CONTROLLED ENVIRONMENTS: THE CASE OF RIO DE JANEIRO

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ABSTRACT

This study describes and analyzes the changing impact of "security" on the form of cities by exploring two residential settings, Nova Ipanema and Novo Leblon, in the city of Rio de Janeiro, Brazil. These developments have established a new post-modern version of the European medieval walled cities. The need for safety in the city has caused affluent citizens to react, by supplying themselves with the kind of services that were once the municipality's responsibility. As a result one can see increased subdivision of the urban fabric into virtual miniature cities. These secluded residential pockets are a tentative answer to a pervasive need for security and control, which is significantly disrupting the traditional form of the city. The study concludes that, as local economic problems worsen and government services lessen, increased private-based measures are likely to dominate the urban scene.

Thesis Supervisor: Dennis Frenchman
Title: Lecturer

To

Bel

ACKNOWLEDGEMENTS

INTRODUCTION

In this piece of research I deal with the idea of "control", an abstract notion that is becoming an important factor in the design of cities.

This work deals with control only within residential contexts in the city. The two cases that I present here, Nova Ipanema and Novo Leblon, come from the city of Rio de Janeiro, Brazil. They are prototypical of an increasing number of similar type projects in other parts of the world that feature security control, such as retirement communities in Florida and exclusive residential developments in California. There are also many other illustrations that can be found in Arizona, Boston and in Europe, as well.

The increased use of control in the environment has resulted in significant changes in the living pattern for some of the population within a section of the city of Rio. Two villages, in particular, have established a new trend that has been followed by most of the residential developments in the far south region of the city, the bairro(1) called Barra da Tijuca (see Fig. 1).

The phenomena of the development of these villages in the city of Rio de Janeiro, is mainly caused by low levels of security in the environment and the need for better public services. Fear and distrust is a common feeling throughout the city, and gave birth to an interesting concept for new residential communities in the post modern city that I have named, Condo Bundles. In other words, Condo Bundles can be any secluded condominium complex that features common amenities, heavy private security and entrance gates on a walled or fenced-off site.

Increasing measures of control are everywhere; however, the average citizen may not perceive it. In the past, concerns with security in the residential environment were less evident than they are today. On the other hand, any kind of social/environmental control is usually taken for granted by most of the population today, because the effects on people are usually confined to

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(1)   bairro is a section of the city and encompasses an area much larger than a neighborhood.
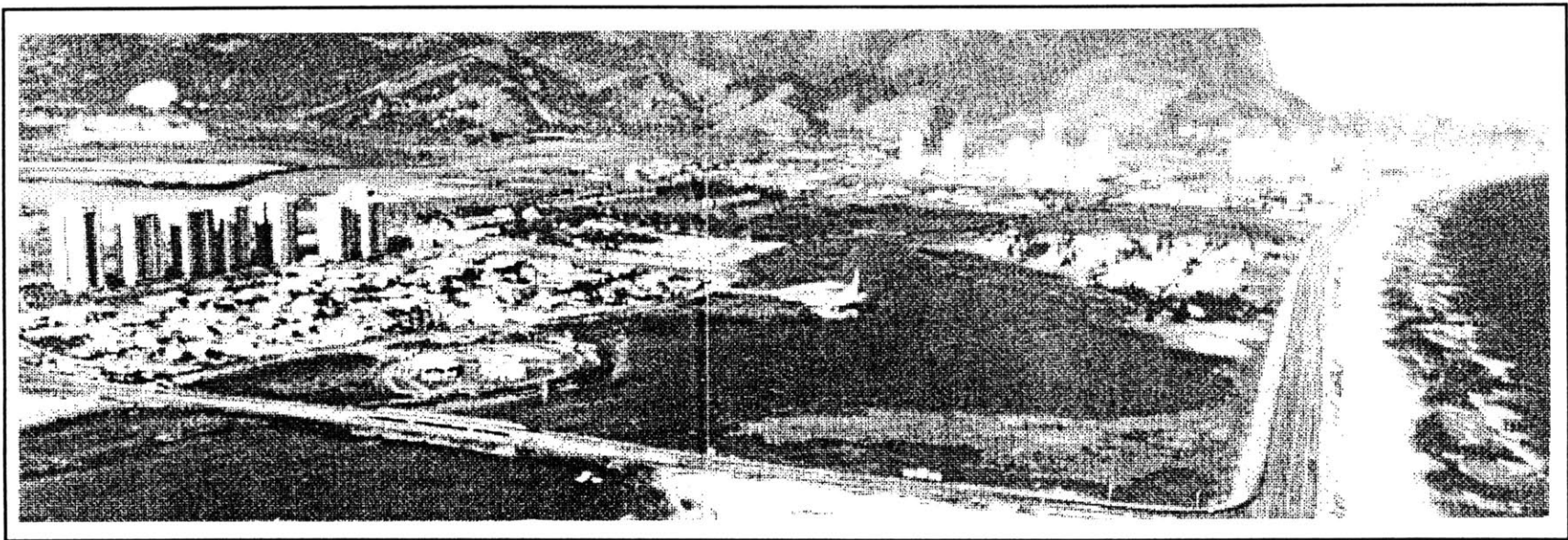
Fig. 1
Barra da Tijuca

their social behavior. For instance, the existence of a camera or a security guard can

make people rethink their attitudes in a particular situation. Our everyday life is, by all means, directly connected to the abstraction of control, whether it is planned or intentional. Controlling and being controlled is part of anyone's life, and is as widely accepted by people today, as eating and drinking.

It is often a surprise for people to discover that their lives are controlled by features such as watch guards or electronic devices. Methods of control have continually increased in parallel to advances in technology: Consider for example, all the security/surveillance hardware available for home, office, public spaces and others. Security personnel, cameras, monitors, access codes, among others, are common languages today. That is probably why it has been creeping into our settings for the past twenty years, without people's consent. The implementation and use of these devices can be very subtle and have been legitimized.

The idea of control in this study, refers to the restriction or regulation of anyone's choice. This thesis focuses on control, in residential environments particularly, by analyzing its causes and its possible effects on the future urban pattern of the study region, in Rio de Janeiro, Brazil. It also questions and analyzes control with regard to its effect on people, places and cities in general.
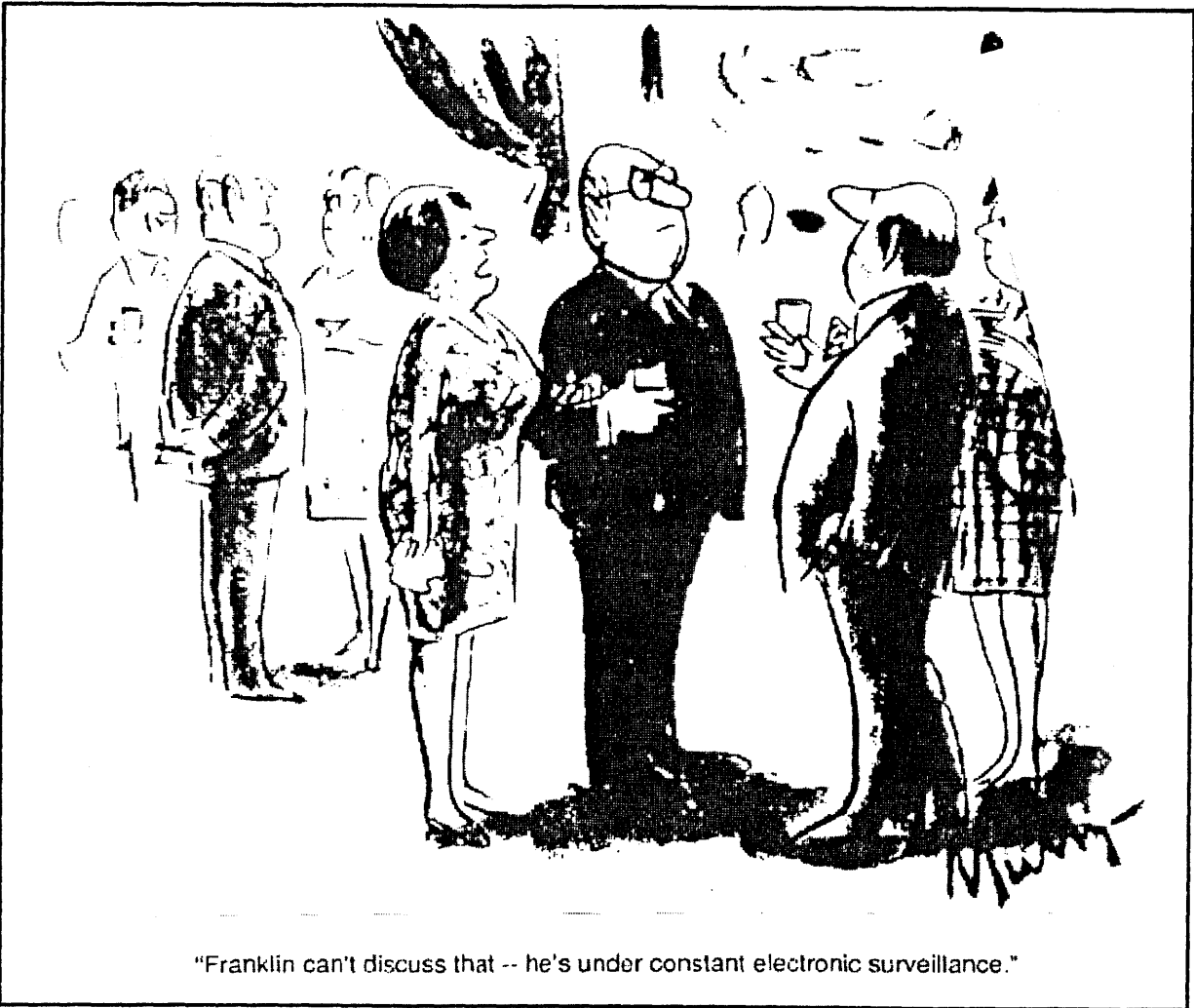
"Franklin can't discuss that -- he's under constant electronic surveillance."

Fig. 2

CHAPTER I

CONTROL AS A MEDIUM

Social control has always existed among cultures. This idea of group constraint is an important fact that one has to take into account when one studies the history of Brazil.

In this chapter we will deal with five different examples of residential control, featured since the early stages of Brazil's status as a Portuguese colony. Important cases that exemplify the idea of control in the residential environment are: the Aldeia System, The Senzalas, the Doxiadis plan, the Favelas, and the Condo Bundles. They have all been used as a medium to achieve the same goal, namely, security and social control.

The five examples above, illustrate different types of residential control, achieved either "by force", "by choice" or "by need".

