Urban Residual Space in Latin America: Reframing the Role of Public Space in Colombia

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Abstract. The metropolises of the global south are often considered out of rules as a distinct urban "species" while cities of the global north are commonly recognized for their development, organization, and operation. The duality that arises in Latin American cities is between the advancement of its infrastructure and the provision of goods and services. This duality is physically manifested in urban space, as well as the increase of spatial segregation and social inequality. Fragments, patches, archipelagos, and countless denominations that narrow the "disorder" of these cities contrast with the good practices they develop to increase the quality of life of their inhabitants. Life in public space is one of the interrelationships that occur in cities, but in some spaces in Latin American cities are considered fragments and uncertain spaces of the city without defined uses due to the characteristics of some of these spaces. These spaces, specifically in Colombian cities, commonly divide the large areas of poverty with the few areas of wealth, providing greater inequality and socio-spatial segregation. Considering Latin America as the most violent and inequitable region in the world explains why the research of recent decades in these cities has focused on understanding the causes and finding answers to minimize poverty, and inequality. These phenomena will not find the full answers in architecture nor urbanism; however, actions from these two disciplines are required to materialize opportunities for all the cities. Thus, the purpose of the research, based on literature review, methodological terms, and collection of information is reframing the role of public space as a potential for articulation with the deficit of public space and as a tool of urban development.

1. Introduction
The phenomenon of spatial segregation, as well as social inequality in Latin America, is not recent. For decades it has been one of the pillars of research in architecture and urbanism, analysing how this phenomenon leads to the vicious cycle of poverty. Therefore, research on access to land tenure, dignified housing, stable employment, environmental quality, public space, among other topics, aims to find answers in the reduction of social inequality in Latin American countries. One of the factors affecting the spatial segregation of people is the distant location of goods and services for the population living in areas on the outskirts of the city. In the case of Colombia, there are population groups that do not have easy access to a decent housing, and they quickly find themselves in the belts of misery and perpetuate their poverty. In addition, a large part of this population is victims of armed displacement by illegal groups occupying their rural areas of origin. Despite their situation, they create spaces for recreation and integration with initiatives to activate public space in the areas of informality they occupy.
Although the phenomenon of socio-spatial segregation is more latent in the populations that inhabit the poverty belts of the country's cities, it is not exclusive to this population. Some socioeconomic instruments were created and as a result, population with more income contribute with economic subsidies to the populations with less income. Colombia is a country that has a mechanism for classifying residential property by socio-economic strata, and this has contributed in part to the segregation that exists in the urban space between the country's social and economic classes.

Law 142 of 1994 of the Republic of Colombia, states the classification of the socio-economic stratification of the houses is made based on its council tax to determine the cost of the payment of the public services (water, energy, and gas). The range of classification is represented by the following social stratum levels: 6 (High), 5 (Medium-High), 4 (Medium), 3 (Medium-Low), 2 (Low), to social stratum 1 (Low-Low). Based on their levels, the two highest social strata (6 and 5) contribute the most declared allowance in a percentage for payment of the public services compared to the three lower socioeconomic strata (3, 2, and 1). The intermediate socioeconomic stratum (4 Medium) does not subsidize nor subsidized.

Although this regulation was created to generate a contribution from the higher income populations in the form of a subsidy to those with less income, this classification has soon deformed the different forms of appropriation of public space in social and cultural terms. The logic of the real estate market has shaped the different areas developed in cities, creating urbanizations that are then classified in the corresponding stratum. The quality of the construction, facades, and design finishes of these urbanizations correspond to socioeconomic strata in the cities. The same is true for public space, which is the product of the space assignments, that construction companies are required by law to make. As people are classified by these socioeconomic strata, they use certain types of public spaces in Colombian cities and are segregated from others.

On the other hand, two realities coexist in Colombian cities in the use of space: enjoyment in both formal and informal areas. The use of public space does not escape these two remarkable realities that developed independently of their condition as triggers and organizers of coexistence and exchange. However, the waste spaces that proliferate in the cities due to infrastructure projects are mainly related to mobility. These spaces develop another type of space: the urban waste space as a remnant and fragment generates greater spatial segregation. The BRT (Bus Rapid Transit) has allowed the connection of cities from north to south, facilitating the movement of people living far from their areas of activity. Cities such as Cartagena de Indias has had among the results of the implementation of these transport systems, the appearance of residual spaces that have further fragmented the city.

