URBAN DISPARITY IN CURITIBA: STUDIES ON SEGREGATION

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ABSTRACT

Curitiba, located in the south of Brazil, has 1,828,092 inhabitants (according to the 2008 census estimate). It is known worldwide for its high quality of life. The city is a reference for its "best practices", mainly due to its urban planning ones.

However, it is necessary to take a critical look to realize that this "consensus" has been built. The territory is determined by social selectiveness land use, so it is clear where social classes occupy it. The outskirts of the city fit this occupation model, because in these areas there is a lack of basic life necessities and there is a concentration of poor people.

The direction of the urban planning implemented in Curitiba reinforces social disparity, strengthening the polarizing effect of the capital city in the relationship among municipalities, disregarding the metropolitan scale. According to Oliveira, the metropolitan area suited the consolidation of Curitiba's development model, "Therefore, in a way, one can say that Curitiba's image only exists as it is precisely due to services provided by neighbouring municipalities for the maintenance of this image" (OLIVEIRA, 2000, p.182).

This article aims to show how segregation exists in Curitiba. For this purpose, we focused on: (i) revisiting Curitiba's urbanization process, which is linked to the formation of this metropolis and the territory production through "peripheralization"; (ii) analyzing urban segregation based on the theoretical-methodological approach to this subject; (iii) examining the empirical case studies of segregation in Curitiba ; (iv) and understanding the implications of this process on the present metropolis configuration.

Key words: Segregation, Social Disparity, Peripheralization

1   CURITIBA'S URBANIZATION PROCESS: THE CONSTITUTION OF THE METROPOLIS AND THE PRODUCTION OF THE TERRITORY THROUGH PERIPHERALIZATION

Curitiba's development process from city to metropolis shows the contradictions of capitalist urbanization of the unequal and peripheral kind. The population growth in the Região Metropolitana de Curitiba – RMC (Curitiba Metropolitan Area) displays last decades' metropolitanization and peripheralization. In the 70's, this area was responsible for the highest rates of population growth among all metropolitan areas in Brazil, 5.78% per year, while the average rate in Brazil rested at 2.48% annually.

At the same time as Paraná's (the Brazilian state of which Curitiba is the capital) population grew 1.39% in average between 1991/2000, Curitiba's population increased by 2.11%. Furthermore, Fazenda Rio Grande city, part of the first ring of the metropolitan scale, reached 10.76% growth in the same period.

As portrayed by the table below, population increases 51.49% between 1980/1991 in Curitiba, while in the first ring the growth is of 42.35%. What happens in the following period, 1991/2000, is the reverse: Curitiba's growth is of 40.83%, while the first ring shows a population increase that amounts to 54.92%. In Curitiba, the geometric growth rate in this period was of 2.13% and of 3.14% in the Metropolitan Area. This confirms that population concentration in peripheral municipalities is a trend.

Table 01: Population increase between census – Curitiba Metropolitan Area - 1970/80, 1980/91, 1991/2000 [1]

	1970/80	%	1980/1991	%	1991-2000	%
Curitiba	5,21	67	2,27	51,49	2,13	40,83
First Ring [2]	8,06	30,54	4,79	42,35	5,44	54,92
Second Ring	2,05	2,14	3,3	5,6	2,6	3,14
Third Ring	0,58	0,46	0,54	0,56	0,8	1,09
Total	**5,4**	**100**	**2,91**	**100**	**3,14**	**100**

Data: IBGE – census; IPARDES - special tabulations.

The trend of municipalities of the Metropolitan Area growing more rapidly than Curitiba leads to the emergence of the so called "dormitory-cities"[3] on the outskirts of Curitiba, lacking basic services and transport options to the capital city and causing the stagnation of local administrations:

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[1] Table extracted from MOURA, Rosa; KORNIN, Thaís (2004).

[2] Research by the Instituto Paranaense de Desenvolvimento Econômico e Social (IPARDES), usually classifies the municipalities of Curitiba Metropolitan Area in three rings, according to the level of inclusion in the metropolitan dynamic: (i) First ring – municipalities configuring a conurbation. They interact strongly with the capital. More than 90% of Curitiba Metropolitan Area's population live there. (ii) Second ring – municipalities with no connection with the urban road layout, nevertheless maintaining strong relationships with the capital. Of distinguished regional relevance. Comprise 3.7% of Curitiba Metropolitan Area's population. (iii) Third ring – 3.8% of Curitiba Metropolitan Area's population, mainly working in rural activities and related areas. Relationship with metropolis is insignificant.

[3] Further reading: MOURA, R. ULTRAMARI, C. Metrópole – Grande Curitiba: teoria e práticas, IPARDES, 1994.

> The aspects that cause and make the occupation of these metropolitan areas possible comprise: a) urban intervention and control linked to Curitiba's urban planning, which served to equally value the land and fight off the negative effects of occupation in the inner city b) the market logic when purchasing a dwelling, getting in return a flexible legislation from neighbouring municipalities and land offers from private institutions – not rarely located in groundwater areas parcelled out before passing of Federal Law 6.766/76 –, put forward as options to a financially disadvantaged segment of the population, part of the rural exodus; c) the public transport network connects the capital to its proximate surroundings, intersecting the city in various linear structural axes starting from the center of the city. These axes run through areas that are mostly unoccupied. Contemplated with a wide network of infrastructure and services, controlled by a land use planning legislation created to encourage residential density, these axes valued neighbouring real estate, inhibited occupation and created upper class neighbourhoods surrounded by large unoccupied areas (MOURA, 1994).

In the 70's, upper class dwellings occupied the urban center. Periphery stood for the opposite, the site of the lower class and of those who didn't have access to social prominence. Center and periphery make up the urban aspect of a perverse process of social segregation and exploitation, depreciation of the work force value and domination. According to Valladares, the peripheralization process is functional to the establishment of the capitalist city: "Peripheralization can be understood as a projection to the space level of the capital accumulation process and its consequences to working class's habitat, which determines its spatial segregation to increasingly remote areas away from the heart of the main urban-industrial centers of the country" (1982, p. 47).