The "by force" type, features an environment where the individual has been excluded from natural interaction with other people, generally as punishment, whereas the "by choice" one features mainly a private domain, where the individual has decided to separate himself from society. The third type, "by need", is featured under unique conditions where the community needs to preserve its integrity and ownership.

All types exercise control in different fashions and they can be defined as overt or covert. From the examples shown above, we will see how control is applied in these three different ways, aiming at the same objective.

The medieval fortified wall surrounding a city a well understood form of residential control. The wall as a control barrier, is found in three out of the five examples mentioned above. It is important to bear in mind that in Brazil cities have never shared the same tradition as medieval European and Asian cities. Brazilians never had walls surrounding their metropolis. This is probably due to two main reasons: the geographic location in a less hostile environment

compared to Europe and Asia, and the informal Portuguese colonialist mind (2). There was in fact a plan for the construction of a fortified wall around the city in 1770, but was never built (see Fig. 3).

The Aldeia System

The aldeias (villages) (see Fig. 4) were the early controlled environments in the history of Brazil. They fall under the "by choice" category and with regard to protection barriers, and the wall was a key feature to the safety of each aldeia.

Before exploring the details, it is important to understand how and why the aldeia system was implemented in the new colony as a means of self-defense and self-protection to natives of the colony, namely, the Indians.

The Portuguese discovered and settled in Brazil in the early 1500s, but they were not immune to the attractions of the land. It was, in fact, seen as a terrestrial paradise. Writings from colonial times, such as "if there is a paradise here on earth, I would say it is in Brazil", by a Jesuit father, clearly expressed this feeling.

The paradise the missionary was referring to had to do with the landscape, and certainly not with the social conflicts between the settlers and the natives.

Throughout the so-called paradise, the Portuguese encountered and confronted Indians whose civilizations varied widely. The Indians were the only readily-available workers, and the settlers hoped to solve their pressing labor shortage by coercing the natives Indians to work for them. The Portuguese tried to incorporate the Indians as an integral part of the colonization process, by having them as workers and servants in the growing colony. Unfortunately, because of the nature of the Brazilian Indian, they did not allow such control. The Indians' indolence and refusal to work revolted the settlers. The Indians proved to be at best reluctant and unreliable workers. It is true, though, that

(2)   see Portuguese Brazil: The King's Plantation, James Lang, N.Y.
Academic Press, 1979

LEGEND

Project for a fortification of
the city (never built)

A quaduct

Fig. 3
The wall around Rio, 1770

the Indians were the first instrument by which wealth was created in the new colony.

The Jesuits and the Portuguese were intimately intertwined due to strong relations between Portugal and the Roman Catholic church. In order to civilize and protect the Indians against exploitation, missionaries were dispatched from Portugal to Brazil, to try to care for the natives by inducing them to live in controlled environments, called aldeias (villages).

Jesuits were first seen by the planters as a solution to their problems in dealing with the Indians. They thought that the missionaries could persuade the natives to work for them, and hence minimize their confrontation. Conversely, the Jesuits ardently defended the Indians and rigorously prodded the royal conscience. The missionaries had to fight against the planters, who felt the interference of the church with their slave labor system. The Jesuits, contrary to the planters belief in the beginning, spoke out against the practices of the colonists.

Each aldeia gathered Indian groups and usually one or two brothers administered each village. The Indians were instructed, christianized and protected by the church and crown. "The aldeia was centered on a church, which was built by the newly converts themselves. Around it there were a school, housing and warehouses"(3) (see Fig. 4 & 5). The Indians everyday life is well depicted in the quote below.

> The ringing of church bells awoke the Indians each
> day, summoning them to mass. Then, singing hymns along
> the way, they marched outside the village to cultivate
> the fields. The brothers taught reading, writing, and
> the mastering of useful trades to the young and able.
> Indians sculptors, painters, masons, carpenters,
> bakers, and locksmiths, among others, were soon
> practicing their trades. Many of the villages achieved
> a high degree of self sufficiency, and most sold some
> of their products to outside markets.
>
> E. Bradford Burns, A History of Brazil,
> Columbia University Press, NY 1980

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(3)   A History of Brazil, E. Bradford Burns, Columbia University Press, N.Y., 1980

Fig. 4
Jesuit Mission at Sao Miguel,
RS, Brazil (<u>Brazil a Portrait
of Half a Continent</u>)

WALL

INDIAN'S
QUARTERS

SQUARE
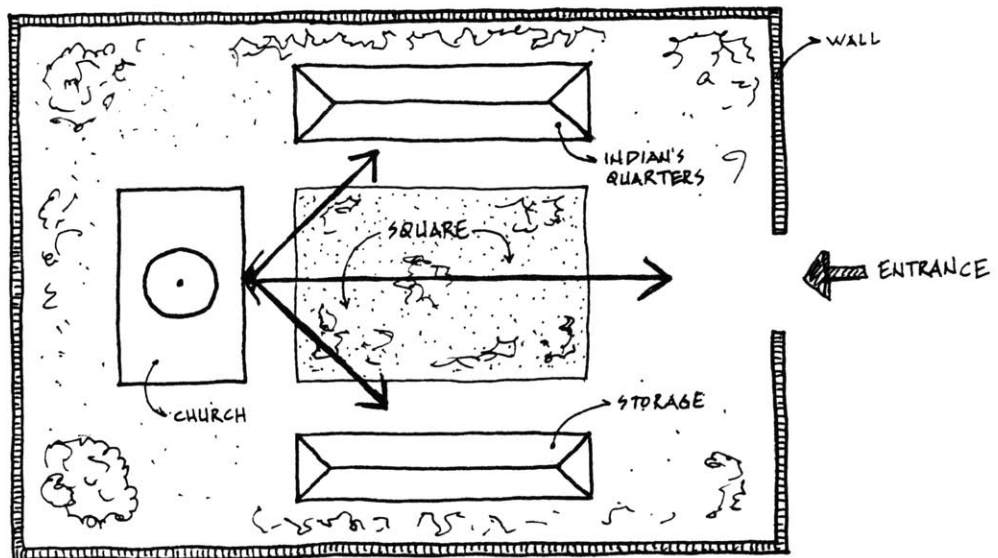
ENTRANCE

CHURCH

STORAGE

Fig. 5
Aldeia - Perception of Control

The aldeia system proved to be successful in caring for the indigenous population. Not only was this system pioneering in the new colony, but it also had many advantages, such as: permitting maximum use of few regular clergy in Brazil, disseminating the Roman Catholic church principles in the new world, protected the Indians from exploitation by the white settler, achieving a high degree of self sufficiency, and training the Indians to master useful trades.

The brothers who administered each aldeia, in the final analysis, rigidly controlled the lives of their neophytes. They used to call the Indians "their children", which, in fact, has more than a simple figure of speech. An important point to bear in mind is that the aldeia system was totally supported, at the time, by both local government and the crown, and yet hated by the planters.

Under the guidance of the missionaries, The Indians helped strengthen the imperial economy, dressed like Europeans, worshiped as Catholics, paid respect to the king in Lisbon, and became skilled workers.

Even though the natives were protected by the Jesuits, permission was granted by the crown, however, to enslave any Indian who fought against the Portuguese. Needless to say, this provision offered a gaping loophole for the planters to obtain their native slaves.

The cold war between the planters and the Jesuits never ceased. After 1553 the ties between the missionaries and the government had declined. Scattered episodes thereafter increased the animosity between the clergy and the local government.

The final destiny of both the aldeias and their administrators, the Jesuits, came to an end when Marques de Pombal, prime minister of Jose I, signed a decree in 1759 which expelled the Jesuits from the colony. Among the accusations there were, isolating the Indians and thereby inhibiting their incorporation into the empire. The aldeias were ordered converted into Brazilian towns and they all eventually became new cities in the colony.

The Senzalas

"Senzala" was the name given to living quarters for slaves, during the time when Brazilian society relied on slaves to fill the labor void in their methods of production. As we shall see, they account for the second known controlled-residential environment in the history of the Portuguese colony.

With the advent of slavery (1550-1888), due to the facts explained before, stronger control over the black people imported from Africa went into effect. It is believed that the first African slaves arrived in Brazil in 1538. These black communities used to work in engenhos (sugar mills), where they were cordoned into groups of 100 slaves.

Slaves in Brazil were used to produce export crops and to extract precious stones and metals; in urban centers they worked as artisans and also provided social services. It was through work that slaves achieved the basic security for survival. If they did work well, masters minimized surveillance and left them somehow "alone". There were three essential qualities for a slave to avoid harsh treatment: to be loyal, obedient and subservient. Slaves could also be sentenced to death, depending on the violation, until 1876 when death penalty was abolished in Brazil.

Slaves lived communally in a senzala (see Fig. 6), a large, rectangular, one-story building along which ran a covered gallery. Each bedroom's lay-out had a single split door(door-window combination - the upper part worked as a hinged window), that opened onto the gallery. The master's house, called "casa grande" (big house), dominated the senzala. The "casa grande" was designed so that his bedroom faced the senzalas, and the "senhor de engenho" (the master) could always watch and monitor everything that went on from his quarters.

