

AN INFORMAL LESSON:

A Journey through the World of Brazilian Favelas

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"Dwelling is about more than simply having a house; it is about a whole urban setting of infrastructure,

goods, and services that allows development for

individuals and communities"¹

¹ Mossop Elisabeth, The Favela-Bairro Project, Harvard University Graduate School of Design, Cambridge, 2003, p. 68

PERSONAL EXPERIENCE

"After three weeks spent living with the Brazilian population, I reached a new knowledge on aspects I have never thought would even exist. My experience is based on the help I have given towards the inhabitants of two favelas in the State of São Paulo: Santa Rita and Bairro Gaivota. Two places that strongly differed from each other, firstly due to their geography: one going up the hill, the other one flat next to the ocean. This factor shaped the community and their houses, created different problems to be solved, as well as different opportunities to get. The materials the houses and streets are made of are various and in constant development. In the favela of Santa Rita, the government is building a tower of flats, interrupting the rhythm created by the population and causing their relocation in temporary houses of worse conditions. I have spent a lot of my time going around their houses, and I was always happily hosted by the people. They would offer food and drinks, and I was pleased to find a sense of order and care for their home. Pictures of their sons were all around the house, creating a warm family atmosphere. The furniture was set carefully creating different and functional spaces, sometimes forgotten in our homes. I was surprised to find in most of the houses televisions of good condition; I felt that it was more important to have an immediate comfort rather than a better place in some future. If there are no better choices, is it better to live in a nice atmosphere but in a favela, or to live in a worse house but in a normal neighborhood? In the favela of Bairro Gaivota there are big houses owned by people that use them as holiday homes. Few years ago, most of the houses were made of cardboard and wood, while now their inhabitants are slowly remaking them with bricks, as they earns the money to buy the material.

The outside spaces are kept cleaned and used for most of the day by everyone. There is a sense of community that respects the environment and that shapes it. In Santa Rita, the sisters of San Francesco di Sales have built a community center where kids can go before and after school to play and eat: the food is voluntary given by wealthy families to help the poor. The cookers are voluntary people as well who, pushed by a community moral, spend their time to improve the favela. In Bairro Gaivota also, a center for elders and a rehab are kept by their inhabitants for free. I was surprised to see how good these centers work and the care the people give every day to them. The use of the outside spaces, fully used by people of different ages in different ways, shows the flexibility of these spaces, carefully thought because built by the same people that live there. In its chaotic appearance, there is order and coherence."

(August 2012)²

² Author's journal, Rome, august 2012

INTRODUCTION

"Today, over 75% of the total population lives in towns"³. Since 1940, the scenario has been completely reversed. Migration from the northern regions of Brazil to the southern ones has massively increased, causing a lack of housing organization by the federal government. The flow of people, together with a demographic growth created a scenario of poverty and a forgotten mass: "while the overpopulation in poor nations tends to keep them poverty-stricken, overpopulation in rich nations tends to undermine the life-support capacity of the entire planet"⁴. Over the past few decades though, Brazil, unlike other developing countries such as China with its birth control policies, dropped their fertility rate to 2.36 children per family⁵ driven by women's choices, not policies. This can be seen as a direct consequence of the growth of the life wealth and of the improvement of education, their main priority. It is a great sign that this country is finally ready for a major development and change.

My journey in Brazil and in the world of the *favelas* led me to the conclusion that it is a complicated universe and that we will never fully understand its dynamics. Nevertheless, the energy and hope these people transmitted helped me consolidating the idea for a possible better future. My dissertation wants to be a positive voice that shows the capacity of the inhabitants of *favelas* to build something coherent and useful, despite careless policies and the violence these places represent. Through a historical excursus I will examine the actions taken by the governments and architects that worked on the so called "informal settlements". Several failures, shown in this paper, will lead to the conclusion that it is not possible to create a good urban solution, for such a controversial situation, without fully understanding its population and their needs. In an architectural scenario, the anthropological view should play an important role. It is time to combine the art of architecture with other disciplines and to push them to their extremes. In order to achieve it, a good start is by collaborating with the population that will beneficiate from it; to build something beautiful shaped on their beliefs and routines, rather than on standard ones. Finally, to look at the *favelas* as something to develop by celebrating their identities and their community, and not as a problem to demolish.