From the 90's, new social actors and economic agents emerged alongside the poor and deprived periphery, reshaping the metropolitan space in Curitiba. The "city of walls" [4] emerges. Constituted by gated communities and industrial parks in the Curitiba Metropolitan Area, it is imbricated by the "periphery of deprivation". Caldeira emphasizes that the center-periphery antagonism continues to define the city. However, the processes responsible for producing this pattern have changed considerably and new forces are already generating other standards of space and a different distribution of social classes and economic activities (2000, p.231). Sposito analyzes the changes within the metropolitan space in Brazilian cities, where new center-periphery configurations emerge:

> The old densification of the centre and the expansion of occupation in peripheries give way to new transformations, that is, new ways of arranging and rearranging the duo center-periphery. Some centers decay; high valued areas merge with alternative urban occupation of low valued areas; there is an increase in slums in certain districts mainly in environmentally fragile areas; high valued spots - that will change the surroundings quickly - arise in peripheries; some centers in districts start to move in on traditional centers, attracting sophisticated and specialized businesses, reaffirming that today, more than ever, the city is built on areas of diverse dynamics (2003, p 5).

The center-periphery dualism is not enough to explain the metropolitan space and its dynamics. The roughness [5], originated from the previous pattern, overlaps recent space transformations, reshaping the economic, social, political and cultural content of what was being called periphery: "The trend of continuous extension of the urban layout is kept. In contradiction, it now combines distinct logics and forms of production and appropriation of urban spaces" (SPOSITO, 2003, p.1).

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[4] Expression created by Teresa Pires do Rio Caldeira (2000).
[5] Milton Santos calls the traces of past human life, which still remain in the landscape 'roughness' (rugosidades).

2   CONSIDERATIONS ON URBAN SEGREGATION PROCESSES

Considerations on urban segregation processes will be laid out in this chapter to define the concept used here. It will contribute to the analysis presented in the case studies. Social class urban segregation is one of the most significant socio spatial processes concerning Brazilian (and Latin-American) metropolises. It derives from the dispute among social classes for the best (or of higher value) locations in the city, to live or work (VILLAÇA, 1999, p.223). In Marques's words:

> (...) spatial distribution of social classes is influenced by numerous processes. Among those it is worth mentioning the elements that were physically built, such as physical sites and transport axis, macro-social processes related to historic and economic dynamics and the action of various agents in the urban environment. (2005, p. 37).

The segregation process is often defined by the center-periphery model, in which upper income classes populate the center, concentrating a vast array of services and infrastructure. On the other hand, low-income earners occupy the faraway and deprived periphery. However, this model alone can't explain the segregation standard of the Brazilian metropolises:

> On a large scale, residential segregation has been the trademark of the traditional Latin-American standard. During the 20th century, upper-class families usually inhabited only one area of development. Conical in shape, it connected the historic centre to the periphery, in a specific geographic direction. On the other end of the social hierarchy, the less fortunate groups, representing roughly 25% to 50% of the population, settled in large poverty pockets, mainly in the farthest and most ill equipped periphery. (SABATINI, CÁCERES e CERDA, 2004, p.60)

Villaça (1999; 2001) demonstrated this theory by analyzing the intra-urban structure in Brazilian metropolises - São Paulo, Rio de Janeiro, Belo Horizonte, Porto Alegre, Salvador and Recife. He identified a clear pattern of spatial segregation that evolved throughout the 20th century. According to the author, the larger the social disparity the more apparent spatial segregation becomes. It is manifested "by way of a spatial inequality that goes beyond the center-periphery antagonism" (VILLAÇA, 2001, p.317).

> The various sites in the urban space provide different possibilities to liaise with all other sites. Therefore, the urban space is essentially unequal. Nonetheless (...), the kind of inequality that is most frequently considered is the accessibility to equipments and infrastructure and the quality of buildings constructed between center and periphery, for example. Undoubtedly, this inequality exists. There is however, another inequality that is as important, if not more important, working as a structuring force of the intra-urban space. It also dominates the center-periphery dualism and goes beyond it. It is the inequality that is the result of the disparity in accessibility to all urban space locations. The segregation of the ruling classes is a necessary mechanism for them, so that they can optimize appropriation, taking advantage of the unequal space structure. (VILLAÇA, 2001, p.355)

According to Villaça, in Brazilian cities, the tendency to create a unique area with high concentration of upper income classes, typifies spatial segregation by social class. It doesn't mean that there aren't upper income classes in other areas of the metropolis. What it shows is the tendency of this group to concentrate in a unique area. In his research, the concept of "high concentration" was more important than the concept of "homogeneity" (of excessively similar or exclusive areas), "because social class segregation subdues, dominates and explains all other segregations. It also offers an incomparably

richer set of explanations (surpassing descriptions) and of articulation with the economic, political and ideological processes" (FELDMAN, 2004, p.95). Villaça emphasizes that one should not consider only completely equal areas as segregated. He believes that:

> the ruling class controls production and consumption of the urban space through segregation, thus subjecting it to its own interests. Without segregation this process would not exist, it is necessary to maintain this control. (...) This work aims to demonstrate what segregation is: a specific geography produced by the ruling class to restrict the others. (VILLAÇA, 1999, p.229)

In the 80's and 90's, Brazilian metropolises started to exhibit a new characteristic of the spatial segregation process. The upper class started to move out to gated communities, located in the poor and disadvantaged periphery. Social segregation is therefore aggravated: different social classes are geographically closer but there is no social interaction. It is a new type of residence, "fortified enclaves":

> Overlapping the center-periphery standard, recent changes are creating spaces where different social groups are often close, though divided by walls and surveillance systems. They usually don't circulate or interact in the same places. I call the main instrument of this new spatial segregation standard 'fortified enclaves'. They are private, enclosed and monitored spaces used for living, consumption, leisure and work, legitimized by fear of violent crime. These new spaces attract people who are leaving the traditional public space of the streets to the poor, marginalized and homeless. (CALDEIRA, 2000, p.211)

The same trend was observed in other Latin-American cities. There was a change in the "geographic scale" of segregation, thanks to the maintenance of the accessibility status (highways and ring roads),

> The construction of gated communities for medium and upper classes away from their traditional areas of concentration is perhaps the most noteworthy and extensive change in the inner structure of Chilean and Latin American cities. New gated communities pop up unexpectedly in poor areas. (...) Electrified fences and armed guards are violent means of public space privatization, contrasting with the immediate environment, especially in a poor neighbourhood. (SABATINI, CÁCERES e CERDA, 2004, p.69)

Gated community segregation is different from the previous one as it creates new ways of detachment and division among social classes, by using physical barriers (walls, fences), creating exclusive residential and commercial spaces, privatizing public spaces and instituting identification and surveillance systems in gated communities that exacerbate social segregation. Low-income earners suffering the shortcomings of social and environmental problems occupy the same space. (POLLI, 2006).

