernardoSecchi.doc). [Accessed 13 October, 2013].

Sennett, R. (2009). *The Craftsman*. New Haven: Yale Univ Press.

Sennett, R. (2015). The World Wants More Porous Cities So Why Don't We Build Them?. Paper published at online newspaper *The Guardian Cities* on November 27, 2015. Retrieved from: https://www.theguardian.com/cities/2015/nov/27/ delhi-electronic-market-urbanist-dream. [Accessed November 27, 2015].

Simone, A. (2004). People as Infrastructure: Intersecting Fragments in Johannesburg. *Public Culture, 16*(3), 407–429. Doi: 10.1215/08992363-16-3-407.

Simone, A. (2016). Feral Urbanism,. Conference Urban Age by London School of Economics and Alfred Herrhausen Foundation at Venice Biennale, Venezia, 2016. Retrieved from: https://LSECiti.es/u2201130f. Accessed, November 9, 2016.

Sinha, A. (2004). Participant Observation: A Study of State Aided Self Help Housing in Lucknow, India. In A. G.Tipple and K. Willis (eds), *Housing the Poor in the Developing World: Methods and analysis, case studies and policy.* London and New York: Routledge.

Society for the Promotion of Area Resource Centers (2010). Dharavi. SPARC India. Youtube video, Published on March 17, 2010. Available from : https://www.youtube.com/watch?v=EUMMq7B_DDs. [Acessed, February, 4, 2012].

Souza, J. de. (2012). *Os Batalhadores Brasileiros: Nova Classe Média ou Nova Classe Trabalhadora?* Belo Horizonte: Editora UFMG.

Tafuri, M. (1976) *Architecture and Utopia. Design and Capitalist Development.* Trans. Barbara Luigia La Penta. Cambridge: MIT Press.

Turner, J. F. C. (1976). *Housing by People: Toward Autonomy in Building Environments.* New York: Pantheon Books.

United Nations (1948). *The Universal Declaration of Human Rights*,1948.Retrieved from: http://www.maitreyasangha.org/DOCS/2012-The Four Freedoms-UNCharter.pdf%0Ahttp://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng. pdf. [Acessed on 13 June 2017].

UN Habitat (2016). *Urbanization and Development Emerging Futures Key Findings and Messages, World Cities Report.* Nairobi: UN Habitat.

United States of America, Central Intelligence Agency (2017). Cia World Factbook, 2017, Retrieved from: https://www.cia.gov/library/publications/the-world-factbook/.

Urban Age. (2016). Shaping cities, la biennale di Venezia, 2016".Retrieved from: https://urbanage.lsecities.net/conferences/shaping-cities-venice-2016.[Acessed 28 November 2016].

Vitruvio Pollione (2002). *De Architectura.* Milan: BUR.

Weisner. T (1976). Kariobangi: the case history of a squatter resettlement scheme in Kenya. In Arens, W., editor, *A century of change in East and Central Africa*, The Hague: Mouton.

Winston, A. (2016). Architects are never taught the right thing says 2016 Pritzker laureate Alejandro Aravena.Interview with Aravena, *Dezeen.* Retrieved from: from: https://www.dezeen.com/2016/01/13/alejandro-aravena-interview-pritzker-prize-laureate-2016-social-incremental-housing-chilean-architect/#disqus_thread. [Accessed November 2016].

World Bank (2000). Dynamic Cities as Engines of Growth, (World Development Report 1999/2000, 2000), 129. Retrieved from: https://doi.org/10.1596/0195211243_Chapter6. [Accessed September 23, 2016].

World Bank (2018). *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle.* Washington: World Bank Group.

.

Index

Curriculum Vitae

Ana Rosa Chagas Cavalcanti

Date of Birth: 09 November 1985
Place of Birth: Maceió, Brazil

www.anarosachagascavalcanti.com

Tertiary Education

2015 - 2019 PH.D. in Architecture and Urbanism
Faculty of Architecture and the Built Environment
Delft University of Technology (TU Delft)
Delft, The Netherlands

2012 - 2013 International Second Level Master Degree (Dual Degree)
Faculty of Architecture and Urban Planning
University La Sapienza di Roma and École Paris-Val-de-Seine
Final grade: 110/110
Rome and Paris, Italy and France

2004 - 2009 Single Cycle Degree, Graduation in Architecture and Urbanism
Faculty of Architecture and Urbanism
Federal University of Alagoas
Thesis title: The Steps of the Sons of Mother Lagoon: the Invention of Spaces from
the Work of *Sururu* in the *Favela Sururu de Capote.*
Maceió, Brazil