The black slaves had practically no choices within their residential environment. On occasions the slaves rebelled, killed their masters, and set fire
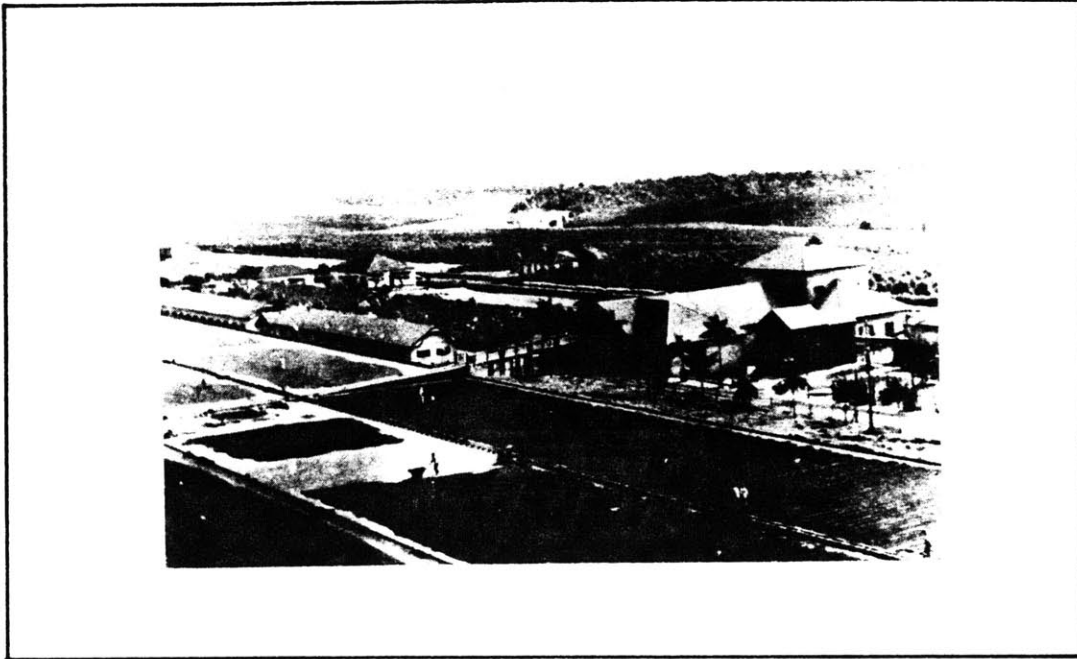
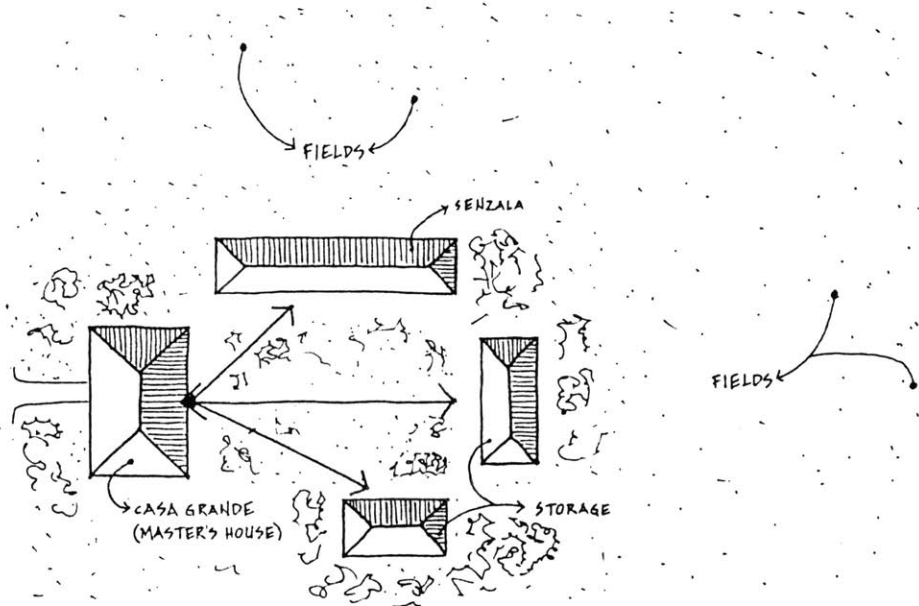Fig. 6
Casa Grande & Senzala

Fig. 7
Senzala - Perception of Control

to the plantations, both buildings and fields. Escapees, if not recaptured, would find refuge in other settings called "quilombos"(4).

The engenho (sugar mill), the casa grande (big house), and the senzala explicitly showed the idea of social organization and control in a patriarchal society, as Freire put it.

> In a patriarchal society, such as Brazil was during almost the whole period of slavery, with divisions or zones sociologically equivalent to those of the so-called feudal societies, it was not citizens or even subjects who constituted the basic elements of our population, but families and classes.
>
> Gilberto Freire, The Mansions and the Shanties, NY, 1963

The senzalas housed a precious commodity, without which Brazil could not survive economically. They were somewhat similar to what Goffman calls a "total institution": "A total institution houses and regulates certain activities for members of the society that have been excluded from the natural interaction"(Goffman).

The control was basically exercised so as to preserve quiet and to prevent social organization. The white man's community protected its capital interests and integrity by isolating a particular group in their society, namely black slaves.

The Doxiadis plan

In 1964 the governor of the former state of Guanabara -- the Municipality of Rio de Janeiro today, Carlos Lacerda, contracted the Greek firm Doxiadis Associates to prepare a physical long-term urban development program for the city (see fig. 8 & 9).

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(4)   quilombos were black communities formed by escapees from the senzalas.

The Doxiadis plan was proposed during the renaissance of security control and crime prevention awareness in residential environments. In an attempt to minimize such problems through environmental design, a series of plans were done for the city of Rio de Janeiro.

The Doxiadis plan coincides with the time when sociologists Lee Rainwater and Roger Walker, architects Oscar Newman and Roger Montgomery, and members of the St. Louis Police Academy had a meeting at Washington University to discuss problems of crime and vandalism in a particular housing project named Pruitt-Igoe. As a result of this meeting, a set of postulations about safety in the environment were drawn, which later became known as "The Theory of Defensible Space". In other words, it set the criteria about how people perceive personal and communal territory, and, more importantly, how they are willing to intervene against social or criminal trespass on it.

In 1972, the Pruitt-Igoe housing project was torn down and Oscar Newman's book Defensible Space was published. Another spin-off of those 1964 discussions was influenced by Lee Rainwater's paper, "Fear and the House-as-Heaven in the Lower Class". He claimed that the perception and fear of crime governs financial as well as personal risk, and thereby influences reinvestment, property abandonment and flight to the suburbs.

In Newman's defensible space theory, he associates crime, within the residential environment, with four basic assumptions. They are:

1. How well the physical environment enables residents to develop a sense of territory within which they can identify and assume the authority and community duty to defend against trespassers by question, confrontation, or calling the police.

2. What opportunities the environment offers for surveillance of intruders by residents.

3. The location of the site with respect to surrounding land uses and transportation.

Proposal by Doxiadis for the renovation of Copacabana cross section
and cutaway perspective view of typical block interior. Pedestrian
circulation, together with the entrance level of buildings, would be raised
one story above ground, leaving the ground level for motor traffic
and parking.

APARTMENTS

APARTMENTS

APARTMENTS
OR   SHOPS

PASSAGE

MECH.
GARAGE

SHOPS

SHOPS

GARAGE
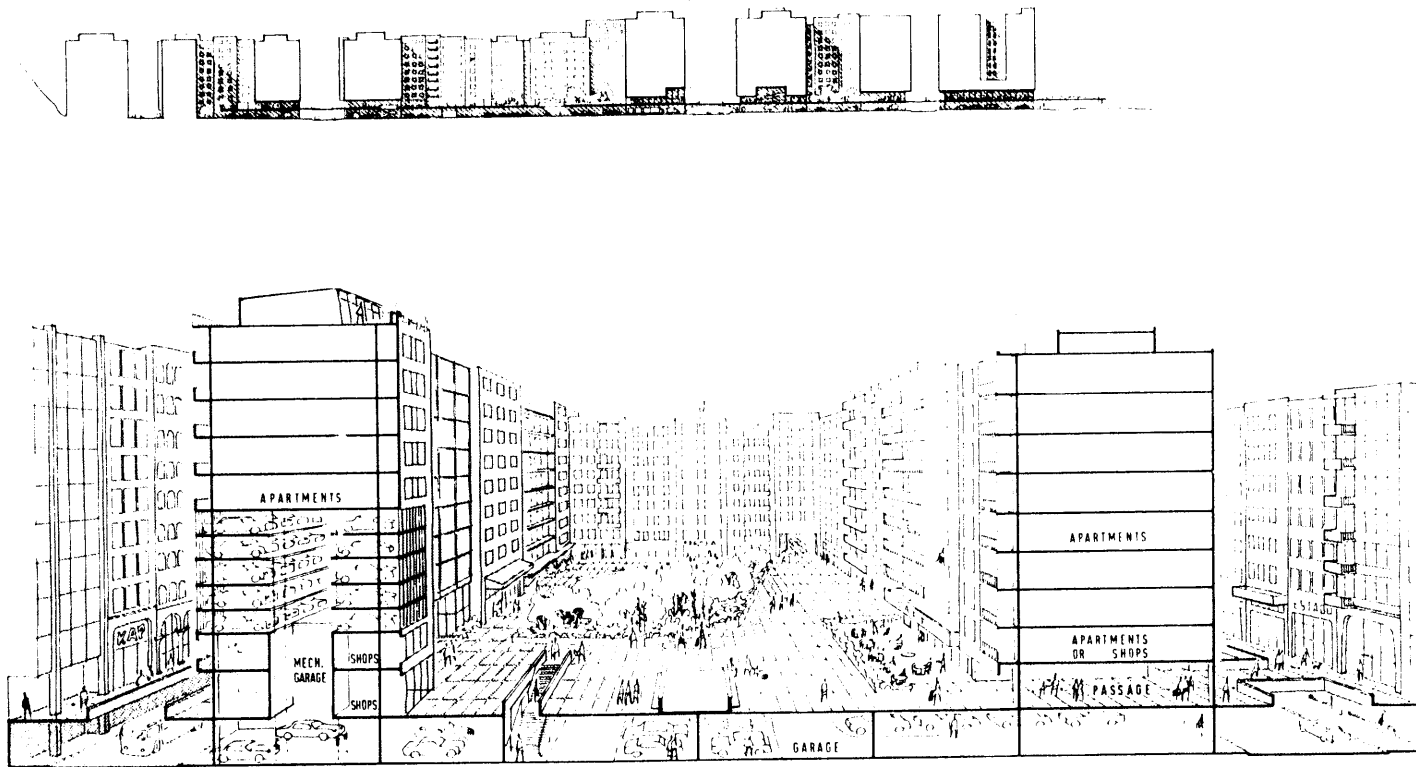
Fig. 8
Doxiadis Plan for Copacabana

APT. BUILDINGS

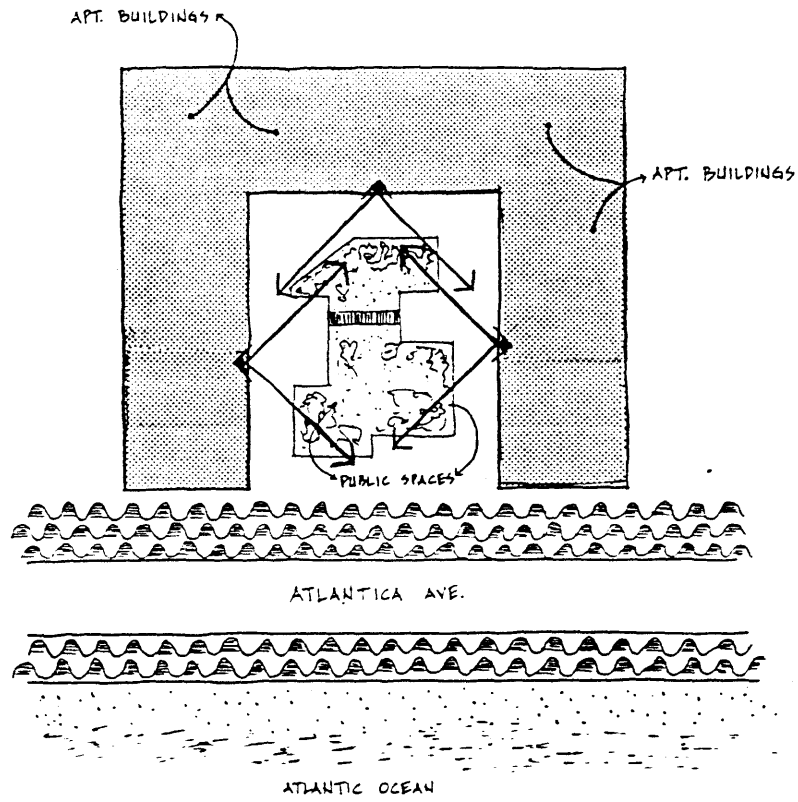APT. BUILDINGS

PUBLIC SPACES

ATLANTICA AVE.