As a result of the segregation process, the ruling class controls production and consumption of the space in three areas: (i) economic, by controlling the real estate market; (ii) political, by controlling the State; (iii) ideological, by developing an ideology that reinforces domination. The State assists in the spatial segregation processes by attending to the interests of upper income classes: building infrastructure, legislating on the use and occupation of land and the location of government agencies (VILLAÇA, 1999, p.229).

> In simple words, without a fundamental cooperation of the State there couldn't be a residential conglomerate that either supports or contradicts residential segregation. To begin with, the legal structure that enables real estate developments to exist are based on laws issued and sanctioned by the State: these laws concern the right to private property, financial apparatus, eviction and legal

ownership actions, prohibition against invasion supported by courts, police, sheriffs, auditing agencies. Next comes the construction of roads, infrastructure, concession or retention of building licenses, tax collection and provision of municipal services fundamental to urban life. These are all attributions of the State. (MARCUSE, 2004, p.29 e 30)

On the other hand, the State is less active and sometimes absent in less privileged areas, where the relationship between urban segregation and social problems is apparent:

> The larger the size of poor homogenous areas, the more serious social and urban issues become for their inhabitants. (...) Commuting time increases, as they need to travel even farther to get to work, residences of other social groups, services and equipment of some standard. At a social level, large-scale segregation arouses feelings of exclusion and territorial dislodgment, aggravating social disintegration problems. (SABATINI, CÁCERES e CERDA, 2004, p.66)

At the end of the 90's, as pointed out by Caldeira (2000), São Paulo's upper class lived in well equipped central areas, but also in new enclaves, located in the periphery, close to the low class. The distance between rich and poor may have been reduced but segregation continues. The case studies of the metropolis of Curitiba will examine two sides of this same process, urban segregation: (i) the concentration of the upper class in the central region of Curitiba, in the same terms as presented by Villaça (1999; 2001); (ii), the establishment of "urban enclaves' in an already segregated location (the metropolitan periphery), worsening old social disparity processes as studied by Caldeira (2000).

3 URBAN SEGREGATION IN THE METROPOLIS OF CURITIBA: TWO SIDES OF THE SAME PROCESS

Two different case studies of segregation will be presented: (i) the segregation of upper class in the central region of Curitiba, during the 20th century; (ii) segregation via social polarization in the peripheral areas through irregular occupation and *gated communities*, located side by side.

3.1 Segregation and *Verticalization*[6] in the central region of Curitiba [7]

To understand the disposition of upper class residential areas in Curitiba it is vital to study its constitution at the end of the 19th century. At that time, the palaces of the Barons of yerba mate, who were the elite, were located along the central area of two roads: to the west, Mato Grosso Road (district of Batel) connected Curitiba to the inland; to the northeast, Graciosa Road (Alto da Glória district), connected Curitiba to the coast[8]. Until mid 20th century Curitiba developed without any significant change in its spatial configuration. At that time, the center of Curitiba exhibited its first skyscrapers and concentrated "almost everything that the city could offer" (CASTRO NETO, 2002, p.21): residential areas of upper income classes expanded around those same roads (but the west road area was expanding quicker

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[6] "*Verticalization*" (verticalização) is the process of constructing vertical buildings in the same area.
[7] This study is based on research currently in development for a Master's degree. Therefore, these are preliminary considerations.
[8] Curitiba didn't have any significant natural attractive that could be decisive in the elite's choice of residence as it happened in other Brazilian metropolises (VILLAÇA, 2001). Therefore, areas with better access to the center were chosen as the best places to set residence.

than the northeast); low class districts were consolidating in the great south/southeast area, even populating neighbouring municipalities.

The *verticalization* process of the center of Curitiba begins in the 50's (Table 02), accompanied by the dynamization of the real estate market, associated with what Feldman reported about Brazil:

> Precisely between 1941 and 1946 activity in the Brazilian real estate market intensifies, constituting the 'boom of the century': profits from industry, commerce and agricultural export intensified investments in real estate. Difficulties in the import of industrial equipment during the war are in part responsible for this process but the emergence of financial circuits associated to the 'collective economy' is fundamentally the cause. Consequently, there is an expansion in pension funds, capitalization companies, government owned financial institutions and insurance companies, which offer real estate loans and mortgages. These companies also invest in construction of large office and residential buildings for the rich and wealthy and in popular housing and land. The incorporation capital consolidates as fraction of the capital in the process of the production of the urban environment. In addition to these, the freezing of rental prices instituted by the 1942 Tenant Law reinforces the trend of retraction of the rental market and expands the purchase and sale market of residences. As a result there is acceleration in real estate speculation and unprecedented increase in value of urban real estate. (FELDMAN, 2005, p.16)

Table 02: Number of buildings with more than 8 floors, built in "Central Area" and in Curitiba by decade and by use

Period	Residential buildings in Curitiba (without Center)	Residential buildings in "Central Area"	Office buildings in Curitiba (without Center)	Office buildings in "Central Area"	Total buildings in Curitiba (without Center)	Total buildings in "Central Area"
1940 to 1949	0	0	0	9	0	9
1950 to 1959	0	1	1	50	1	51
1960 to 1969	7	15	0	62	7	77
1970 to 1979	114	51	8	54	122	105
1980 to 1989	286	53	21	68	307	121
1990 to 1999	418	36	131	80	549	116
2000 to 2008	245	11	88	28	333	39

Data: IPPUC, 2009. Prepared by PILOTTO, 2009.

Based on data shown on Table 2, it can be noted that in Curitiba, office buildings were the first to be built, followed by residential buildings in the 60's. In the 50's, growth in number of buildings is higher than in all other decades. Almost all buildings were located in the center of Curitiba. This trend changes in the 90's, when the majority of office buildings are constructed outside the center of the city. The conclusion that can be drawn from this is that either the city center ceases to be the preferred location for trade and services buildings, or – as data on Table 2 only consider the limits of "Central Area"[9] - the center of Curitiba is no longer limited to the "Central Area", it may have surpassed its borders, even having started to "dislocate" to another direction (VILLAÇA, 2001). Table 2 also shows that between 1960 and 1999 the number of residential buildings erected per decade in Curitiba only increased. This reveals a new residential pattern in vertical buildings, following a trend originated in São Paulo:

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[9] "Central Area" is a demarcation created by Town Hall for Curitiba's districts (according to Decree nº774/1975), in which there is a district that corresponds to the center.