Academic Experience

2015 – 2019   Researcher in the group 'Revisions: Changing ideals and Shifting Realities'
Coordinated by Prof. Tom Avermaete. Within the grant by CAPES in 2013. Title:
'Slums Shaped by Labour' at the Delft University of Technology (TU Delft)
Delft, The Netherlands

2018   Invited speaker and co-organizer of a workshop on 'labour and housing' at United
Nations Human Settlements Program from the United Nations. Title of the workshop:
'Housing and Labour in informal Settlements' at the Office of UN-Habitat in Alagoas
Maceió, Brazil

2017   Lecturer of 'Labour, informal settlements, and New Geographies of Knowledge'
at the event 'Urban Thinking Campus:UN-Habitat and the New Urban Agenda' at the
Delft University of Technology (TU Delft)
Delft, The Netherlands

2017   Lecturer of 'A Pattern Language of Self Construction: A pedagogic tool for the study
of spaces and social practices in the Brazilian Favelas' at Urbanism Department at
the Delft University of Technology (TU Delft)
Delft, the Netherlands

2017 – 2017   Teaching assistant for the course 'Global Housing Tutorial' at Architecture
Department at the Delft University of Technology.(TU Delft)
Delft, the Netherlands

2016   Lecturer of 'Mapping Techniques and Cartographies of Informal Settlements: the
Case of the School of Favela Architecture' at the workshop 'Housing in India', with
Yatin Pandya, at the Architecture Department at the Delft University of Technology
(TU Delft)
Delft, the Netherlands

2015   Lecturer of 'Mapping Techniques and Cartographies of Informal Settlements:
Transcripts of the School of Favela Architecture' at the Architecture Department at
the Delft University of Technology (TU Delft)
Delft, the Netherlands

2014	Lecturer of 'Private, Public, Shared Favelas' at the event organized by the Urban Lab of the University College of London, entitled 'Cities Methodologies', in 2014 at the University College of London (UCL) London, United Kingdom
2014 – 2014	Selected for the Summer school 'Thinking Cities' Tutors: J. Van Rijs (MVRDV), R. Reijhold (UvA), P. Bakker (MVRDV) Delft university of Technology (TU Delft) and University of Amsterdam.(UvA) Amsterdam, The Netherlands
2013 – 2013	Guest researcher at the Department of Urban Design at the Hamburg University Hamburg, Germany
2007-2009	Tutor at the course 'Studies of the Form' and 'History of Urbanization' and active member of 'EMCASA', a studio of technical assistance to unpriviledged people living in vulnerable areas of Maceió (Alagoas, Brazil) aiming at designing housing with the communities, organized by students of the Federal University of Alagoas (UFAL) at the Faculty of Architecture at the Federal University of Alagoas (UFAL), Maceió , Brazil

Professional experience

2014 – 2019	Architect and Urbanist, Professional Register A90737-5 Brazil
2011 – 2011	Architect at Architect Studio 'Triptyque Architecture' (https://www.triptyque.com)', São Paulo and Paris, Brazil and France
2010 – 2010	Architect and Researcher at the Urban Design Office 'Bijari' (http://www.bijari.com.br), São Paulo, Brazil

Exhibitions, workshop and initiatives

2017 Ideator and co-organizer of both the Game and the Workshop titled 'Southopolis – a game on the design of affordable housing in the Global South'
Dutch Culture Institute. Het Nieuwe Instittut,
Rotterdam, The Netherlands

2017 Ideator and co-organizer of both the Game and the Workshop 'Southopolis – a game on the design of affordable housing in the Global South',
Social housing festival, Het Schip Museum.
Amsterdam, The Netherlands

2016 Invited Exhibition: 'Work Manifesto in Informal Settlements'
University of Waterloo.
Waterloo, Canada.

2015 Selected Exhibition: 'Favela Drift'
Biennial of Public Spaces, 2015.
Rome, Italy.

2015 Data contribution on the city of Maceió to the report 'How Cities are Governed?' of the project 'Urban Age'. The report was presented at 'Habitat III' (Quito, Peru),
London Schooll of Economics (LSE) and Alfred Heerhausen Society

2014 Selected Exhibition: 'Favela Transcripts of Everyday Life'.
at the event 'Cities Methodologies 2014' from 'UCL Urban Lab' at
University College of London (UCL)
London, 2014

2014 Ideator, founder and organizer of the 'School of favela Architecture' a space to discuss architecture with the residents of the Favela do Telegrafo.
Maceió, Brazil