³ Happe Barbara, "National Contexts: Brazil" in *Poverty and Democracy: Self-Help and Political Participation in Third World Cities*, Berg-Schlosser Dirk, Kersting Norbert (Edited), Zed Books, New York, 2003, p. 26

⁴ Ehrilich Paul R., *Population, Plenty, and Poverty*, National Geographic Magazine, December 1988, p. 916

⁵ Gorney Cynthia, *Girl Power*, National Geographic Magazine, September 2011, p.73

THE FAVELADOS

"This encouragement of the people to act on their own behalf may be seen as the catalytic effect of a development project"⁶

(Lawrence F. Salmen)

From the legal point of view, *favelas* are settlements whose ownership is not legally registered. The term also refers to a series of stereotypes and social stigma such as violence, un-education and anti-social behavior: consequences due to survive in a place outside the government's administration, and therefore, outside its defense. The reasons why the first *favelas* were built are multiple: political actions and historical situations left people with no other choice of survival but to take over private lands. In 1888 slavery was abolished in Brazil, the last nation in the hemisphere to do so^7 . The slaves, who used to live in their owners' houses, were left with no place to stay and having no option for housing, they were forced to build their own. In 1889 Brazil was proclaimed a Republic. In 1898 the first informal settlement was built by "Bahian veterans of the military campaign against mystic rebel Antonio Consegheiro."⁸ The origin of the word "favela" comes from the local cactus that grew on the hill these veterans settled in⁹. In 1930s, Brazil underwent a period of industrialization, during which the government's priority was mainly focused on economic development rather than its social effects. Because the creation of industrial centers was not followed by parallel housing policies for poor workers coming from the countryside, the net result was the increase of the informal settlements. The 1940s were indeed the era of the explosive growth of *favelas*. People migrated from the countryside towards the metropolis, especially Rio de Janeiro and São Paulo. The housing crisis forced the population to build hundreds of slums in the suburbs and, in the case of Rio, up the hill. The *favelados* (as the inhabitants of these settlements are called), who also are referred as the invisible people, were forgotten and hidden by the government, and for many years were not even registered. In addition to that, since the settlements were illegal, many researchers have assumed that "the shantytowns have no written history and that historians must rely on anecdotal evidence from residents and information on squatter life"¹⁰, which makes the understanding of the favelas even more difficult. In 2001 the Estatudo da Cidade (Brazilian National City statute 10.257) establishes to "normalize the legal status of favelas by granting the inhabitants ownership of the land under

⁶ Salmen Lawrence F., *Bridging Diversity: Participatory Learning for Responsive Development*, The International Bank for Reconstruction, 2006, p. 55

⁷ Mann Charles C., Hecht Susanna, *Maroon People*, National Geographic Magazine, April 2012, p. 90

⁸ Pino Julio Cèsar, *Sources on the History of Favelas in Rio de Janeiro*, Greenwood Press, Westport Connecticut, 1997 p. 111 ⁹ Ibidem

¹⁰ Ibidem, pg. 111-112

their house plots and compensating the previous owners"¹¹. This has been a great change allowing the development of infrastructure in the settlements and the legal recognition of the population.

The industrial development and the country growth have led to the division of the economy in two circuits: the formal and the informal, directly and indirectly. This causes different benefits for the two parts of the society, differences regarding technology, organization and salary.

"No existe, sin embargo, dicotomìa entre lo formal y lo informal, y asì, en lìnea con lo expuesto, no puede hablarse de un dualism econòmico, porque ambos sistemas de flujos tienen el mismo origen y estàn entrelazados"¹²

The economy is why the *favelados* are not marginalized from Brazilian society, why they play an essential role in it, running jobs at the base for the growth of the country. The myth of marginality is what the government has been using to explain the phenomena of slums and to not find a concrete solution. When I went to visit the families living in the *favelas*, most of the fathers were carpenters, which is also why they can build their own houses wisely.