> Middle and upper classes were granted credit and didn't have to build their houses, differently to what happened with the low class. They moved out to apartment blocks, the first type of residence to be constructed by large companies. This market expanded significantly in the 70's, transforming the central districts. (CALDEIRA, 2000, p.224)

During the 70's, Curitiba's residential buildings start to be located outside the center of the city. Firstly in borderline districts: Batel, Bigorrilho, Alto da XV, Centro Cívico (MAP 01). After the 70's, they also occupied the Structural Sectors, implemented in the 70's and 80's. Structural Sectors are road grids where *verticalization* is allowed. They were proposed in the city's 1966 Master Plan to build *expansional linearity flowing from the center of the city to the structural arteries* (CURITIBA, 1966: p.08). The objective was that the center of the city would grow along the Structural Sectors, areas of supposedly higher density, through isolated residential towers that followed the structural express avenues. They were two: northern structural avenue (from northeast to west, interrupted in the center of the city) and southern structural avenue (from southwest to east).

In the 70's, the initial proposal to occupy the Structural Sectors was reformulated and a new proposal was submitted: the "Ternary System". It incorporated public transport (creating exclusive express lines for buses called 'expressos'), land use (considering population density) and transport network (express roads leading to the center of the city) along the Structural Sectors (Law n°. 4.199/72 and Decree n° 395/72). In order to carry the project through, the first step was to build the structural express roads, then, throughout the 70's and 80's, the express lines exclusive for 'expresso' buses. According to Gislene Pereira, the Structural Sectors interfered in the city's occupation:

> The implementation of the structural axes interfered strongly in the city's spatial occupation dynamics. The offer of new alternatives of residence, medium sized businesses and essential services induced high density along the axes. To guarantee infrastructure and transport, large-scale constructions were put into place. To this day, these constructions, in conjunction with specific patterns of land use, form the defining elements of Curitiba's intra-urban structure. (PEREIRA, 2001, p.41)

In fact, between 1980 and 1999, a high concentration of vertical buildings could be found in part of the Structural Sectors, but this process didn't happen in a uniform way[10]. In the 80's, concentration was higher in the central areas of the Structural Sectors, especially in the west. *Verticalization* was still intense in the 90's. Compared to the 80's, there were more buildings being erected, increasing concentration in the west/southwest area. Buildings were still being constructed in areas near the center of the city, but in less centralized regions of the Structural Sectors. From 2000, the construction of high-rise buildings in the Structural Sectors decreased. Even though urban legislation always valued the Structural Sectors equally – with the same guidelines for north, south and west – occupation was dissimilar. *Verticalization* was higher in the west, encompassing part of Structural Sectors South and West, the districts of Batel, Água Verde and Bigorrilho (MAP 01).

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[10] This analysis is based on a survey on the verticalization process in Curitiba. Data on buildings constructed in Structural Sectors was supplied by IPPUC in January 2009; aerial photographs of Curitiba in different dates and field verification.

By associating the occurrence of verticalized areas (MAP 01) with the spatial distribution of income in Curitiba (MAP 01), it is clear that *verticalization* occurred in upper class districts. *Verticalization* can be an *indicator* of areas with higher real estate activity, and vertical buildings can be perceived as a *way of living* of the upper class. In addition, this area concentrates the best urban infrastructure and accessibility to the center of the city plus it is where most shopping centers are located. Moreover, considering the location of office buildings, it is evident that the direction of expansion or dislocation of the center of the city happened to the west: Batel district and Structural Sectors (mainly Água Verde and Bigorrilho districts) expanded. A "new center" was being produced by upper class segregation:

> Throughout the decades, segregation has had a profound impact on the growth and transformation of the main city centers in Brazilian metropolises.
> Main centers expanding in the direction of upper class locations was the first outcome. In some metropolises, it was noticed from the end of the last century, in others, in the beginning of this century. (...)
> The second outcome consisted in the so-called 'decay' of the main city centers. Conversely, 'new centers' emerged. It is a dual process consisting, on one side, on the desertion of the traditional center by the upper class and, on the other, of the production of another center by the upper class and for the upper class. (VILLAÇA, 1999, p.229 e 230)

Between 1980 and 2000 the center of Curitiba lost almost 10.000 inhabitants. It went through a process of "popularization" of businesses that initiated a debate about its "decay" or "deterioration"[11]. At the same time, it still concentrates the best employment, trade, service and leisure opportunities. The center of the city was supposedly divided in two sectors of distinct features: (i) "the heart of the district", where inhabitants were poorer, residential occupation emptied out, low class businesses abound; (ii) west sector: "connected to Batel, Água Verde and Bigorrilho districts, it concentrates mostly high standard residential areas, however residences of low class standards still exist" (BLASCOVI, 2006, p.99).

While the center of the city popularizes, Batel consolidates as the upper class's "new center".

> For almost two centuries, Batel has been considered an aristocratic district. This tradition upholds, and has been updated, but, above all, it has seen a transformation. The place where yerba mate Barons built residences and industries became home to politicians and coffee growers. In the last decades, as businesses move in to Batel's houses of refined architecture, the district loses the characteristics of a residential area. More recently, the service sector has also favoured this area, changing the spatial and functional configuration of the district profoundly. Nevertheless, it still retains its aristocratic status (MOSSATO, 2007, p.88).

From the 90's, *verticalization* occurs in the west/southwest area[12]. Mossunguê district has its name changed to *Ecoville*, where high standard residential buildings are built. It is an extension of the Western Structural Sector, the "New Curitiba Zone", created in the region in 1994 (Decree n° 901/94), were vertical gated communities - with an infrastructure that put them in the 'semi-club' category (CALDEIRA, 2000, p.227). *Ecoville*'s *verticalization* was intense in the 1990's and 2000's and so was the real estate