ATLANTIC OCEAN

Fig. 9
Doxiadis - Perception of Control

4. The image of the environment and its integration into the neighborhood at large, and how it affects resident's perception of, satisfaction with, and sense of control over their surroundings.

Even though Newman's book was published after the Doxiadis plan, these guidelines and concerns can be found in their design proposals. It is true that these ideas had long been discussed before the book was published. In short, the Doxiadis plan tried to incorporate all the concerns one should have, when planning a safe residential environment.

Drawing a parallel to Newman's four basic assumptions, listed previously, one can see that the part of the plan that dealt with Copacabana beach proposed the construction of inner plazas with surrounded by mix-used building types. From a design perspective, the intentions of the plan are clear. The inward focus was an important character, for it provided chances for surveillance from the buildings by residents. It also supplied residents with a sense of territory and assumption of authority, as depicted in Newman's rules number 1 and 2.

The image aspect , cited in rule number 4, had been taken care of by itself, because in the 1960s, the bairro of Copacabana enjoyed a considerable status within the south zone of Rio. Integrating the environment with people, also cited in rule number 4, had been taken care of through the provision of communal space and its location relative to the surrounding buildings and to the site. The mix-use building types provided a safer environment assuring people's integration through day and night activities.

The plan is not totally flawless. The proposed underground parking facility may be subject to criticism, as to how safe the area might be. At that point in time surveillance hardware was very limited and expensive, compared to that available today. Comparatively speaking, this plan is nothing more than the modern version of a big senzala. It somehow has a similar form where residents are the masters and the public portray the controlled slaves.

The plan and its purposes were never achieved but the idea of designing defensible residential environments in the city simply died until the mid-seventies. After then an important direction in the types of controlled

environments have emerged and can be seen in the city of Rio de Janeiro today: the Favelas and the Condo Bundles. They present interesting extremes in their strategy, and it is mainly related to available resources for each one of them.

The Favelas

The origins of the favelas date from the early 1900s. That was when the first settlements, later known as favelas, started to appear on the hill sides of the city of Rio de Janeiro. Location is an important characteristic of these communities, and by 1940 there were as many as 30 favelas in the city.

The Favelas (see Fig 10 & 11), feature the worst case of delinquency, vandalism and social hopelessness in the 20th century city. These informal settings, in particular, are an integral part of the image of Rio. These settlements can be considered separate organs from the city with their own way of life. A great number of the labor force also comes from the favelas, as well as the crime force, by housing local drug dealers and their squads. It is certainly the kind of environment that offers no attraction to visitors and often times any unusual behavior found is reported to their association leader. As an illustration, the largest favela in Rio de Janeiro, called Rocinha, has about 200,000 inhabitants, and they are typically located within good and desirable neighborhoods (Fig. 12).

Regardless of their social problems, favelas are defensible environments and their population composes a very united community. Statistics show that over 50% of the population of the favelas feel that they are united and only 12% feel that they cannot count on their neighbors in times of need. (see Table 1)
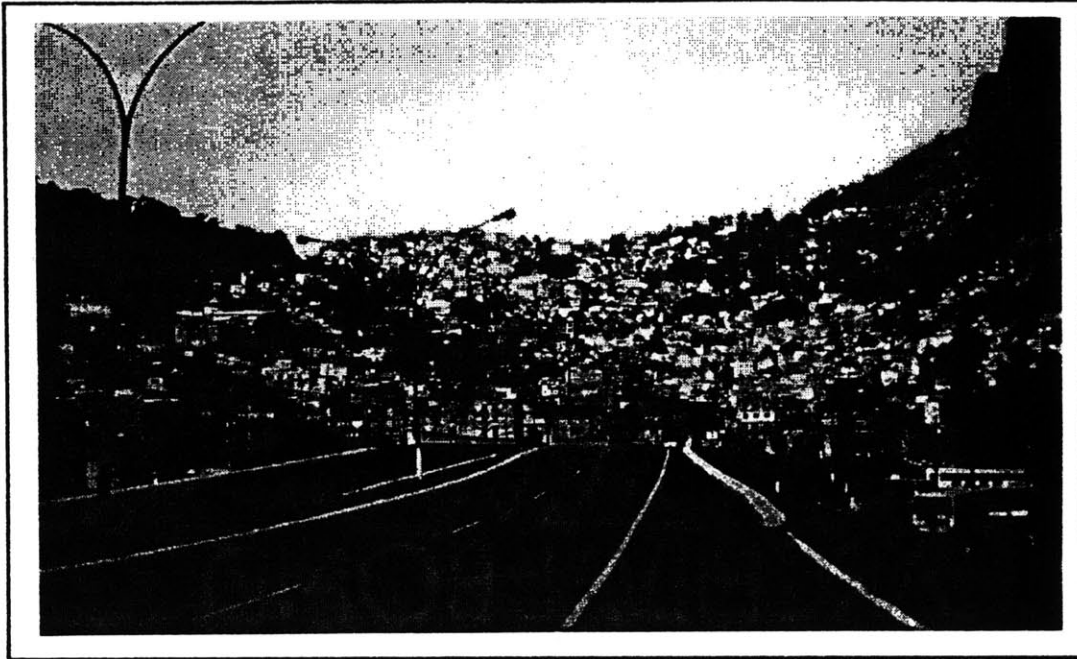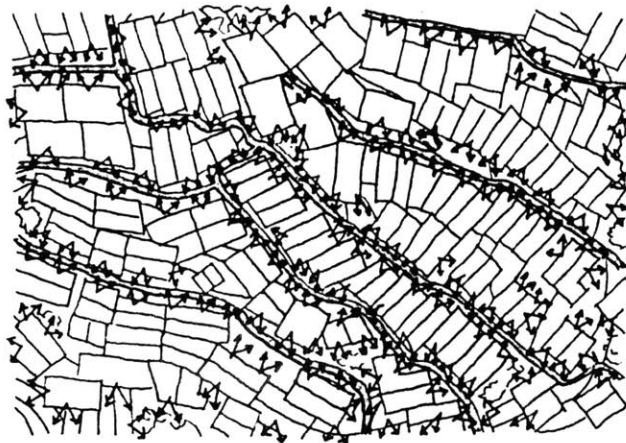
Fig. 10
Favelas

Fig. 11
Favelas
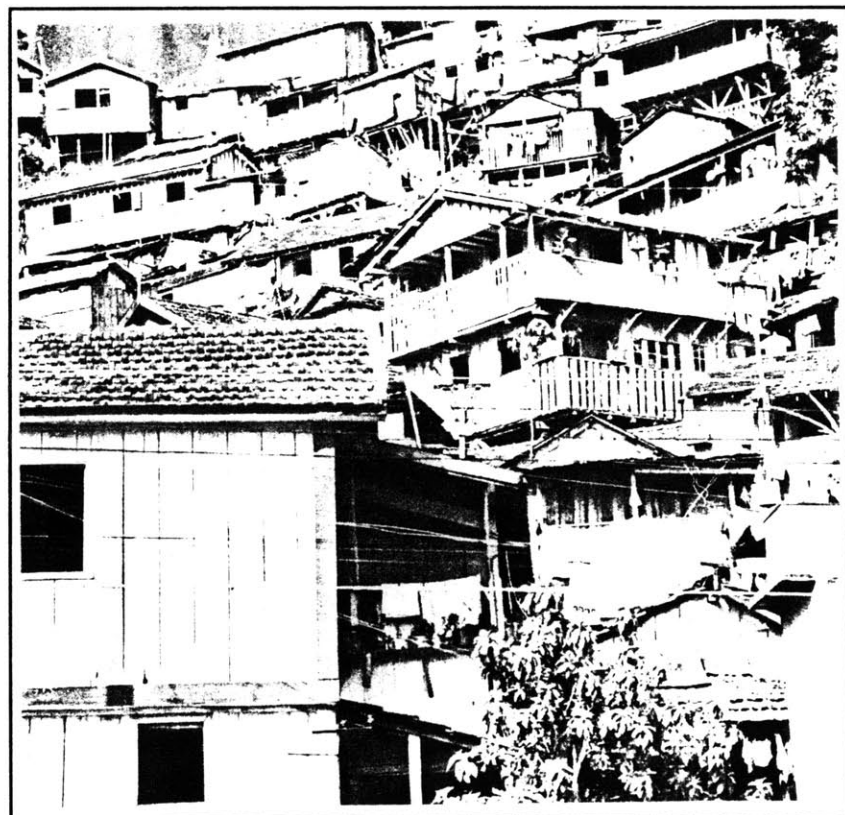
Fig. 12
Favela "Rocinha"

⟷ neighborhood watch

Fig. 13
Favelas - Perception of Control

TABLE 1

CAN COUNT ON PEOPLE *	UNITY AMONG PEOPLE	MUTUAL HELP **
All 21%	Highly united 52%	Much more 39%
Most 22%	More or less 30%	Little more 18%
A few 45%	Lack unity 18%	About the same 13%
None 45%	Little less 11%	
	Much less 19%	

* friends and neighbors

** compared to their home town

Source: Janice E. Perlman, Rio's Favelados and the Myths of Marginality, University of California, Berkeley

They fall into the "by need" type of controlled environment, as well under the category of the so-called "crime watch neighborhoods" (see Fig. 13). Crime watch is an old concept in residential security control that relies on every resident as a potential "watcher" to protect the area. It has become more common in the past decades, mainly as a result of fear, distrust in others, and lack of security, which has spread out in the society today. Examples in the past of such practice can be seen in communities such as the Medinas, in the Islamic world.