Figure 1: Rio de Janeiro from the favelas point of view. The settlements are strictly part of the city texture

¹¹ Blum E., Neitzke P., *Before Satellites, favelas as self-organizing system: Rio de Janeiro and São Paulo*, Architectural Design VOL 75; NUMB 6, 2005, p. 35

¹² "it does not exist, however, a division between the formal and the informal, and yes, according to the text, we cannot talk of economic dualism, because both systems have the same origin and they are intertwined with each other" author's translation, Palmero Rafael Ruipèrez, ¿*Quien teme a los pobladores?*, Universidade national de Colombia sede Bogotà, 2006 p. 67

FAVELAS: ARCHITECTURAL FEATURES

The informal settlements are the direct outcome of their population lifestyle; it reflects on their houses, paths and public spaces. Nothing is built if not functional and necessary. It is a dynamic machine that keeps changing according to the people needs and possibilities. The houses, if firstly made of cardboard, are transformed into brick houses, as soon as enough money is earned. The internal spaces, as the family increases or changes, might be transformed as well. Paths and public spaces emerge according to the use, infrastructure are brought where needed and/or improved. As an example, the *favela* of Santa Rita, in São Bernardo do Campo, has houses going up the hill; most of the houses were first built out of cardboard and wood, but when a particular heavy rain season came, it destroyed most of them carrying the material away. When I visited this favela, just few houses were still in place, while the majority of them were rebuilt of bricks.



Figure 2-3: Comparison of two *favelas*: view of Santa Rita, São Bernardo do Campo (left), and of the "social hub" in Bairro Gaivota (right); they are both located in the State of São Paulo.

The different topography of the two settlements has let their inhabitants to make different decision from different possible solutions. The huge football field in Bairro Gaivota would be impossible to be recreated in Santa Rita, without major planning development. Though from the outside the houses look unfinished, they are fully furnished inside, and well organized. Internal walls are painted, as is the ceiling, and there are tiles on the floor. The use of color can be seen very often on the external walls or on the furniture. There is a pride the owners show about their homes, because built after sacrifices and according to their personal needs. Individuality is all over the *favelas* and everyone shows it in a different way; but at the same time, the shared spaces are the outcome of communal efforts and agreements.

If this order is seen on a small scale, it can also been observed on a larger one. In the *favela* of Rio das Pedras, Rio de Janeiro, the settlement "is organized according to a hierarchy of spaces defining places of political, economic and social power of the favela^{*13}: the power is concentrated in the old part of the settlement, in the center, "*cellula mater*", and the newer areas are build all around it, repeating at a greater scale its structure, creating a local identity. Family members live close to each other and the migration flow is composed by more relatives that feel safe to move here. There is therefore a cultural homogeneity that makes the community atmosphere very strong and unique. There is logic behind the settlement, although an apparent visual chaos. The position of the *favelas* is usually strategic: in the case of Catacumba for example, in Rio de Janeiro, the settlement is located within the city's fabric, convenient for its inhabitants, who are close to the work places and to the social life. The hierarchic division, in contrast with Rio das Pedras, is vertical: at the bottom of it, closer to the city, the area is considered "a calm and desirable place to live within the favela"¹⁴; while as we go up the hill, the safeness and income of the families gets lower, until the top. This hierarchy is translated to the architectural features: at the bottom the houses are built in bricks; while at the top, the most used material is still cardboard and wood. This is a consequence of the struggle people find to reach such places due to the topography of the city, where path and infrastructure are more difficult to be built. The help the government or associations should give should be wisely thought bearing in mind the dynamics that these places play and the importance of community these people have and embody.



Figure 4: Houses in the favela of Paciencia, Rio de Janeiro. The sloped roof allow the construction of extra space for sleeping lofts

¹³ Burgos Marcelo Baumann, A Utopia da Comunidade, São Paulo, 2002, p. 45, author's translation

¹⁴ Perlman Janice E., *The Myth of Marginality*, University of California Press, 1976, p. 25

REMOVALS

"Large organizations cannot use personal and local resources without standardizing and dehumanizing them"¹⁵

(John F. C. Turner)

The informal settlements, although dangerous, dirty and unpopular are people's homes. This is why during the 60s, when the government decided to take action, the inhabitants of the *favelas* did not want to move, even to a supposedly better place. The actions started in 1964, when the National Housing Bank was created. Its aim was "to direct, discipline and control the financing of a housing system promoting home ownership for Brazilian families, especially among low income groups"¹⁶. Important priorities were to eradicate the *favelas* and to promote private projects that could help solve the housing problem. From 1964 to 1972 a total of 875,000 housing units were financed by the bank¹⁷, providing a great boost and stimulus to the construction industry and to the employment. In 1973 the removal of the families living in the *favelas* of Rio de Janeiro began. Several settlements were destroyed and their inhabitants were moved to apartment blocks or provisional houses. In some cases the demolition created the space for these new core units, while in some others they were built outside the city, in a completely new environment. The resistance in most of the *favelas* led to violent responses from the government: an example is the burning of Praia do Pinto, 1969. After the fire of the original *favela*, 5 story blocks were erected in the same area, clashing with the surroundings: the new compound was locally called "selva do pedra" (literally jungle of stone).