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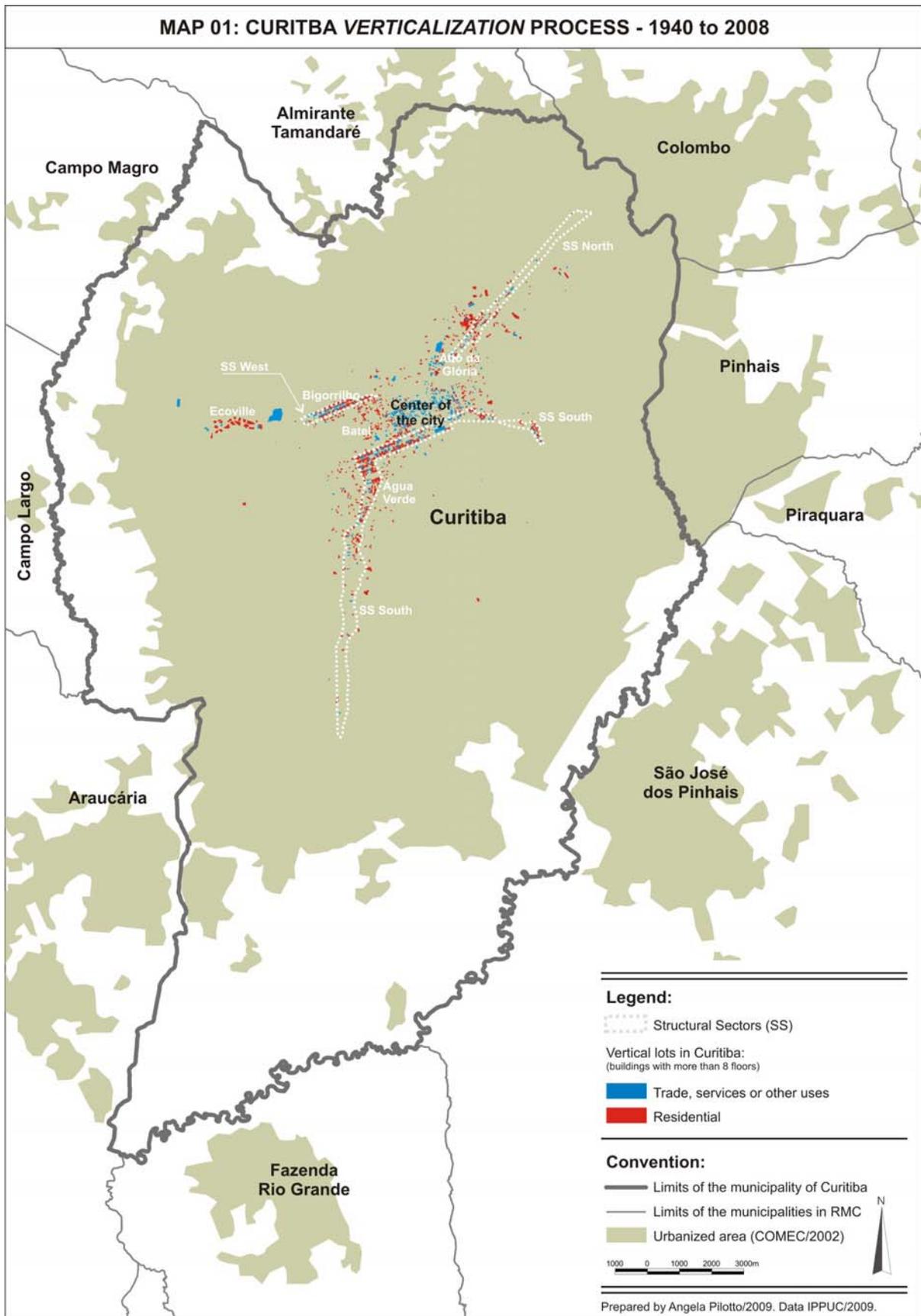
[11] In SCHUSSEL, 2006; BLASCOVI, 2006; MOSSATO, 2007.
[12] There is a second area of upper class concentration, the northeast, as shown on MAP 02. But so far, analyses for this research suggest higher real estate activity and greater trend of consolidation of the west/southwest area.
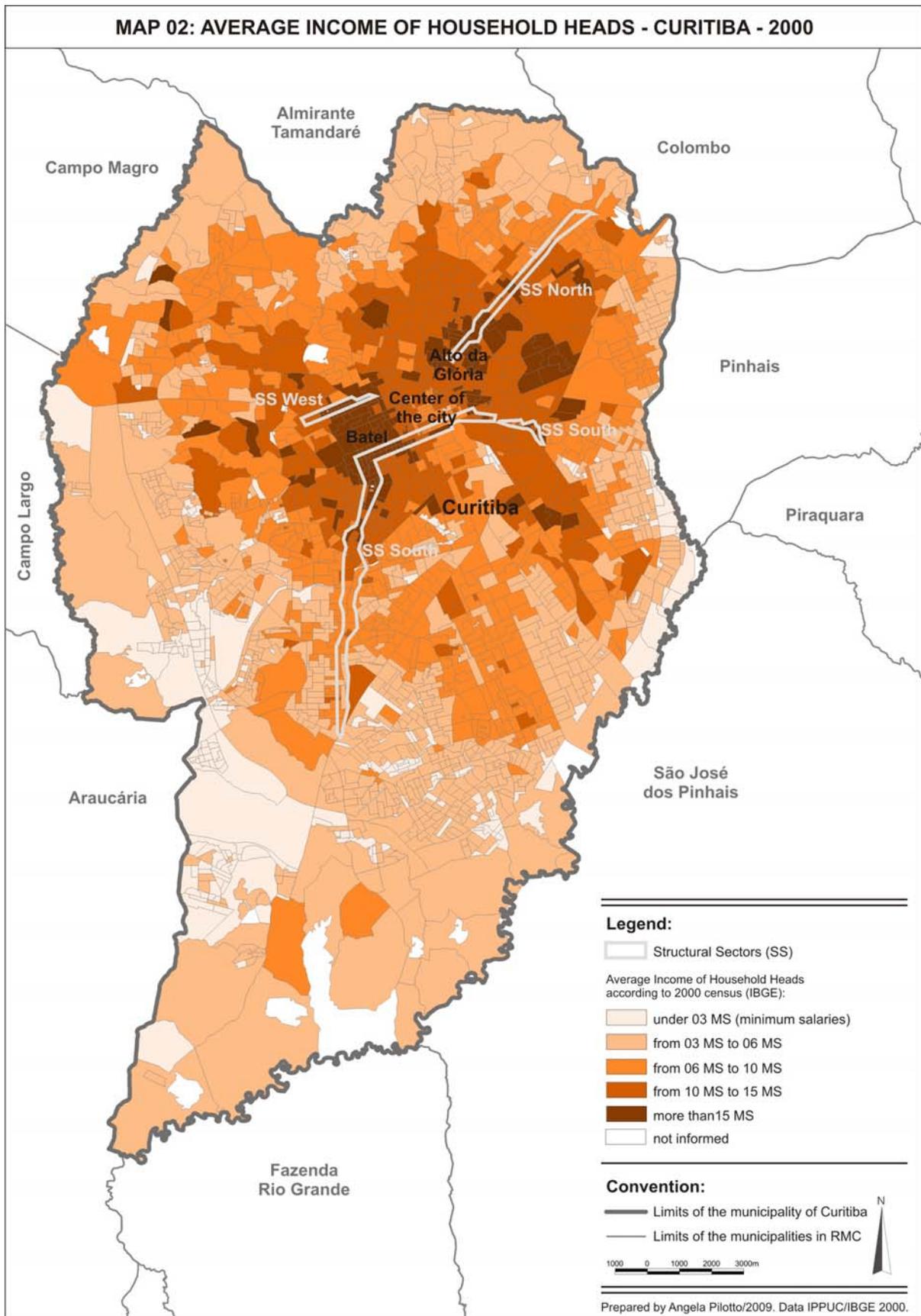
market development. Besides residential buildings, there were large traffic infrastructure constructions and several new businesses targeted to the upper class (Barigui Shopping Center, gyms, the university Centro Universitário Positivo).