2014 Creator and designer of 'Pop up Passage', urban public installation
Maceió, Brazil

2015 Ideator, builder, and organizer of the workshops on self construction 'Open Library' within the activities of the School of Favela Architecture
Maceió, Brazil

| 2014 | Ideator, Designer, Builder, and Architect of the 'Pop-Up Passage' a collaborative space in Brazil. Featured at the Architecture Magazine 'AU'. |

2014   Ideator, Designer, Builder, and Architect of the 'Pop-Up Passage' a collaborative space in Brazil. Featured at the Architecture Magazine 'AU'.
Link to online version of the interview in:
 (http://au17.pini.com.br/arquitetura-urbanismo/244/artigo318062-1.aspx)

2014   Co-ideator of the "Social Housing Festival", Amsterdam in 2017. An international festival and event to discuss and share experiences about social housing (past, present and future practices). Co-ideated with Nathalia Stepanova, Alessandra Sciurelo, Diana Bibisheva, Archena Mahabir, Fernanda Lessa, Arnold Reijndorp, Jacob van Rijs, Pepin Bakker, Megdelawit Yohannes, Carol Kan,Jamin Zheng. Amsterdam, The Netherlands

2013   Ideator, co-tutor and co-organizer of the workshop 'Kuechengarten/Gartenkuechen' (a bottom-up urban planning projec) for the Internationale Bauausstellung Hamburg in 2013 (IBA Hamburg 2013). Co-organization with the French Landscape and Architecture Studio 'Le Balto'
IBA Hamburg 2013
Hamburg, Germany

Recognition, mentions and awards (2016-2019)

2018   Mentioned in the 'Bartlett Yearly Review 2018', The project '*Pop-up Passage*' and the exhibition '*Favela Transcripts of Everyday Life*' were showcased.
University College of London (UCL)
London, United Kingdom

2018   Invited speaker and co-organizer of workshop entitled '*Labour and Housing*' at UN-Habitat
UN Habitat Alagoas
Maceió, Brazil

2018   Interview to Geraldo Camara about housing projects in Brazil on 19 January 2018.
Brazil

2017   Winner of the Award for '*best young researchers in the field of dangerous landscapes*', Herrenhausen Conference/Grant.
Volkswagen Foundation.
Hannover, Germany

2016   Winner of the '*Jeffrey Cook Award*', Best Paper Award by PhD student at the IASTE Conference, Berkeley University, 2016
Kuwait City, Kuwait

2015   Winner of the Fellowship '*Author Meet Critic*s'. '*International Journal of Urban and Regional Research' (IJJUR).*

2015   Winnner of the Fellowship '*Wonhungsfrage Academy*'.
Columbia Buel Centre and Haus der Kulturen der Welt
Berlin, Germany.

2014   Interviewed for seminal architecture magazine in Brazil '*AU magazine*' (Brazil) about *Pop-Up Passage* a collaborative space.
Link (online version of the magazine): http://au17.pini.com.br/arquitetura-urbanismo/244/artigo318062-1.aspx

2013   Winner of the 'Ph.D. Scholarship' grant '*Science wihtout Borders*' from Ministry of Brazilian Education and CAPES.

2012   Winner of the 'First Prize in the International Competition' '*72 Hours Urban Action'* (72HUA), a competition focused on real time participatory planning and self construction.
Terni, Italy.

2009   '*OPERA PRIMA*' nominee (Prize for Best Graduation Research on Architecture in Brazil). OPERA PRIMA.

Language

Portuguese -Native or Bilingual proficiency
French - Native or Bilingual proficiency
Italian - Fluent
English- Fluent
German -Professional Working proficiency
Spanish - Limited Working proficiency
Dutch - Limited Working Proficiency

List of Publications of the Author

(2015–2019)

Journal papers

2019   Ana Rosa Chagas Cavalcanti, Tiziano Li Piani. "Housing by People and Work: Design Principles for Favelas residents in Economies of Commerce and Service." The Plan Journal Volume 4, Number 1 (2019). Doi: 10.15274/tpj.2019.04.01.3

2018   Ana Rosa Chagas Cavalcanti. "Work as a Housing Right: The Transfer of Residents from Favela to social Housing.", Traditional Dwellings and Settlements Review. Volume 306 (Housing and Social Change).

2017   Ana Rosa Chagas Cavalcanti, 'Work, Slums and Informal Settlements Traditions: Architecture of the Favela do Telegrafo'. Traditional Dwellings and Settlements Review (2017) Volume XXVIII, Number 2 (2017): 71-81.