Figure 5 (left): The morning after the burning of Praia do Pinto

Figure 6 (right): "Selva do Pedra"

¹⁵ Turner John F. C., *Housing by People: Towards Autonomy in Building Environments*, Marion Boyars, London, 1976, p. 102

¹⁶ Perlman Janice E., *The Myth of Marginality*, University of California Press, 1976, p. 201

¹⁷ Ibidem p. 204

The outcome was a total disaster. In the new districts, people were relocated on the basis of their income rather than their family relationships; most people had never lived in a 5 story flat before, and they were disturbed by the height. The National Housing Bank missed the most important point, at the base of the *favelados* lifestyle: the community atmosphere together with basic facilities before available for the population. "At first I missed the beach, the lagoon, the shops, everything- I still miss them...here there is nothing to do so I'll have to get married...there's no night life at all so I just watch television"¹⁸, these are the strong words of Jaqueline, a young woman relocated in a compound outside Rio de Janeiro. Her testimony is the proof of the alienation these constructions caused on the population and the insensitivity by the National Housing Bank to the needs of the *favelados*. "People who live in the projects repeatedly say there is more violence there than in the favela, more street fights, more maltreatment of children and less concern for others"¹⁹. One infamous example is the compound "Cidade de Deus" (literally the City of God) , consisting of 2,880 apartments pressed into 72 blocks²⁰. The materials the houses and streets were made of started to disintegrate after few years and during the night, there were no lights to illuminate the paths.



Figure 7-8: Cidade de Deus. The different types of building reflects the family income:

the smallest houses for the poorest, the apartment blocks for the wealthier ones.

In brief, the people relocation had some positive aspects, such as the availability of basic infrastructures missing in the *favelas* and of a safer environment where hazards like fires and landslides were absent; but in general, the lack of attention to the social aspects and the low quality of construction, made the favela removal project a complete failure, although full of important learning.

¹⁸ Ibidem p. 218

¹⁹ Salmen Lawrence F., "A Perspective on the Resettlement of Squatters in Brazil", *América Latina*, Rio de Janeiro, vol. 12, n. 1, March 1969, p.82

²⁰ Perlman Janice E., *The Myth of Marginality*, University of California Press, 1976, p. 228

"Em lugar de excluder, integrar"²¹

(Luiz Paulo Conde, about the Favela-Bairro program)

A much better and less destructive approach is the option taken during the same years as the removals, although less popular, by the CODESCO (Companhia de Desenvolvimento de Communidades)²². The corporation was composed by young architects, planners, economists and sociologists. "Rather than demolishing the favela, CODESCO sought to upgrade and legalize them, purchasing the land as a public entity and providing the best possible terms for resale to the favelados"²³. The group took under consideration three *favelas* with different geographical position: Bras de Pina, flat marsh land; Morro Uniao, steep hillside; and Mata Machado, with a rolling terrain. Subsequently, they divided up the lands into "urbanizable", "semi—urbanizable" and "non-urbanizable" according to the terrain, density and location. New areas and facilities were constructed, and the population was encouraged to design their own houses that would respond to their particular needs and necessities. Each house would so reflect all the different personalities and tastes of the residents, celebrating their individuality. Outside spaces that were previously infested with swamps, were all filled in. They also built outside public spaces, such as a football field and an open plaza with benches and trees. The projects were a great success among the population, enthusiastic of the changes.



Figure 9-10: Development in the *favela* of Bras de Pina, 1969

²¹ "Instead of escluding, integrate" author's translation, *Favela Bairro: uma Outra História da Cidade do Rio de Janeiro*, Viver Cidades, Rio de janeiro, 2004, p. XXVII

²² "Corporation for the development of the communities" author's translation

²³ Perlman Janice E., *The Myth of Marginality*, University of California Press, 1976, p. 236-237

Since 1992, the law of master plan, article 138, of the municipality of Rio de Janeiro states that "urban development policies will obey to the following precepts: urbanization, land regulation and registration of the areas occupied by the favelas and low income population without the removal of residents unless required because of physical limitations that put its inhabitants at risk"²⁴. This is great news for the *favelados* that would live in a state of less precariousness.