The present study concerns the association between segregation and *verticalization*, through the connection of planning actions, the real estate market and upper class interests. The Curitiba *verticalization* process occurred on a specific road grid called Structural Sectors. The study shows that upper class districts superimposed themselves on the central area of these Structural Sectors and the *verticalization* process of these grids was not uniform. Areas with the same legislation and the same infrastructure have not become vertical in the same way. Only the areas closest to the center of the city, which have the highest value, have become vertical. It is the region where the best urban services, the best infrastructure and accessibility to the downtown area are concentrated.

High income earners control space through spatial segregation by choosing the best location; having the best accessibility; defining what is "close" and what is "far"; changing the traditional center of the city; producing a "new center"; regulating the real estate market; interfering in State actions. According to Villaça,

> Domination through urban space can be understood as the process through which the ruling class commands the differentiated appropriation of benefits and resources of the urban space. The most decisive of these benefits is the optimization of commuting time, namely accessibility to different urban locations, especially the center of the city. (...) Bourgeoisie produce an urban space optimal for their accessibility. In doing so, they worsen accessibility of other classes. (VILLAÇA, 2001, p.328)

MAP 01: CURITBA *VERTICALIZATION* PROCESS - 1940 to 2008

MAP 02: AVERAGE INCOME OF HOUSEHOLD HEADS - CURITIBA - 2000

Legend:

Structural Sectors (SS)

Average Income of Household Heads
according to 2000 census (IBGE):

under 03 MS (minimum salaries)

from 03 MS to 06 MS

from 06 MS to 10 MS

from 10 MS to 15 MS

more than15 MS

not informed

Convention:

Limits of the municipality of Curitiba

Limits of the municipalities in RMC

Prepared by Angela Pilotto/2009. Data IPPUC/IBGE 2000.

3.2   Zumbi dos Palmares and Alphaville Graciosa, opposite facets of a metropolis project[13]

The present analysis does not intend to be a case study of a specific gated community such as Alphaville and an irregular occupation. In fact, it aims to broaden the approach to the metropolitan scale, drawing attention to recent transformations in metropolitan peripheries via a punctual analysis. Therefore, land allotments Vila Zumbi dos Palmares and Alphaville Graciosa, situated side by side in Curitiba Metropolitan Area, are taken as examples of this new formation of urban peripheries, of the aggravation of inequality, as they concentrate an array of latent conflicts and tensions in the relationship among their inhabitants. Recent changes in urban peripheries are an expression of social class segregation and inequality through territory.

Vila Zumbi dos Palmares, is located in the city of Colombo, in the northeast region of Curitiba Metropolitan Area, on the margins of Palmital River, alongside Mauá Industrial Area. It occupies arable land that hasn't been parcelled out plus previously officially approved – in the 50's and 60's - but unoccupied allotments, such as Planta Palmital, Mauá Industrial Area and Jardim Graciosa, These areas were unsuitable to be parcelled out as the soil was swampy and there was no infrastructure, so it can be said that other reasons, such as landowners' interests motivated its parcelling out. In 1961, BR 116 highway was inaugurated. It connected Curitiba to Brazil's southeast and crossed the area. Built at a higher level without a suitable drainage system, BR 116 constituted a physical barrier and turned the area into a pluvial water accumulation basin. Thus, the allotments remained unoccupied until the 90's, when a population that didn't have any other housing alternative invaded them, encouraged by real estate speculators and political interests. Apart from social-economic issues, geographic features contributed to keep high levels of segregation imposed by numerous mechanisms favouring the reproduction of the center-periphery dualism. The peripheralization process of the 70's, such as in Zumbi dos Palmares, is still present as the same relations of precariousness and domination are produced and updated.

On the other hand, in the mid 90's, greater Curitiba goes through territorial, social and economic changes produced in part by the spatial restructuring of the productive sector in the metropolis[14]. In association with the new placement of the industry in the metropolitan conglomerate, other causes for the changes were the emergence of gated communities in peripheries, in environmentally protected areas and in public water supply areas. The emergence of large-scale constructions plays an integral role in the changes suffered by the periphery depicting the current segregation of the metropolitan space.

This case study analysis Alphaville, a specific model of high luxury gated community. Some features and dimensions reveal the grandeur of the development: Alphaville Graciosa I Residential is

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[13] The present study is based on the thesis: POLLI, Simone. Curitiba, Metrópole Corporativa. Fronteiras da Desigualdade, UFRJ/ IPPUR, 2006.
[14] As studied by FIRKOWSKI (2001).

made of 1.218 lots in a total area of 2,5 million m². The area of Alphaville Graciosa II, called Pinheiros, reaches 217,8 thousand m². The recreation area encompasses lakes, a club (2.500 m² of floor area) and a golf course (18 holes), besides native forest, which according to a newspaper is: "The biggest araucaria reserve in Brazilian urban areas" (Jornal Gazeta do Povo, 19/06/02). The development incorporates a business area, a hotel with 132 apartments (still in planning), Alphaville Mall, with about 56 shops and a convenience center, the traditional school Associação Franciscana de Ensino Senhor Bom Jesus, and a comprehensive security and surveillance system. To facilitate access to Alphaville, major investments in road infrastructure were needed. Around 3,7 kms of Graciosa Historic Road were recovered, facilitating access to Curitiba. Alphaville Urbanismo S. A., enterprise responsible for creating Alphaville, spent circa R$ 5.2 million (around U$ 2.8 million) on the duplication of the road, and also invested in paving, road signs, lighting, construction of pluvial galleries and the recovery of the bridge above Rio Palmital. According to the project-managing director of Alphaville Urbanismo, Marcelo Willer, "Alphaville Graciosa represents a urban revolution and the start of a new stage in the real estate market in Curitiba. By creating a new development hub in an unexplored area of Curitiba Metropolitan Area, Alphaville Urbanismo establishes a new axis for the city's development".