From the analysis developed in areas with informality in Cartagena de Indias, it is evident not only the quantitative lack of public space but also the access to the quality of these. Nevertheless, the idea of reframing the value in use and appropriation of public space can be helpful regardless of their condition of formality or informality.

2. The role of public space in cities with spatial segregation and social inequality

Public space is the meeting place for citizens. It is the main space in which we exert our social skills and express our needs and desires as a society. Public space is essentially the place where we are all equal - or at least - we should be. In that meeting, we converge our habits, customs, cultures, ways of living, and traditions. Public space is created and developed for the collective well-being and enjoyment of healthy recreation. The traditional, cultural, commercial, and other manifestations that take place in the public space produce the exchange of knowledge and experiences that allow us to enjoy the public.
Latin American cities have characteristics in the use and appropriation of public space related to their social reality and spatial quality. In these cities, the public space besides being a meeting point and enjoyment becomes the place not only of access to daily sustenance but also of development informal economic activities. This situation exerts conditions of power on the population that uses public space as a place for recreation over those who use it as an informal workspace. The main exchange between the two population groups is not through social integration but the economic exchange with the purchase and sale of commercial products derived from the informal activity.

The spatial organization of the city plays an important role in the function of public spaces in the city. Urban fragmentation contributes to spatial segregation; consequently, social inequality. However, not only the physical conditions of a city contribute or not to the quality and enjoyment of its public space. The policies developed by cities and the application of these policies have a high interference to produce greater equality and decrease the social gap in the countries of the global south.

UNESCO declared in 1984 Cartagena de Indias as a World Heritage Site thanks to its high historical, cultural, and architectural value. On the other hand, it is one of the Colombian cities with the greatest social inequality. The poverty of the city's peripheral areas contrasts with the privileged residential areas as well as the tourist ones. For this reason, public space plays an important role in overcoming social inequality and spatial segregation.

All complex societies are characterized to different degrees by the unequal distribution of socially generated material and symbolic rewards. The term social stratification describes the systematic structures of inequality. [1] From the observation in the neighbourhood of "El Pozón" in the city of Cartagena de Indias, and the exploration of this statement by Otero, Di Virgilio & Boniolo, the concern to investigate the role of public spaces in cities of countries as complex as Colombia began. In this sense, between 2016 and 2018, a series of international workshops were held with architecture students and professors from Italian universities (Polytechnic of Turin, University IUAV of Venice and University of Ferrara) and the Pontifical Xavirian University to study various phenomena in Colombian cities.

The social appropriation of people with the public space was studied based on this academic and research committee. The research aimed to include in the proposals, the participation of the communities that use public space. For this purpose, the methodology of the Spanish collective “Arquitectos de Cabecera” was applied, which consists of participatory design and collective intelligence. To do so, the following was taken into account the problem as an opportunity in these urban settlements and their necessary revitalization in a context of change in what they represent in terms of social and cultural symbolism, in the reconfiguration of the discourses on the spatial specificity of urbanism towards a new way of conceiving cities and urban life.[2] The work carried out in three specific moments has made it possible to explore in different circumstances how the inhabitants use, appropriate, and live their territory.

Cultural practices in the territory itself teach the way people recognize their environment, allowing them to become partners in the decisions taken. Architecture students design proposals from the participating universities under the guidance of the professors along with the citizens. Social inequalities are not natural but, on the contrary, the result of a process of socio-cultural construction.[1] Therefore, in this project, the cultural experience that the communities have in these environments has been especially valued.

During these three years, three workshops held one per year. The first workshop was held in 2016 in Bocachicca by architecture students and professors at "Nuevos Territorios" (New Territories) workshop from the Pontifical Xavirian University with ETSAB of Barcelona, the Spanish collective
"Arquitectos de Cabecera" and local universities in Cartagena de Indias. A second workshop was in 2017 between architecture professors of the Polytechnic of Turin along with students and professors of the Pontifical Xavierian University. One other workshop in 2018 among architecture students and professors of the IUAV University of Venice, the University of Ferrara, and the Pontifical Xavierian University.

In this sense, the main purpose is to analyse, document, and make visible the experience of the project in the field especially the one carried out in the neighbourhood "El Pozón." Moreover, it aims to broaden the understanding of the role of public space in conditions of informality from a variety of perspectives. The methodology used was the base of the development of the work. This project research has been the starting point to deepen the territories from a perspective of innovation and social appropriation. In this sense, the research provides solutions to social problems in contexts of uncertainty and informality.