Favelas are somewhat like the Medinas. Medinas have a strong religious function that dominates its entire life, relative to its people's relationship, city growth and planning (M.S.Makki Medina, Saudi Arabia). Their environment does not provide any attraction to outsiders, not associated with the existing atmosphere. There is no way of hiding or committing any violation without being caught or seen. This concept holds true for the favelas, as well. What is peculiar about the Favela's control strategy, like the Medinas, is that there are no physical barriers. In other words, they do not rely on physical barriers but, rather, abstract ones. Social control provides the barrier needed for their protection, not a wall. The abstraction of hidden control exercised by every resident is a pervasive feature encountered in the favelas. They police their own environment themselves, against intruders, and every resident, regardless of his or her age, is a potential watcher.

Due to squeezed resources they have no other choice, as to how protect their environment, but to count on their unity. The control in a Favela can be very

efficient. Human beings are very innovative and lack of resources may produce alternative ways of accomplishing certain objectives. In the city of Rio the number of existing Favelas in 1980 was close to 100. These communities do not seek protection against theft or assault but, rather, to preserve their integrity as a community.

The poor favelas, with their lack of physical control, contrast sharply with the next example, which is becoming prevalent in the city: the so-called "condo bundle".

The Condo Bundles

Condo Bundles can be defined as any form of residential development that features several apartment buildings and single family houses, private amenities -- a country club, heavy security, private transportation for residents, regular maintenance and other services in general -- on a walled or fenced-off site (see Fig. 14 & 15). Everything comes in a ready-to-go package when one purchases a condo or a house within the complex. Their urban grid does not necessarily have to follow the city's grid and there is no dependency on public services.

Since the mid-1970s, concerns with security issues have become stronger. The theory of defensible space underwent some revision when efforts, in the 1980s, had turned to examining opportunities for intervention in three new categories: the decision, search and act phases of the criminal process.

The decision phase is linked to law making, the assumed deterrence of punishment, education, and social programs. Architectural and urban design interventions act in the search phase, as do neighborhood block watchers, security patrol and street lighting. Finally, the act phase refers to preventive measures which mostly involves site and building hardware.

This preoccupation, in the mid-1970s and early 1980s, has led to the development of secluded community complexes in the farther south section of the city of Rio, which I will be referring to hereafter as Condo Bundles.

Most of the Condo Bundles somehow follow design principles, such as the ones featured in the first defensible space theory, as well as in the revised version. They also make use of a supplementary feature, not mentioned in those policies, namely, a fortified wall or a fence. That is to say, a physical barrier is a pervasive feature of those communities.

The goal of these new development prototypes is protection from a hostile environment, by isolating residents from the outside world. In other words, this notion of crime control works inversely to the general system of crime prevention and conviction. That is, the potential victim is removed from being a target and is protected within a controlled environment beyond crime's reach. The community is protected by security features (see Fig. 16) and does not rely on criminal arrest.

The Condo Bundles are simply the affluent citizen's defensible space. The first version of the Condo Bundle concept, Nova Ipanema, was implemented in Rio de Janeiro in 1976, and many others followed the same trend throughout the bairro of Barra da Tijuca.

The fundamental reason behind this common demand for more secure environments from the mid-1970s up until now has been caused mainly by two factors: the poor performance of the economy, and the skyrocketing inflation rate of 1,765%, reached in 1989. The former led to increasing crime and high unemployment rates throughout the city, and the latter reduced people's buying power to degrees never experienced before by the population. "There is a huge gap between rich and poor"(TIME, 03/05/90). One result is increased violence on the streets which is not likely to decrease in the next few years. One cannot expect a safe environment where problems like hunger and distribution of wealth have not yet been resolved.

According to a study by Harvard University economics professor Jeffrey Sachs, the richest 20% of the Brazilian population earns 33 times that of the poorest fifth. It is one of the worst income distributions on the planet, -- by contrast, in South Korea the ratio is 7 to 1 and in the Philippines 13 to 1, he commented.
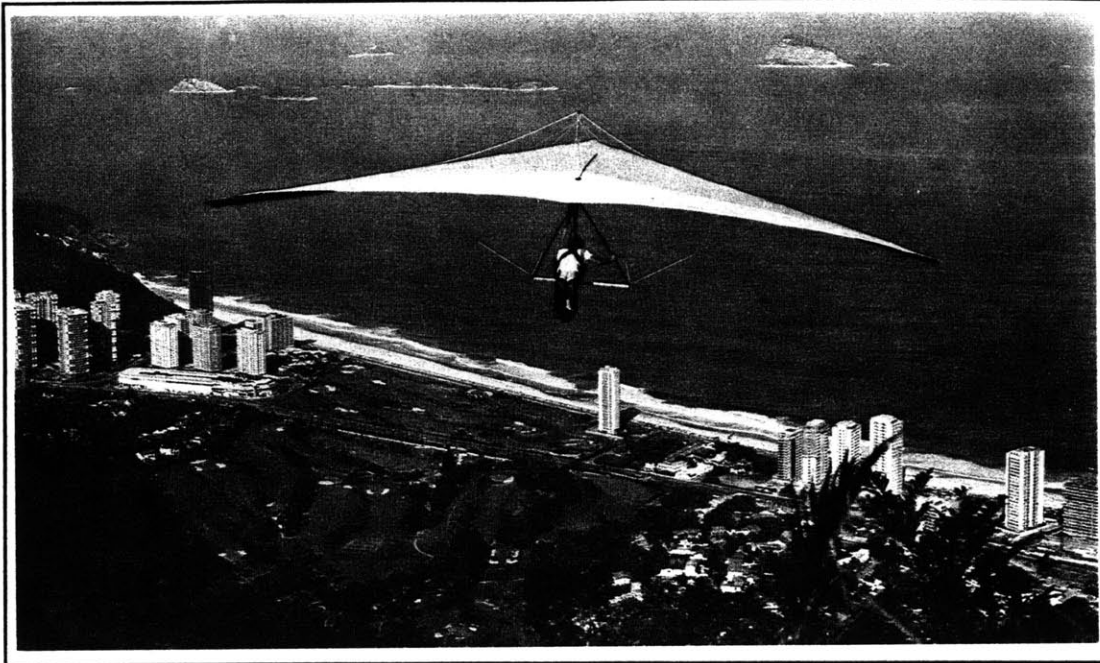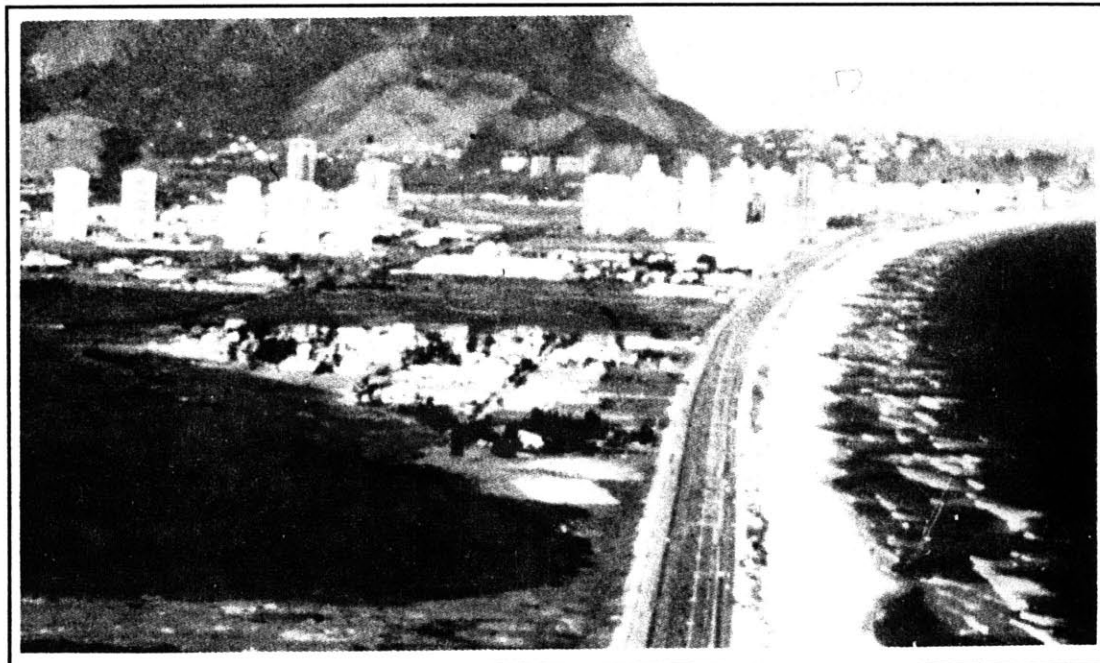
Fig. 14
Condo Bundles in Sao Conrado
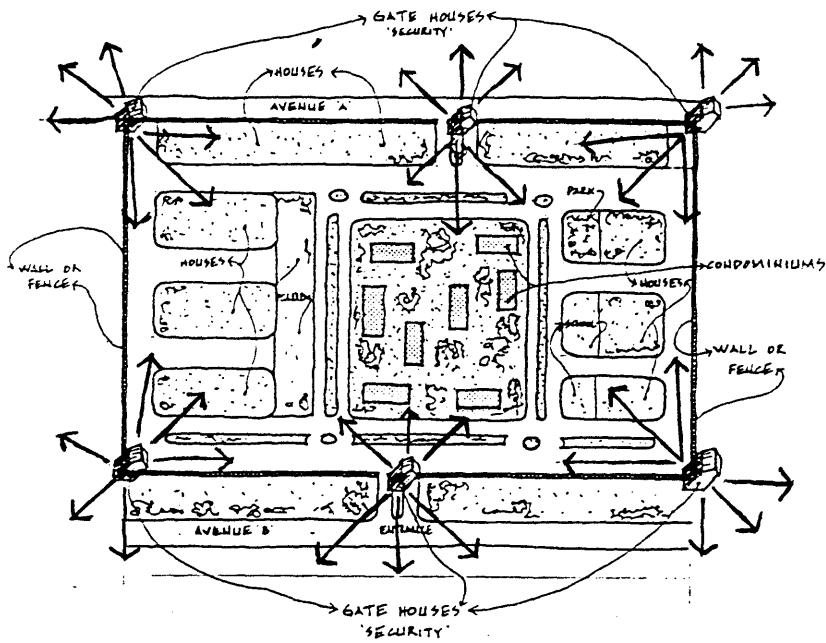

Fig. 15
Condo Bundles in Barra da Tijuca

Fig. 16
Condo Bundle - Perception of Control

To give some dimensions to the problem, statistics show that "homicides in Rio jumped from 2,200 in 1987 to more than 2,800 in 1989; an average of 100 cars were stolen everyday; in just 24 hours ten people were shot in the head" (TIME, 03/05/90).