Taking a similar route as the CODESCO program and thanks to the article 138, between 1993 and 2000 the municipality of Rio de Janeiro created public competitions for private architecture offices. The "Favela-Bairro" (literally Slum-Neighborhood) was a huge development program "intended to integrate poorer areas by the physical and institutional transformation of Rio's slum areas into neighborhoods"²⁵, where the development of public spaces and the community identity is expressed according to its will. The primary steps were to achieve the entire infrastructure needed (water, electricity, sewage system, roads), together with the main public services, such as schools and nurseries. These actions are pretty much the same in all the 49 projects that took part to the development. Secondary steps, which easily differ from one *favela* to another, are the social spaces designed according to the particular community. The winning projects were the ones that formulated a flexible methodology and coherence in the solutions given; despite different point of views on the same sites, all of them wanted the inhabitants' participation. Although the Favela-Bairro was not focused on housing itself, a parallel project called Morar Sem Risco (living without any risks) ran alongside, focusing on the housing built in dangerous sites and also in developing some areas. The architects would decide to turn down some houses to give more space to a public work or paths. In this case the families were given the choice of either accept a new house in a different location, or to an equivalent amount of money. Nevertheless, only 5% of the total housing was allowed to be demolished in each design. Finally, a great sensibility was given to the environment and to its protection: the damages that the *favelados* made, in terms of deforestation, are huge. Thanks to the project and to a work of reforestation, it was possible to reset hundreds of hectares of the Mata Atlantica. A system for the collection of rain water was also installed, thus benefiting both the *favela* by reducing the risk of floods and deaths, and for the neighborhoods around, that would receive less rubbish and left-over materials dragged by the water. Within the same topic, a system of trash trucks was also included in the schemes.

²⁴ De Castro Sonia Rabello, "Favela Bairro: A Brief Institutional Analysis of the Programme and its Land Aspects" in *Holding Their Ground: Secure Land Tenure for the Urban Poor in Developing Countries*, Durand- Lasserve Alain, Royston Lauren (Edited), Earthscan Publications Ltd, UK and USA, 2002, p. 155

²⁵ Silva E.M, Paraizo R.C., *Urban Project Database based on Alexander's Pattern Language: the Case of Favela-Bairro*, International Journal of Architectural Computing, 2003, p. 263



Figure 11-12-13: Masterplan development for the favela of Fernão Cardim

One of the firms that participated to the competition, winner of the sixth "Veronica Rudge Green Prize in Urban Design" in 2001, was Jorge Mario Jàuregui Architects. His project was based on the understanding of the city, seen in three dimensions of urbanity: physical social and psychological. The "key innovation is the reliance on the existing favelas as the basis for strategies of renewal"²⁶. The project took into consideration different scales of the settlements: housing, public spaces, infrastructures and links to the city. The work-team included some of the *favelados*, nurturing a sense of ownership and cares to preserve the new buildings and to develop the area further in the future. The architects tried to make each project different for each settlement, since each favela had different needs and geographical features; nevertheless they do share common strategies, starting with the integration of the area with the surrounding: the key action is made by achieving enough circulation routes. Roads and paths for both people and goods are necessary to link the *favelados* to the formal city; at the same time, these routes shape the *favela*, "providing hierarchy, making connections, and creating areas of concentration"²⁷. A second link is created by breaking down the boundaries around the perimeter of the settlement and by improving the access routes; also the recreation spaces are strategically located on the edges, to further facilitate the interaction with the city. Regarding the public spaces, they tried to build useful places for that particular community: as an example, the *favela* of Salguiero, is particularly famous for the their salsa and football; therefore, the Jauregui architects provided the settlement with a covered samba rehearsal hall, which doubles as a gymnasium or an indoor football field. Finally planting strategies have been a crucial part of the design: they used plants to stabilize the territory, often with dangerous slopes; to prevent erosion and control dust. Together with the water collection, these actions made the areas a lot safer and more environmentally friendly, for a modest cost.

²⁶ Mori Toshiko, *The Favela-Bairro Project*, Harvard University Graduate School of Design, Cambridge, 2003, p. 62

²⁷ Mossop Elisabeth, The Favela-Bairro Project, Harvard University Graduate School of Design, Cambridge, 2003, p. 64



Before and after (from left): Figure 14: The Manguinhos Library;

Figure 15: The Vidigal open theater and community center; Figure 16: The Salguiero paths. The areas are not completely changed but they are simply developed, maintaining the original atmosphere

The design concept the architects were interested in, and clearly achieved, was "to enhance the experience of moving through spaces and to generally enrich the urban environment"²⁸, which describes the dynamism of the favelas and uses its inner identity to provide a better and wealthier life-style. The project did not demolish, but simply improved what already existed. The ample use of colors and the modesty of the structures, minimize the contrast with the existing houses, promoting a close relationship and a sense of collective ownership.