The 31Alphavilles, located in all geographic regions of Brazil[15], constitute a new typology of gated communities. In addition to an area of residence, they provide entertainment activities, education, security and shops, specific and exclusive to their clientele, the so-called "Alphaville community". To be able to offer the infrastructure and services required to maintain a high luxury "walled residential compound", Alphaville works with other big developments, developers and investors. The standard of the project, the amount invested, the power network and the materialization of the wishes of a minority lead to the conclusion that this socio spatial model denies the city. It is a novel set of values for middle and upper class residences. The high number of gated communities along the lines of Alphaville in Brazil reinforces the idea that they correspond to an already standardized/codified typology, multiplying symbolic images that call the upper class to join this new way of life. It transforms relationships with the others, the city and the State.

The table below exposes the differences of the aforementioned empiric objects (Zumbi and Alphaville) showing recent transformations in metropolitan peripheries through a macro analysis. The objective is to arouse reflection on conflicting relationship between the classes, the distance between their worlds, absolutely distinct and segregated.

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[15] North (1), Central West (3), Northeast (8), Southeast (11), South (8). Data available at www. alphaville.com.br.

Table 03: Urbanization Guidelines: Alphaville and Zumbi dos Palmares

	ALPHAVILLE GRACIOSA	ZUMBI DOS PALMARES
Occupation typology	Gated community, approved as an allotment in 2000	Irregular occupation, exists for 14 years
Current stage (2005)	Still consolidating, aproximately 600 inhabitants	Regularization process funded by State Government
Associated images	New life style; Better life style; Live in Alpha; Proximity to urban center; Unique development concept: quality of life	Delinquency; Violence; Drug trafficking; Theft, stolen cars chop shop; Precarious life conditions
Occupied area	2,5 million m²	500 thousand m²
Population	6.500 inhabitants (full occupation projection)	6.649 inhabitants (Cohapar/2004)
Nº of lots/dwellings	1.218 lots	1.797 dwellings
Density	2.400 inhab/km²	13.298 inhab/km² (5,5 times higher than Alphaville)
Lot area	Minimum 550 m² (majority 700 m², some more than 1.000 m²)	Maximum 200 m² (4 to 8 times smaller than Alphaville)
Minimum dwelling area	200 m²	From 15m², majority between 30 and 60 m². Townhouses in regularisation project: 40 m²
Occupation rate	40%	60% to 100%
Permeability	50% (carefull soil surface treatment of lots)	Inexistent guideline, dependent on each dwelling
Infrastructure	Complete	Energy and water
Road paving	100%	0%
Green area	1,0 million m² of green area; 165 m²/inhabitant	35 thousand m² of conservation area of Palmital River's linear park to recover
Common area	630.000 m² (recreation area)	3.800 m² (soccer field)
Spatial feature	Fragmentation of center and periphery	Center-periphery
Public spaces	Anonymity and individualism, private spaces, car spot	Public recreation areas of restricted use due to the presence of drug dealers
Spatial configuration	Denial of the city, private spaces, show, capitalized city - it is a merchandise, fragmented city, enclosed	Dispersed city, peripheralization
Relationship with government	Direct participation and influence in State government decisions	Patronage, paternalism
Land market value	Before Alphaville: R$ 3.00/m² (U$ 1.6); After Alphaville: R$ 180.00/m²(U$ 96)	Informal market: R$ 8.00/m² (U$ 4.2) After start of regularization: R$ 20.00/m² (U$ 10.6) Expropriation value: R$ 7.00m² (U$ 3.7)

The table above shows inequalities in the urban typology of both developments. It exposes differences in density and in other building and urbanization guidelines, pointing out the precariousness of life in Zumbi and the unequal territory occupation[16]. It also draws attention to the fact that Alphaville was approved as an allotment, an illegality according to Brazilian urban legislation laws. With so much security and surveillance, who will be able to enjoy 878 thousand m² of public area inside Alphaville Graciosa?

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[16] This article presents data on disparity between Zumbi dos Palmares and Alphaville Graciosa. Further information can be found in the thesis – POLLI (2006).

The apparently harmless lifestyle encouraged by gated communities deepens social disparities and builds "fantasy islands". Alphaville style developments are like enclosed enclaves, detached from any responsibility to their neighbours. Carrying a globalized form-content set of codes they behave like true aliens. Yet, they are perceived as the widely dominant view of an "excellent deal", an investment capable of developing economically depressed localities.

The low cost area where Alphaville Graciosa is situated, had its original zoning changed from Área de Preservação Ambiental – APA (Environmental Conservation Area) to Unidade Territorial de Planejamento – UTP (Territorial Planning Unit), enabling the legal introduction of the development. The easy access to planning information allowed Alphaville developers to plan the development in a privileged location: land cost was low, it was rich in environmental and physical amenities, it had privileged landscape, infrastructure was already in place and there was good accessibility and proximity to the center of Curitiba. Technical evaluation, using urban indicators, was fundamental to convince the government and other stakeholders that it was more adequate to change the current environmental legislation, enabling the construction of Alphaville, than "running the risk" of watching it become a "slum", like its neighbour Zumbi dos Palmares. This type of evaluation, used by Alphaville's entrepreneurs, is based on the ideology of order – it is best to promote an orderly and planned occupation than to see the area being occupied disorderly and precariously, represented by the image of slums.

Aphaville style gated communities have the influence to impose domination strategies to their environment and extract (or enjoy exclusively) amenities where they settle. After all, their main strategy is based on the privatization of territorialized resources[17]. Therefore, areas primarily intended to poor families are chosen for the potential of providing extraordinary return of investment. Next, the enterprise uses all its possible means and contacts to acquire and control the chosen location, defining its use and its future. Alphaville may have used strategies close to its reach: influence in governmental offices; relaxation of legislation; participation in planning. After its construction, Alphaville still controls the territory, through symbolic forms of domination[18] of the place and the other. Perpetation of this control is guaranteed by business ramifications associated to the project as well as by the conservation of continuous administrative activities. Alphaville's entrepreneurs differentiate themselves from the others so that, even after building and incorporating the allotment, they remain in site, managing the development.

In broader terms, gated communities are last generation products, exercise power in their own area (imposing certain behaviours to their inhabitants), over the State and the other. The high level of

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[17] Subordination of territories' resources for the appreciation of the development's value and accumulation of capital.