TABLE 2: HOMICIDES IN RIO

YEAR	1970	1973	1974	1977	1979	1988	1989
NUMBER	664	837	1345	1036	1211	2200	2800

sources: A Criminalidade no Brasil, Donnici, Virgilio Luiz
        Time, 03/05/90

TABLE 3: INFLATION RATE

YEAR	1980	1981	1982	1983	1984
%	99.7	93.5	100.3	178	209.1

YEAR	1985	1986	1987	1988	1989
%	239.1	59.2	394.6	934	1765

sources: IPC (Indice de Precos ao Consumidor) (Index
        Prices to the Consumer) 1980 - 1987
        The New York Times (01/30/90) 1988 - 1989

Unfortunately the city is more violent than ever and the repercussion is emphatic in the fear felt by residents (see Fig. 17 & 18) and tourists. Figures show that Rio has just had the most lawless Carnival (pre-Lenten Mardi Gras festival) in 25 years. "Many tours operators are dropping Rio from their intineraries, and group sales from the U.S. could be down as much as 60% compared with 1988. Hotels that used to be 90% occupied at Carnival time were last February only half full." (TIME, 03/05/90)

One may ask where the police force fits into this delicate situation. This may be another big problem in itself due to the fact that in Rio there are two different police in action and they do not share great interaction. One is the Civil Police Force and the other is the Military Police Force. They both share power under different circumstances. The recent article published in Time shows some highlights that illustrate the problem a little better. They mentioned that policeman themselves know that they are undervalued, lack

respect and are also easily corrupted. It is a shame to acknowledge that they earn an average of $1,500.00 a year. When Time interviewed a young police officer he said, "when you have a family and you are risking your life on the job, that's not much at all", referring to his income.

When I interviewed private security guards, in Rio, I realized that most of them, if not all, were policemen, either away from their jobs or moonlighting for private security companies. One way or the other, most of the officers have other jobs on the side so as to make ends meet. Another source of extra income, says Time, "is shaking down the thieves: for a share of the plunder, the police will agree to look the other way."

This violence affects directly the local population, and intimidates the tourists. The article goes on to say that "this matter should not trouble foreign visitors if they avoid the worst neighborhoods." This may be obvious from the perspective of an experienced traveller, but not everyone shares the same expertise in dealing with this kind of problems.

The main point here is that in such a situation, only the ones who have nothing to lose feel free to expose themselves without fear. In fact, they all have something to lose -- some have more, or much more than others. The ones who have no resources to enhance their protection still try to cope with the situation the best way they can. That is why affluent citizens seek protection in these post modern version of the medieval walled cities, simply because they can afford the extra financial burden that the provision of such services incur.

The poor, on the other hand, seek protection through social control -- by means of neighborhood watch, not because they like it but, rather, as a result of necessity and lack of alternatives.
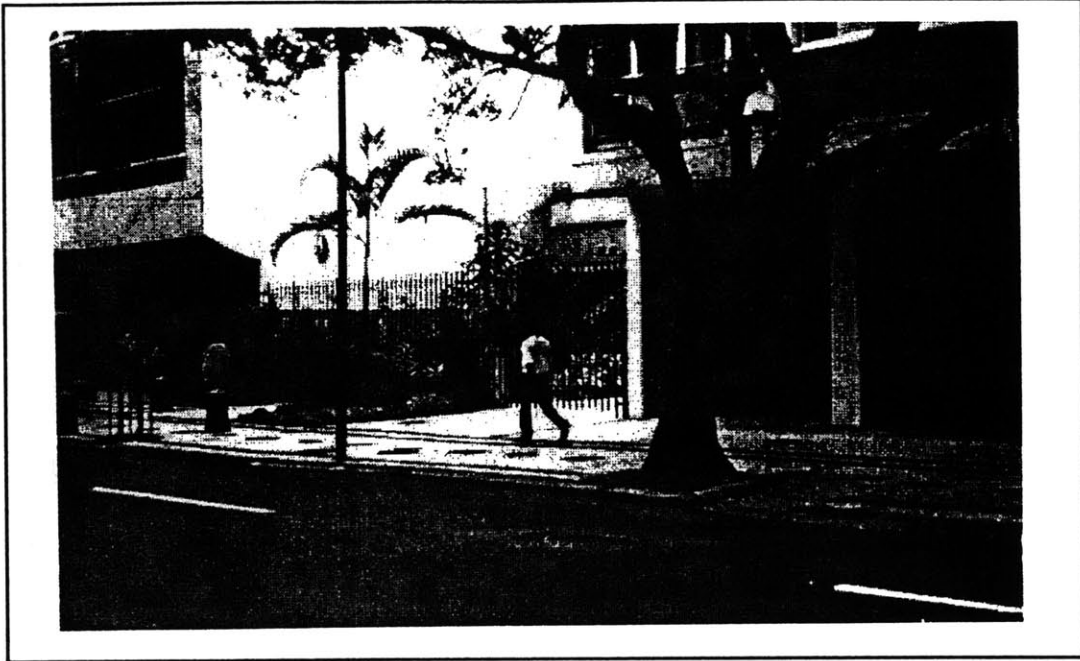
Fig. 17
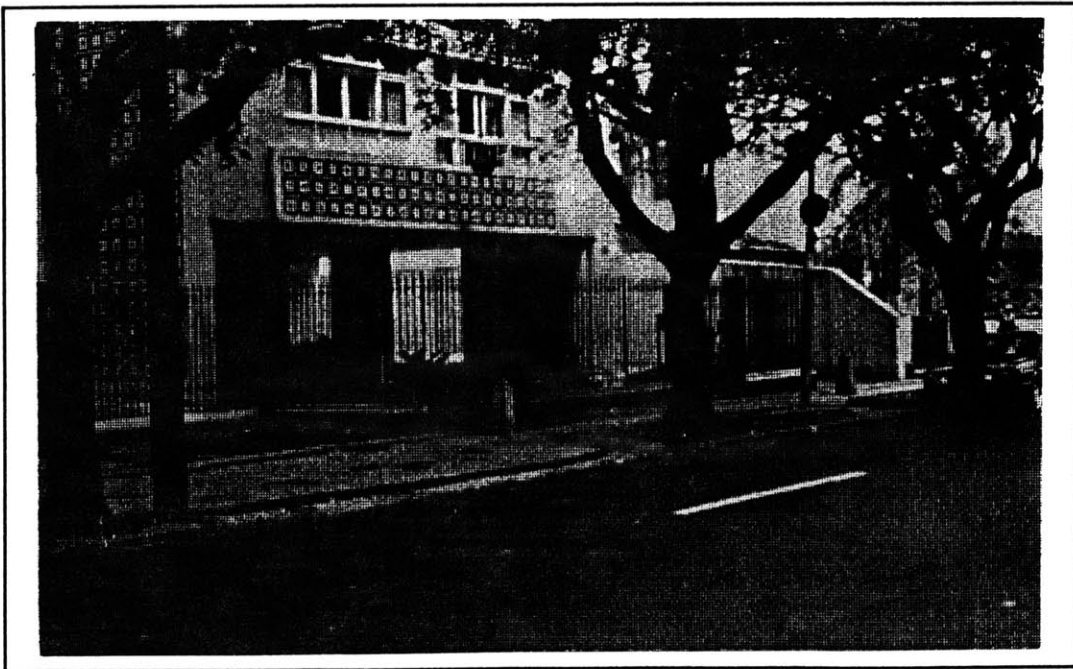Apartment building in the city
featuring a fence

Fig. 18
Apartment building in the city
featuring a fence

CHAPTER II

CASE STUDIES IN RESIDENTIAL CONTROL

The implementation of the Condo Bundles in Rio was made possible as a result of high demand for safer residential environments, along with a strong appeal for a new style of living. The bairro of Barra da Tijuca proved to be the ideal location, for it provided a beautiful landscape, lots of available land, and a new master plan, by Lucio Costa. Another important aspect was, in fact, the "lack" of other main features, such as, public services for the area. That is to say, Barra da Tijuca was neglected by the city's administration, with very limited public transportation options. It then became the ideal region for settlement of a high-income class section of the society that could afford the so-called inconveniences. As we shall see, Costa's plan rules the entire urban growth for the area and was innovative by giving incentives to the development of what he (Costa) calls urban nucleus, that eventually became security islands.

The topography of Rio as well as the topology of the study area is described in order to provide understanding and visualization of the urban form of Rio. One has to realize how the implementation of the Condo Bundles was made possible, why Barra da Tijuca was the ideal location, and what is its relation to control.

Topography: development history

It is hard to find another city in the world where man has filled in, reclaimed and levelled more sea beaches, swamps, bays and lakes, demolished more hills, bored more tunnels and made more cuttings into hillsides. An ecologist would say that this was a crime against mother nature, but we have to admit that the result was rather beautiful.

As Delgado de Carvalho mentions in his book <u>Rio de Janeiro - A Capital do</u> <u>Brasil</u> - "if it were possible for an inhabitant of Mars to observe Rio's landscape through a powerful telescope, he would probably decide that its inhabitants belonged to the beaver species".

When one thinks of the history of Rio, one must bear in mind that there is a choice of what "history" to study. It can be the geological one, driven by human energy with the pick and shovel or the social history of men themselves, in their rapid evolution from colonist to empire builder and then modern society.

It is important to understand some basic features of Rio's topographic profile, so that the reader can visualize the chronology of urban growth and how it reached the far south region of the state, namely Barra da Tijuca.

History shows that the development of the city, as well as its form, have been closely related to the surrounding mountains. The first settlement was a modest village created north of Pao de Acucar (Sugar Loaf mountain), followed by a fortified center on Morro do Castelo (Castelo Hill). The city expanded downhill, step by step, due to continuous landfills and sanitation of the existing lakes and marshes. In fact, the city's growth boomed after the discovery of the cure for yellow fever. Not only was this extension towards the plain reclaimed by landfills, but also through other landfills along Guanabara Bay, the beaches and the Atlantic Ocean.

The two main chains of mountains that run through the city of Rio, namely Macico da Tijuca and Macico da Pedra Branca (Fig. 19), set the profile of the new city. Different bairros originated in various parts of the land, mainly following these large surrounding natural walls, ranging from 1,640 ft. to 3,280 ft. of height. Before the construction of the existing tunnels, commuting distances of 10-12 km from place to place, were shortened considerably.