The international workshops encouraged the understanding of Colombian and Italian architects and students about El Pozón. The field visits that took place in these places were analysed and documented, accompanied by explorations, interviews, and surveys. The documentation of archives and plans of the city of Cartagena de Indias was also considered to allow a better understanding of the spontaneous appearance and subsequent development of the neighbourhood El Pozón.

This first approach identified the failure in terms of liveability that this part of the population has. On the other hand, it facilitated understanding and reflection on the use and appropriation of public space to develop architectural proposals. These proposals are especially related to habitat and public space, showing that it is possible to restructure the urban development of cities by reframing the role of public space.

The urban growth in Cartagena de Indias has been mainly due to the accelerated increase of its constructions [3]. For this reason, it is important to open new fields of study that face realities, for instance, the informal development in the city. These constructions developed in the city have contributed to a transformation of the urban landscape, with a new urban public space that appears with new functions, forms, and meanings.[3] Hence, this work explores the possibility of developing projects that result from the identification of gaps in architecture, especially in social contexts of informality.

3. Social appropriation, opportunities of the role of public space in informal contexts in Cartagena de Indias
The unplanned urban growth of the city of Cartagena de Indias profoundly transformed its landscape, leading to spatial segregation and a weakening of the social fabric. This occurs particularly in populations living in the surroundings. This social and economic exclusion suffered by a large part of the population of Cartagena de Indias has meant that certain social and cultural practices that are rich in tradition have been affected and eroded.

In a context of changes and contradictory trends, many of the cities in Latin America have leaped scale, on the one hand, and have increased social inequalities, on the other.[4] This is widely seen in the literature of the United Nations Organization. The organization states that Latin America is the most unequal region in the world since 1970. On the other hand, in Colombia, the issue of poverty has been widely addressed by different areas of social science. However, urban poverty is an issue that is now being addressed from a spatial physical perspective, differentiating the characteristics, determinants, and dynamics of poor people living in large cities.[5] Cartagena de Indias is one of these cities that fits the above description since it has a great richness in its natural resources, architecture,
history, and tourism, at the same time, a strong and growing economic and social inequality among its inhabitants.

The territorial organization of the District of Cartagena de Indias is composed of three localities that in turn group the neighbourhood, for instance, the Historical, and North Caribbean locality, the tourist locality of “La Ciénaga de La Virgen”, and the industrial locality of “La Bahía”. The neighbourhood "El Pozón" is in the locality of “La Virgen y Turística”. Despite being the town with the largest area, it has the worst quality of life, less area of public space, and less possibility of access to education and health.

The spatial focus of poverty in specific sectors of the city, such as the neighbourhoods near the Ciénaga de La Virgen, not only concentrates the poorest population but also the one with the lowest educational achievements. Another interesting result, which is in line with international literature, is that there is also a high proportion of inhabitants who recognize themselves as black in the poorest neighbourhoods of Cartagena.[5] The condition of poverty and the lack of access to decent living conditions was one of the reasons for choosing the neighbourhood of El Pozón as a case study, taking into account the great cultural richness and traditions of the Afro-Colombian population located in the neighbourhood.

In addition, another of the motivations for choosing this neighbourhood in the presentation of this article is that the literature review identified that the El Pozón neighbourhood meets one of the characteristics that makes it ideal to put forward proposals for public space there: poor people are not only spatially concentrated in specific places in the city, but also do not have the social conditions and opportunities necessary to overcome this situation, which leads them to remain in a permanent circle of poverty.[5]

The experience documented in this article is an approach to the awareness of the reality of populations that, in contexts of informality, possess valuable knowledge that leads to better decision making to build their habitat. The methodology used included direct observation, literature review, and information gathering, application of questionnaires, surveys, and interviews, as well as the elaboration of cartography and collective mapping that allowed the documentation and construction of relevant information so that the students guided by the teachers could elaborate the proposals they presented.

The workshop is part of the project line of urban settlements of the New Territories project of the Department of Architecture of the Pontifical Xaverian University. The purpose of the project is the understanding of architecture, city, and territory in emerging contexts and emphasizes the design of proposals for vulnerable communities.

The main challenge of the international workshops was to organize an action-research in different areas of Cartagena de Indias to know the most urgent problems to be faced from the urban and architectural project. The cultural and academic exchange between students and professors from the participating countries provided a global vision of a local problem.

The international workshops were in different areas of Cartagena de Indias, Barú, and Bocachica. The studies were in the urban area of the San Felipe Castle, the forts of San Fernando and San José, the Ciénaga de La Virgen, the neighbourhood of El Pozón, and the island of Tierra Bomba.