²⁸ Ibidem, p. 71

THE MISSING FORMULA

"What matters in housing is what it *does* for people rather than what it is"²⁹

(John F. C. Turner)

In 1976, John F. C. Turner, architect and lecturer for Urban Studies at MIT and Harvard University, wrote "Housing by People" on his personal experience in Latin America. His utopian and perhaps anarchic view, influenced the latest theorist with very interesting points, strongly motivated by the historical time they were written. The author seems to be completely against prefabrication housing systems, seen as "the most effective way of depriving people of control over their lives"³⁰, and against the centralized power the government had on housing programs.



Figure 17: Comparison between an autonomous housing system and a centrally administrated one.

It is clear that the first grid, preferred by the author, celebrates the inhabitants' freedom of customization; while the second one, more standardized, does not leave the space for individualism and personal identity. His principles lead to self-government in housing and to resources and technologies easily accessible by people and local institutions. Identity and freedom of housing are Turner's inner ideals that perhaps saw their practical and most significant approach with the Favela-Bairro program. Its diversity among the different designs and the close approach with the people reflects part of the author's principles.

The program is surely one of the most important urban development ever done in favor of the informal settlements. But is it enough? Janice E. Perlman, an anthropologist who, since the 60s, has been explored the

²⁹ Turner John F. C., *Housing by People: Towards Autonomy in Building Environment*, Marion Boyars, London, 1976, p. 102

³⁰ Ibidem, p. 106

favela-world and took part in the "Megacities Project", expresses her doubts saying that "this massive program has not addressed issues of insertion in the labor market, nor provided an inclusive model of development"³¹. We have seen how Jàuregui architects collaborated with locals and how they tried to find common patterns to follow through the four *favelas* developed. But when looking at the bigger picture, the one of the entire program, we do see that each practice has taken a different approach to the design. Is it possible to produce a formula capable at the same time to keep the individualism and the identity each *favela* expresses? The architects Erivelton M. Silva and Rodrigo C. Paraizo had the idea of creating an online database "to serve as a public channel of communication of the accumulated knowledge represented in the design drawings of urban interventions"³². They believe that a database would be a rich source to save time, and to see the responses that different approached had, to learn from past mistakes and to choose wisely for future projects. The starting point would surely be a standardized infrastructure system and solutions for common needs such as public services.

"Poverty-orientated self-help projects often fail because the people involved are given too little opportunity of co-determination."³³

The collaboration with the inhabitants seems quite necessary for a successful project, to let them feel part of it. Nevertheless, an essential action is the collaboration between the architects and second parties such as anthropologists, associations, politics, and so on, that can link the development to other sectors increasing the scale of the positive impact: "it is essential to transform 'micro' solutions into 'macro' impacts"³⁴.

So Is there a standard formula we could use in the future developments? My conclusion to this question is that the best formula is to not have any universal one, and to work close to each population every time. In the present we are living now, a close attention, driven by sustainable values, is been given to the prefabricated architecture. Designers also started to look how to create a functional module and still be able to customize it with different features. Perhaps a hybrid solution is the answer for further developments in the informal settlements.

³¹ Perlman Janice E., "Marginality: From Myth to Reality in the Favelas of Rio de Janeiro, 1969-2002" in *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia,* Ananya Roy and Nezar AlSayyad (Edited), Lexington Books, United States of America, 2004, p. 124

³² Silva E.M, Paraizo R.C., *Urban Project Detabase Based on Alezander's Pattern Language: the Case of Favela-Bairro*, International Journal of Architectural Computing, 2003, p. 263

³³ Kersting Norbert, *Poverty and Democracy: Self-Helo and Political Participation in Third World Cities*, Zed Books, New York, 2003, p. 201

³⁴ Perlman Janice E., "Megacities and the Urban Century: Shrinking World, Growing Cities" in *City Edge: Case Studies in Contemporary Urbanism*, Esther Charlesworth (Edited), Architectural Press, Oxford, 2005, p. 176