Today the oldest part of the city is still the most important, and it maintains its original characteristics, that had been imposed by terrain conditions. The pattern of the city of Rio today, conveys the idea of an octopus that has extended its tentacles to take over every piece of land left in between the
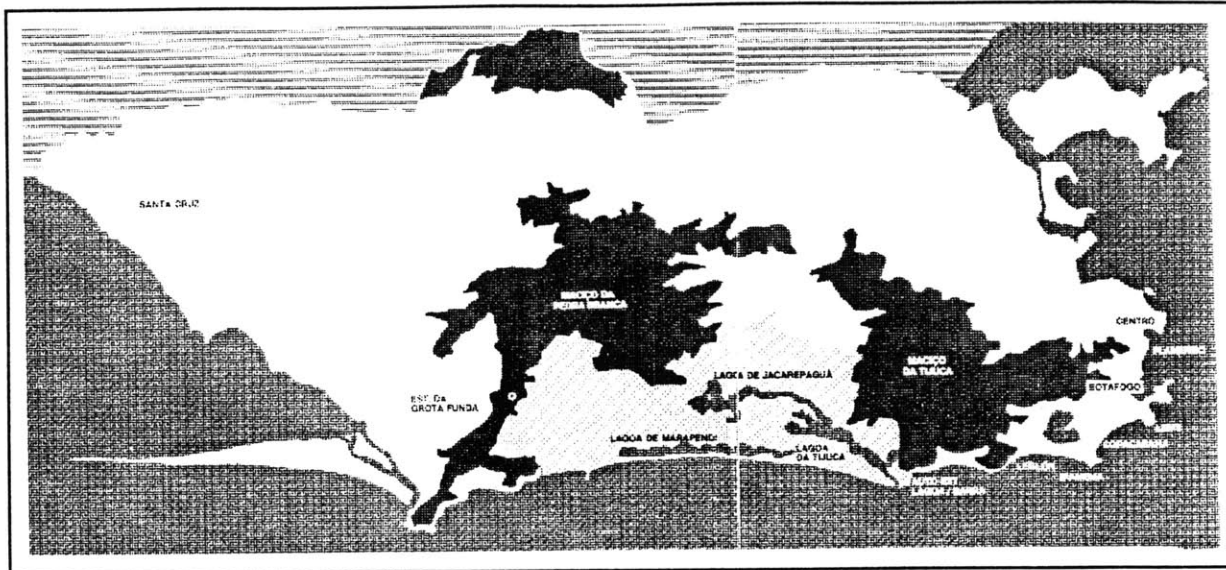
Fig. 19
Rio de Janeiro, surrounding mountains

Fig. 20
"Smile you're in Barra"

mountains and the sea. In other words the growth and expansion of the city was dictated and controlled by its physical constraints and this octopus's tentacles has now extended farther south, to the bairro called Barra da Tijuca.

Barra da Tijuca provided the ideal spot for an exclusive controlled residential environment (see Fig. 20 & 21). There were some disadvantages related to the area such as, distance, sewage system, transportation and commerce. Despite this lack of basic services, the affluent population eventually did settle there.

Located on the sea-side of the state, with phenomenal green spaces, clean beaches and flat terrain conditions -- some on marsh land, others on beach sand - it was really a beautiful landscape. The downside of it had to do with the infra-structure available, which was none. There is still no public sewage system, no water main system, and at the time of the development there was also very little commercial activity.

The Municipality has never stepped forward to provide needed services. It is true that some of the road system was built, but with federal money. The area, without any doubt, presented the only chance for expansion of the urban form. Taking into account all of these pluses and minuses only the affluent could afford the economic burden required for filling in the various needs.

The development of this region followed a master plan designed by Lucio Costa, as we shall see later. The form it has taken was based not only on an authoritative master plan, but also on a series of decisions based by the most compelling people's needs, that is to say, personal security.

The local government's negligence together with the need for a safer area in the city gave birth to the Condo Bundles of the 20th century, and to a peculiar pattern in urban development led by increasing privatization of the city.

It is clear to any urban designer how different the urban tissue has grown to be, compared to the original urban city's core.
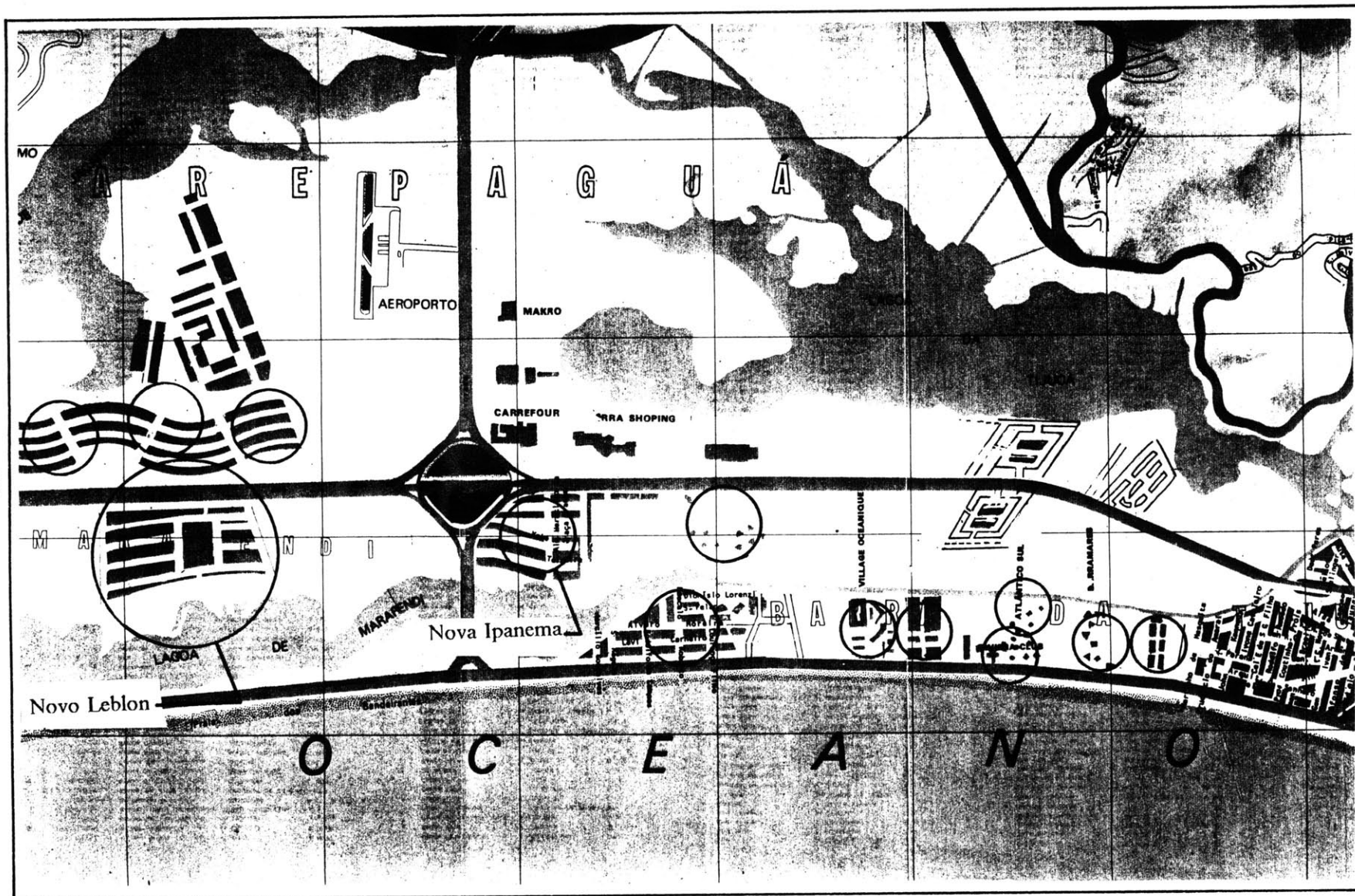
Fig. 21
Condo Bundles in Barra da Tijuca

TOPOLOGY AND PLANNING - Barra da Tijuca

The region called Barra da Tijuca is one of the eight bairros of the 24th Administrative Region, also known as "Baixada de Jacarepagua", of the state of Rio de Janeiro.

It initially served as a beach resort, with precarious access. To make it more accessible to central Rio, it was necessary to build a new road system to support the new influx of traffic.

The development of Barra in the beginning occurred very slowly in the area called Barra Center, with the construction of restaurants, motels, nightclubs and single-family houses.

With regard to commerce, Barra has followed the same trend that happened in the United States with the development of suburban malls. In the past ten years one big shopping mall has been built, as well as several office buildings. A few major supermarket chains have opened branches in the neighborhood and as a result, residential developments have boomed in the area.

The urban growth in Barra da Tijuca is meticulously ruled by a master plan designed by Lucio Costa, the same planner who did the master plan for Brasilia. Costa's Plan for the area is known as ZE-5 (Special Zone-5) (see Fig. 22) and was first implemented in 1969. The plan was revised thereafter, and its final version went into effect in 1981.

The idea of the Master Plan for the Baixada de Jacarepagua was born under the need for ordering growth and future urban expansion of the city.