[18] Dealing with the effects of the place, Bourdieu (1997) calls the deeply rooted disparity in society "symbolic violence" through which the social space exercises a power that classifies, discriminates and labels. The symbolic dimension of the class struggle reinforces hegemonic forms of perceptions and appreciation of the world, via mental classifications and hierarchies that distinguish and discriminate the other. Alphaville's image of omnipotence reinforces its power, at the same time that it exercises symbolic violence by classifying and diminishing the other (Zumbi dos Palmares) and creating mechanisms of symbolic domination.

segregation and isolation exposes increasing alienation of the middle and upper class regarding urban needs of the low class. As a matter of fact, daily contact with this class is undesirable and increasingly feared. Through job offers and economic dynamism of the surroundings this study sought to verify the level of social interaction between Zumbi and Alphaville inhabitants. Though requiring more accurate study, preliminary interviews with Alphaville's architect and inhabitants show that there is no established social interaction, not even through subordination via employment relations. Domestic chores and general services are managed by cleaning and maintenance businesses, so that social interaction or communication between neighbours doesn't exist.

Zumbi and Alphaville are the embodiment of contrasts between incompatible style and ways of life. They expose the confrontation between diverse historic periods, due to origins, classes and different realities. Interests and lifestyles are confronted in the borders of the occupied territory. In each lifestyle there is a different space/temporality, they don't live in the same historic period. Vila Zumbi becomes subordinated to dominant processes with a rhythm that is different from its own. Gated communities and irregular occupations are the symmetric opposites in social and spatial hierarchy, but respond to the same materialization (conservation) instincts of the ruling classes. They represent the configuration of segregation, domination and the radicalism of disparity in Curitiba. Even poverty (or urban despoilment) represents a domination mechanism, as low class doesn't fully comprehend the causes of its condition. After all, even territorial tensions – in its most immediate visibility – are hidden by speeches and images that conceal economic and political interests.

4   IMPLICATIONS OF URBAN SEGREGATION IN THE CONFIGURATION OF THE METROPOLIS

The objective of the present study was to show that spatial segregation is constituted by only one process, through which upper and low class segregate. "It is a dialectic process, in which the segregation of some causes at the same time and via the same process, the segregation of others" (VILLAÇA, 2001, p.148). The author warns that the challenge lies in understanding the profound reasons of segregation and its social, economic, political and ideological implications.

The case studies in Curitiba show that segregation processes strengthen the power of the upper class. Segregation can be perceived as a domination strategy via space: it is "a process necessary to social, economic and political domination through space" (VILLAÇA, 2001, p. 150). Some domination strategies employed in the configuration of the metropolitan space – requiring more study – assist in reasoning the implications of segregation for Curitiba: (i) the construction of the consensus that it is a model-city; (ii) identification of part of the city - the model city-, with the whole - the unequal metropolis; (iii) privatization of territorialized resources (iv) constitution of the "city of walls".

In the production of the space in the capitalist city, the need to produce new districts and locations and turn other obsolete, is a step of the **domination through ideology** process. Thus, segregation arises as a necessary phenomenon to the constitution of spaces reserved to the upper class, in which the real estate market and the State take part. This process can be seen in Curitiba, especially in the constitution of the central area: the portion of the city known as "model" starts to be considered as the whole, *the city*. At the same time, new locations are produced through the construction of upper class developments in peripheral areas, otherwise treated as inferior, non-cities, due to the precarious conditions they display. One of the mechanisms of the ideology

> tries to identify 'the city' as the portion of the city where upper classes reside. Prejudice in relation to other regions is developed accordingly. Rio's North Zone and São Paulo's East Zone are examples of regions treated as inferior. (VILLAÇA, 2001, p.348)
>
> Subliminally, the ideology embeds in the mind of the majority the idea that the city is where the ruling class is situated. It eases the work of the State that privileges this portion of the city. By investing there, the State invests in *the city*; in protecting it through urban legislation the State is protecting *the city*. (VILLAÇA, 2001, p.350)

The **political facet of domination** is exerted by the participation of private actors in the State and in the planning process of the metropolis. The well-known consensus concerning the "model-city" allows urban plans and representations in the name of "modernity", "efficiency" and "environmental concerns" as widely explored by Sanchez (2003). At the same time, this politically built consensus hides the existing inequality and social segregation. Préteceille (2004) claims that it is common that public policies, at least in their rhetoric, aim for less disparate and segregated cities. In Curitiba however, the recognition of this imperative doesn't seem to exist. To which extend the State perceives social segregation as a problem is questionable. It is a crucial issue, as it will only be possible to analyze whether government policies are having any impact in this regard if reduction of segregation is among its objectives.

Upper classes also control production and consumption of space through **economic domination.** It happens with the conditioning of the real estate market. This market doesn't perform randomly; it follows the interests of upper class, launching new developments located in the direction of upper class concentration, as it was made clear by the analysis of *verticalization* in Curitiba. The real estate market innovates and recreates its products in high standard gated communities, disseminating a new residential and lifestyle standard, promoted through images that call for "new or better lifestyle", "commitment with the quality of life", "a unique development concept". "Contact with nature" and territorialized resources (araucaria native forest, among others) are also a means for the real estate market to exploit the land and extract extraordinary speculative gains.

Finally, the case studies expose the aggravation of inequality and segregation in Curitiba that leads to considerations on its social outcomes. There may be a new urban order taking shape – which is still attached to old patterns of segregation renewing itself through radicalization of inequality, colonization of

the other, intolerance to poverty[19] and borderline situation[20]. How can those who insist in not "seeing" the real city ignore socio spatial disparity? Is it a specific type of blindness or are they exacerbated demonstrations of individualism? Better still, could it be that living in a city that is praised all around the world, even in an unfavourable condition, instigates self-worth processes (not yet sufficiently studied)? These are not easy answers. However, it is the duty of the researcher to repeat the questions, especially when confronted by the urban segregation that characterizes the Curitiba Metropolitan Area of today.

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[19] Expression created by Ferreira (2007, p. 1): "Intolerance to poverty shapes elite's behaviour, but also the government's, dictates public policies, social and, clearly, urban dynamics".
[20] According to Martins (1997) this border is not restricted to a geographic delimitation, but includes borders of many and different meanings: civilization border, spatial border, cultural border and perception of world border. It can take on different meanings: border as a conflict between territorialities, the self and the other; as the scenery of intolerance, ambition and death; borderline of areas that are being continually redefined, disputed in different ways by different human groups.

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