CONCLUSION

Since my journey in Brazil, after the meetings with the families living in the *favelas* of Santa Rita and Bairro Gavota, my interest towards these controversial spaces led me to conduct amazing research and keener observations. The developments of these informal settlements have always been running in parallel with the country's economy and policy. The removals of Rio in the 70s embody precious mistakes not to repeat: the housing construction outside the city life, the lack of community spaces, and the cancellation of their own identity and family core. It is only in the last decades that the government has decided to take interest for the benefit of the *favelados*: it is perhaps with the Favela-Bairro project that we see much deeper understanding of the needs and of social behavior, core for a successful project in an urban development. Because of the great cities expansion we are living now, the future of these settlements should be a priority, by helping them to become capable of flexibility in terms of spaces, functions and sustainability. Although some prefabricated methods could be used, the contact with small associations that work within the *favelados* is essential. At the moment, a universal formula does not exist, and it should not. The standardization is impossible in places where the topography shapes an entire complex, but common patterns and thinking can be really helpful, as seen in the Bairro project. Nevertheless, the architect is essential in the mediation and in the hybrid process of prefabrication.

The *favela* universe should not be seen as a problem, but mostly as a resource of ideas and potential. Through the 20th century, the *favelados* have shown creativity and great strength to fight for their homes, despite bad policies and negligence. The community "religion" they have and protect, should be respected every time an intervention is made.

In the era we live, we should take advantage of the globalization we are experimenting by sharing valuable information: a database where architect, planners, sociologists, anthropologists, and many others can share and debate possible successful ideas. This transversal work will be able to create architecture with special care given to the movement of the people that experience a certain space every day.



Figure 18: The power of colors, Favela of Santa Marta, Rio de Janeiro. Painting project by Haas & Hahn, 2010

APPENDIX

Favela-Bairro Project: development elements by Jàuregui Architects

Information from Favela Bairro: uma Outra História da Cidade do Rio de Janeiro (Author's translation)

Favela of Fernão Cardim	Favela of Rio das Pedras
Infrastructures:	Infrastructures:
Location:	Location: Jacarepaguá
Housing: 875 dwellings	Housing: 12.000 dwellings
Population: 3.413	Population: 50.000
Area of Intervention: 4.5 hectares	Area of Intervention: 67 hectares
Road System: 8.921 meter squares	Road System: 123.000 meter squares
Canalization of the River: 380 m	Public Illumination: 468 points
Drainage System: 2.275 m	Drainage System: 8.140 m
Sewage System: 2.000 m (350 connections)	Sewage System: 16.800 m
Community Apparatus:	Water Supply: 17.800 m
Nurseries: 1 (400 meter squares)- 100 children	Community Apparatus:
Plazas: 2 (4.050 meter squares)	Nurseries: 2
Football field: 1 (2.355 meter squares)	Plazas: 8
Housing and business:	Community Center: 1
Housing Units: 22 (1.037 meter squares)	Garbage Cleaning System: 837 bins
Business Units: 2	Housing and business:
	Housing Units: 1.187
	Business Units: 2

Favela of Salguiero	Favela of Virdigal	
Infrastructures:	Infrastructures:	
Location: Tijuca	Location: Virdigal	
Housing: 1.084 dwellings	Housing: 2.567 dwellings	
Population: 4.367	Population: 9.943	
Area of Intervention: 1.9 hectares	Area of Intervention: 23.7 hectares	
Road System: 11.548 meter squares	Road System: 8.156 meter squares	
Public Illumination: 57 points	Public Illumination: 248 points	
Drainage System: 1.786 m	Fire Prevention: 87 hydrants	
Sewage System: 10.390 m (1.127 connections)	Traffic Signs: 200 signs	
Water Supply: 8.316 m	Sewage System: 9.394 m	
Community Apparatus:	Water Supply: 1.494 m	
School: 1 (2.062 meter squares)	Community Apparatus:	
Plazas: 4	Nurseries: 2 (958 meter squares)- 200 children	
Football field: 1	Plazas: 3 (540 meter squares)	
Garbage Cleaning System: 10 bins	Laundry: 1 (40 meter squares)	
Housing and business:	Garbage Cleaning System: 7 platforms (299 meter	
Housing Units: 11	squares)	
Business Units: 1	Housing and business:	
	Housing Units: 16 (640 meter squares)	
	Business Units: 2 (32 meter squares)	

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Figure 2: Author's photograph

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