2016   Ana Rosa Chagas Cavalcanti. 'How Does Work Shape Informal Cities: The Critical Design of Cities and Housing in Brazilian Slums'. The Plan Journal, Volume 1, Issue 2 (2016): 49 63. Doi:10.15274/tpj.2016.01.02.04.

Online papers

2017   Ana Rosa Chagas Cavalcanti, 'A Pattern Language of Self Construction: a Pedagogic Tool to understand Spaces and Social Practices of Brazilian Favelas', Archdaily, 2017. https://www.archdaily.com.br/br/880403/uma-linguagem-padrao-da-autoconstrucao-ferramenta-para-compreender-os-espacos-e-as-praticas-sociais-das-favelas-brasileiras

TOC

2015   Ana Rosa Chagas Cavalcanti. "Pourquoi ne parvenons-nous pas à étudier les favelas comme un authentique système de logement social. Autres Brésils. Available at: http://www.autresbresils.net/Pourquoi-ne-parvenons-nous-pas-a-etudier-les-favelas-comme-un-systeme

2015   Ana Rosa Chagas Cavalcanti. 'School of Favela Architecture/Escola de Arquitetura da Favela'. Vitruvius. Available at: http://www.vitruvius.com.br/revistas/read/minhacidade/16.183/5764

2015   Ana Rosa Chagas Cavalcanti. 'Hence we will improvise: a claim for methods and approaches through the perspectives of dwellers.' Favelissues. Available at: https://favelissues.com/2015/01/31/hence-we-will-improvise-a-claim-for-methods-and-approaches-through-the-perspectives-of-dwellers/

Conference proceedings

2019   Ana Rosa Chagas Cavalcanti. 'Working and Dwelling. Solutions for (microentrepreneurs) residents living in informal settlements'. Shareland Doctoral Colloquium, ETH Wonhforum, ETH, 5 April 2019.

2017   Ana Rosa Chagas Cavalcanti. 'The Tools of the 'Architects' in Informal Settlements: The Case of the Builders of the Brazilian Favelas.' Proceedings of the European Architectural History Network Conference, Delft, 22-24 NOVEMBER 2017.

2017   Ana Rosa Chagas Cavalcanti. 'The knowledge of masons in Favelas: an approach to the built environment.' Volkswagen Foundation.

2016   Ana Rosa Chagas Cavalcanti. 'Favelas and the normative, institutional Social Housing System in Brazil'. International Planning History Society Proceedings, IPHS. 173-184. Delft, 2016. issn 2468-6948, volume 17.

2016   Ana Rosa Chagas Cavalcanti. The endemics of labour in the favela dwelling system: Architecture in the favela do Telegrafo. Criticall Conference.

Conference abstracts

2015   Ana Rosa Chagas Cavalcanti. 'Planning as curating everyday micro-contexts for a better public policy in the Favelas: The case of the Favela School of Architecture'. IV World Planning Schools Congress 2016 Proceedings. Rio de Janeiro, Brazil, 2016..

2015   Ana Rosa Chagas Cavalcanti. Favelas as a Heritage site. Conference ACHS in Montreal, Canada.

TOC

Urban informality shaped by labor

Addressing the spatial logics of favelas

Ana Rosa Chagas Cavalcanti

This doctoral thesis mainly consists of a series of journal publications written by the author between 2015 and 2019. The doctoral thesis presents the results of ten years of research on informal settlements, with particular reference to Brazilian favelas. The research aimed to understand the social dynamics of the production of space in these settlements. To this purpose, the author took residence in favelas and performed field research for a total of six years, including the witnessing of a resettlement process from a favela to a formal social housing development in the city of Maceió, in Brazil. The social dynamics that produces and influences the space of the favelas observed in the field were systematically codified in a new pedagogic tool by the author. As main findings from the analysis, it emerged that labor primarily shapes, plans and governs space in informal settlements. Working activities explain the emergence of these settlements, influence the dynamics of space inside the domain of the house, influence the shape of streets up to the margin of the favelas, but also has influence on city and global scales. From the residents' perspective, labor represents both a means to earn their subsistence, livelihoods and underscores their inner self-esteem as human beings. Working practices originally present in the favelas were in fact restored in the social housing development to where citizens were relocated, with their original domestic function. According to this thesis, labor practices of inhabitants of informal settlements must be addressed when designing housing solutions for deprived citizens fighting for their survival and must be considered as a housing right. The reasons why the current housing approaches do not contemplate work are understood in context and interpreted according to their historic and economic backgrounds. A housing architectural and planning approach aimed at restoring the combination of working and domestic functions of human beings is proposed instead.

A+BE | Architecture and the Built Environment | TU Delft BK