The experience had the participation and support of the Training Centre of the Spanish Agency for International Development Cooperation, the collective Arquitectos de Cabecera, the Heritage
Department of the Colombian Ministry of Culture, the Escuela Taller de Cartagena, the Taller de Carpintería de Rivera, the representatives of the Community Councils of Barú and Bocachica, the principals and students of the school in the neighbourhood of El Pozón and the community leaders of this neighbourhood.

The workshops were based on the previous analysis made by the students and professors at the universities in Italy and Colombia linked to the experience. From this approach, the particularities of the chosen areas were understood and contextualized. This was possible by recognizing the physical-spatial, socio-cultural, and environmental dimensions of the neighbourhood El Pozón to:

a.) Investigate new forms of participatory consensus involving citizens in decision making about the role of their public space. b.) Analyse the socio-cultural conditions as an opportunity for the empowerment of these populations in vulnerable conditions. c.) Develop the concept of collective intelligence and social appropriation involving the community in the design of proposals. d.) Contribute to the social transformation of a community with high cultural and traditional values.

This previous analysis included the intervention areas, their values, and their relationship with the Ciénaga de La Virgen and the rest of the city. Furthermore, it defined the phases of intervention and community participation. It also established how we should plan and intervene towards truly ecological, fair, inclusive, and healthy scenarios. [6]

3.1. Methodology
The inclusion of the citizenry in the processes of resignification of the role of public space becomes important in contexts of informality for the following reasons: The population that makes use of these spaces has a social appropriation of them. This appropriation occurs from the complexity of the environment they inhabit, in the precariousness of their homes. It becomes then, the public space of the neighbourhood, the place where all converge with their socioeconomic difficulties and precariousness.

The activities developed with the population of the neighbourhood of El Pozón show that, by bringing together citizens to share in the transformations of their environment, positive changes are generated because their capacities, cultural values, and traditions are also empowered and involved. In other words, our built environments may become more humane, kinder, more liveable spaces.[6]

The work carried out about El Pozón included various methodologies focused on the user and his relationship with the context. By using the methodology applied by the Spanish collective Arquitectos de Cabecera (AC) it has been possible to establish direct articulation with the inhabitants of the environments that were analysed. This methodology is based on the look from the inside to the outside and allows Research by doing and Research by design. As a result, citizen participation is a key element both in the democratic construction of the city in general and in collaborative urban planning in particular,[6] This strategy of the AC collective allows the profession of architecture to be staged with mutual learning between the community and the design discipline.

The approach of students and lecturers from the general and global vision of the territory under study to the specific requirements of the environment proved that citizen participation is an unbeatable source of innovation and a channel to enrich urban projects, as it allows them to adapt to the needs of the population [6].

The extensive fieldwork, mapping, architectural survey, and analysis of the urban fabric were inputs in articulation with citizen participation. This resulted in proposals that, at the same time, led to actions of social appropriation of the cultural and traditional heritage that the communities possess.
For this reason, it is necessary to conceive of the public as plural and contested notion, defending that citizens' rights to use public space must be based on reaffirming identities, reversing inequalities, and preserving differences [7]. For this, it is necessary to conceive of public space from a socio-cultural dimension. [8]

This postulate of the socio-cultural dimension was key in the development of the proposals since it is from it that the place of the relationship is conceived, the encounter between people, the movement and the sense of community, that the concepts of space and place are converging to define the public space [9]. The combination of the variables and instruments that compose the methodology used in articulation with the lived experience with the communities were valuable inputs for the work teams.

The reality of the territory, already proven through the verification of the information that they had previously collected and organized, facilitated the insertion of students and teachers in the multiple visits that were made to the El Pozón.

4.  El Pozón

4.1 Features of El Pozón

El Pozón is part of the edge of the area of the Ciénaga de La Virgen. The population that lives in the neighbourhood is around 10% of the population of Cartagena. [10] According to data from the Bank of the Republic, by 2017 the district administration had not resolved basic problems such as access to drinking water continuously, the availability of sewage and options for the neighbourhood’s population to accumulate productive human capital. [10] Between 2016 and 2018 when the three international workshops were held, the population still suffered from the same precariousness. It is a neighbourhood that was created from informality with the population that was arriving and occupying the edges of the Ciénaga de La Virgen. Some of the people who occupied these spaces came from other areas of the country. The neighbourhood is also currently occupied by Afro-Colombians with a rich living memory of culture, traditions, and knowledge. This population possesses valuable knowledge in craftsmanship that has not yet been capitalized on for them as a source of income in productive activities.

The traditional crafts and cultural practices of this population are the cultural, artisanal, and productive heritage that expresses a constant relationship between the local environment and the natural elements that surround them. The neighbourhood El Pozón in La Ciénaga de La Virgen is a reference of great importance to explain the behaviour of the society-nature relationship or the requirement of natural resources that make its inhabitants. It is necessary to start from the fact that the development and basic facilities are minimal for the case of this locality, where it is possible to verify that most of its inhabitants are dedicated to the trade of being construction workers [11].

According to SISBEN data, (Beneficiary Selection Colombian System for Social Programs) 75% of the population in misery in Cartagena, according to the UBN (Unsatisfied Basic Needs) index, lives in areas at risk of flooding or landslides in neighbourhoods near the Ciénaga de La Virgen [10]. Among these neighbourhoods is El Pozón, which despite this condition has the traditional skills and knowledge that could be a lever to overcome social inequality collectively. On the other hand, in terms of access to education, the data shows that the less educated population is concentrated in the neighbourhoods around the Ciénaga de La Virgen. The average number of years of education in the El Pozón neighbourhood (the most populated neighbourhood in Cartagena) is 6.4 years, while in the Crespo neighbourhood (with a medium-high socio-economic level) it reaches 9.2 years, i.e., an average difference of nearly three years [10].
4.1 The proposals of the students in El Pozón with the guidance of the lecturers
The proposals developed by the students with the guidance of professors from the participating universities included a high social and cultural component. The projects focused on housing improvement and cultural empowerment through the social appropriation of community knowledge and traditions. The role of public space in this neighbourhood was an important element considering the few cultural and recreational facilities that the neighbourhood has. The spatial distribution of urban facilities has been nodal in both economic and social infrastructure and has restricted the population's access to certain developments or specific areas of economic interest, which has generated the "spatial marginalization" of the populations. [11]

In the students' proposals, not only the issue of public space was involved from the perspective of collective urbanism. There were also workshops (figure 1) in which the artisan population taught the students some simple carpentry techniques so that the students could better understand their traditions and cultural practices. It was a collaborative exercise that also involved identifying the everyday objects in wood that this population uses. Therefore, crafts that the communities of the neighbourhood of El Pozón know and practice, such as tables, rocking chairs and traditional wooden objects, have a great cultural, artistic and social value that was valued and incorporated by the students in their projects.

Despite the informal nature of much of the El Pozón neighbourhood, and the fact that this is a basic problem that leads to the community not having a system of nomenclature in its streets and all
other public services, [12] its cultural practices become a great heritage of social appropriation that allows the community to be empowered, even if they suffer from precariousness.

5. Results, discussions, and conclusions
The results were varied: In addition to the proposals that the students created with the guidance of their professors, there was a linkage of the community in the process of creation. The community was involved and recognized its territory based on the natural, cultural, and traditional values they have.

The proposals were socialized with the community and were given the planimetry products of their housing. The collaborative work between students and professors of various backgrounds, nationalities, and visions enriched the view of the territory. The community felt recognized, appreciated, visible, and valued not only from their traditional and cultural knowledge but also from the human aspect.

In the international workshops, new materials and collaborations between the participating universities were produced. At the beginning of 2018, the book The Culture of the City was published by the Polytechnic of Turin in which the experiences carried out between 2016 and 2017 in the different cities of Colombia are collected. The works developed in Cartagena by the students were disseminated in two exhibitions in mid-2018: One in the Gino Valle Hall of the IUAV University of Venice and the other in the University of Ferrara.

5.1 Conclusions
The development of the three international workshops in three different moments showed that it is possible to carry out a research project and collaborative work between academic institutions, collectives, government entities, and the community.

For the students from Colombia, as well as for those from Italy, it was a challenge to approach realities not so common for them from the experiential point of view. Although they usually develop proposals in territories, being able to appreciate and experience the first-hand reality of the precariousness and socio-spatial segregation of many inhabitants in a city visible internationally was enriching for them.

The professors, some from Bogotá, and others from cities in Italy, although experts in the type of practice to be carried out and from the profession, it was an interesting challenge to put their knowledge on display with the interaction of the communities and their traditional and cultural knowledge.

The community, generous in their participation, contributed proposed ideas and taught their trades to students and lecturers with short and basic courses.

The proposals developed by the students are feasible in this neighbourhood since the feasibility of the interventions. This also resulted in the ability of students and lecturers to adapt the proposals to the real and changing physical contexts.

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