By the end of 1968, during the Negrao de Lima administration, the urbanist Lucio Costa was appointed to devise a comprehensive plan for the Baixada de Jacarepagua that resulted in the first IPOD (Interim Plan Overlay District) for the area. From March to April 1969, Costa elaborated his report, after flying several times over the area. His insights can be well understood from the following quote:
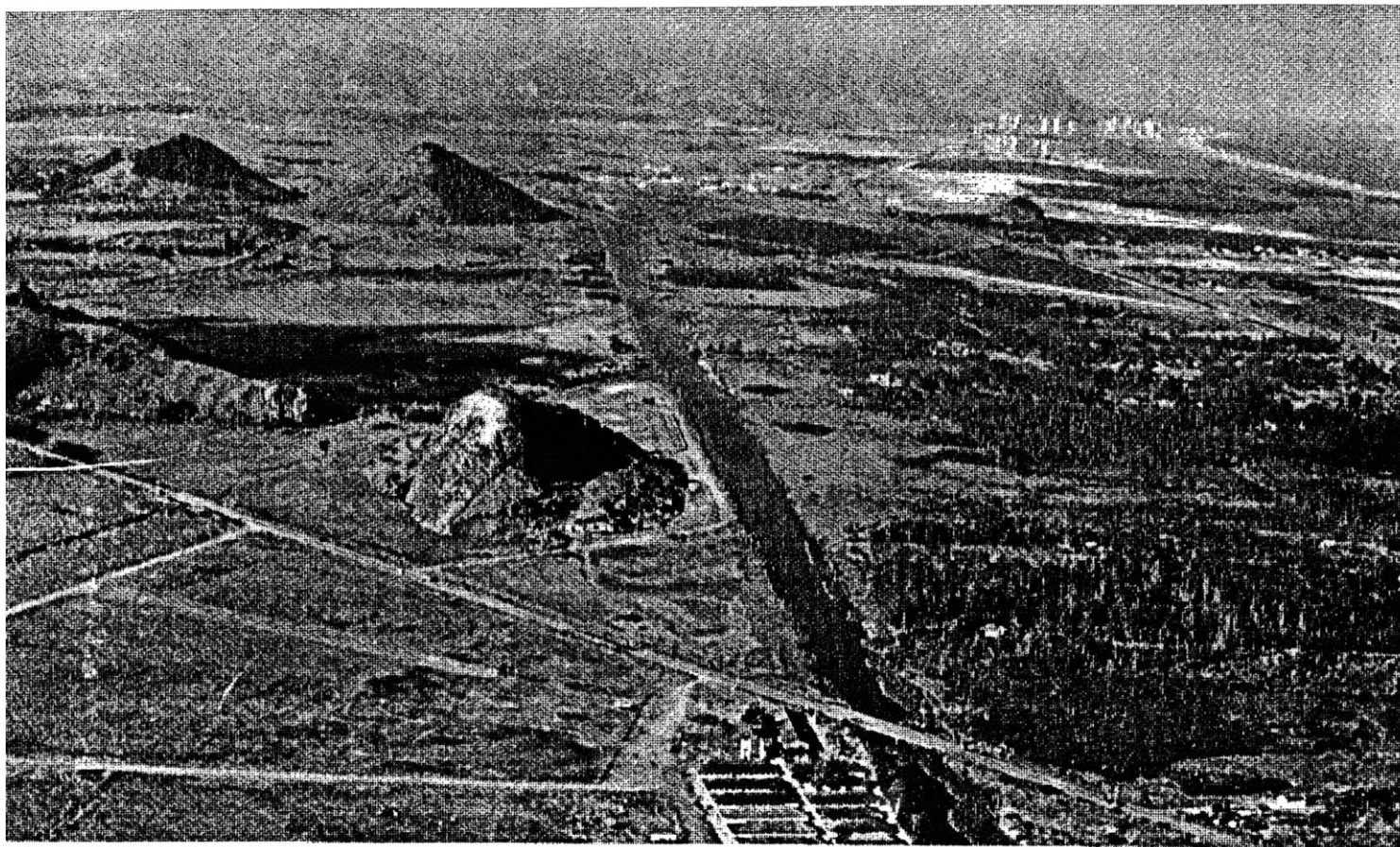
Zona Especial-5 (ZE-5)

Decreto nº 3.046, de 27 de abril de 1981

Fig. 22
Special Zone-5

The first instinctive reaction will always be to stop
any kind of development regardless of how and what it
would be for. But, on the other hand, it seems evident
that the area of such proportions and so accessible
could not proceed indefinitely immune, it had to be
sooner or later urbanized. Its maximum possession is
now irreversible. The very first problem it challenges
the planning professional is this fundamental
contradiction. The traditional way of city planning,
in different suburbs, that constitutes a new city,
would imply in destruction of everything that
characterizes the region. The problem then is to find
a formula that allows for growth and yet preserves
these same characteristics we want to keep.

[Lucio Costa, IPOD 1969]

It was explicit in the first report, and it was also clear for the planners on Costa's staff that traditional planning under the grid concept, of streets and buildings, that makes a new city, was out of question. There was a need for innovative ideas that could, at the same time, preserve all the original characteristics of the landscape. The task was to come up with a plan that allowed for growth and yet did not destroy the existing natural surroundings.

The idea that prevailed was implementing the scattered urban nucleus -- condominium complexes, allowing for single-family dwellings filling in between the nucleus gaps. This would give the area a fine spatial rhythm with the landscape as well as preserving existing green areas.

The plan also featured shifting the civic centers and the metropolitan area locations to Avenida Alvorada (Alvorada Avenue), and the big residential and commercial nucleus to Avenida das Americas (Americas Avenue). The coastal area - Sernambetiba Avenue -- has pre-set building-heights, and limits population density.

The final product for guiding and ruling the urbanization of the area was designed and intended to be an ideal model, which avoided previous urban mistakes of the past, namely Copacabana, Ipanema and Leblon (see Fig. 22 & 24), where the population density reached a very high floor-ratio-area (see Fig. 25 & 26).

Fig. 23
Ipanema & Copacabana (background)

Fig. 24
Leblon & Ipanema (background)

Fig. 25
Copacabana beach

Fig. 26
Ipanema & Copacabana (background)

What makes this urban plan unique is that it was intended to be an instrument for regulating land use in an area almost totally privately owned. The idea was to give the private sector the responsibility of implementing it. It was the public sector's duty to oversee and coordinate this process.

The Costa Plan describes the program for each nucleus, but it was the architect's responsibility to define the spatial lay-out of its buildings.

As mentioned before, the road system which linked Barra to the older part of the south zone of Rio had been defined. With the construction of two tunnels through the coastline mountain barrier, the Tunel do Joa (Joa Tunnel) and Tunel Dois Irmaos (Two Brothers Tunnel) and an elevated expressway, called Elevado das Bandeiras, in 1968 (Fig. 27) along with the paving of Avenida das Americas (Americas Avenue) and Avenida Alvorada (Alvorada Avenue), easy and safe access to the site was no longer a problem. The problem was resolved, but today the existing artery roads are not enough to support the demand for traffic in the region(5).

The Baixada de Jacarepagua is surrounded by two main portions of the mountain range that runs along the coast. It is a fairly flat area which consists of beach sand, marsh land and a lagoon, called Lagoa de Marapendi (Marapendi Lagoon).

The case of Nova Ipanema

The first residential nucleus (see Fig. 28 & 29) that was developed in the area took place 14 years ago. It was the first product of Costa's Master Plan, totally developed by the private sector and had a new slogan to attract new residents:

"The new old-fashioned style of living"

(5)   See documents on road systems from DNER (Departamento Nacional de Estradas de Rodagem) and from DER (Departamento de Estradas de Rodagem)

Fig. 27
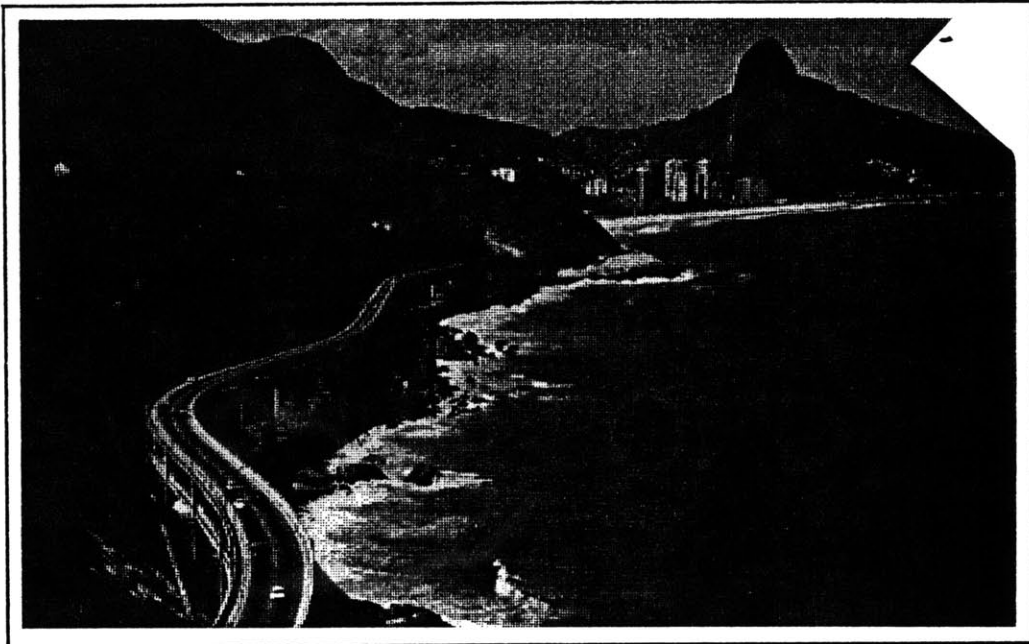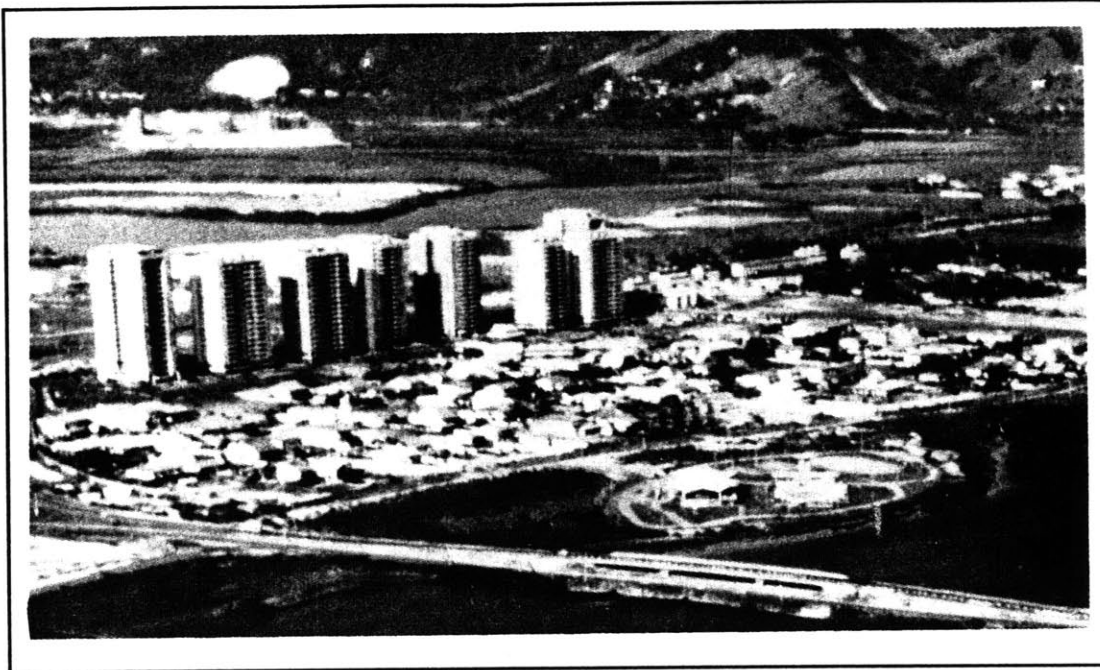Elevado das Bandeiras (Elevated Expressway)

Fig. 28
Nova Ipanema (aerial view)

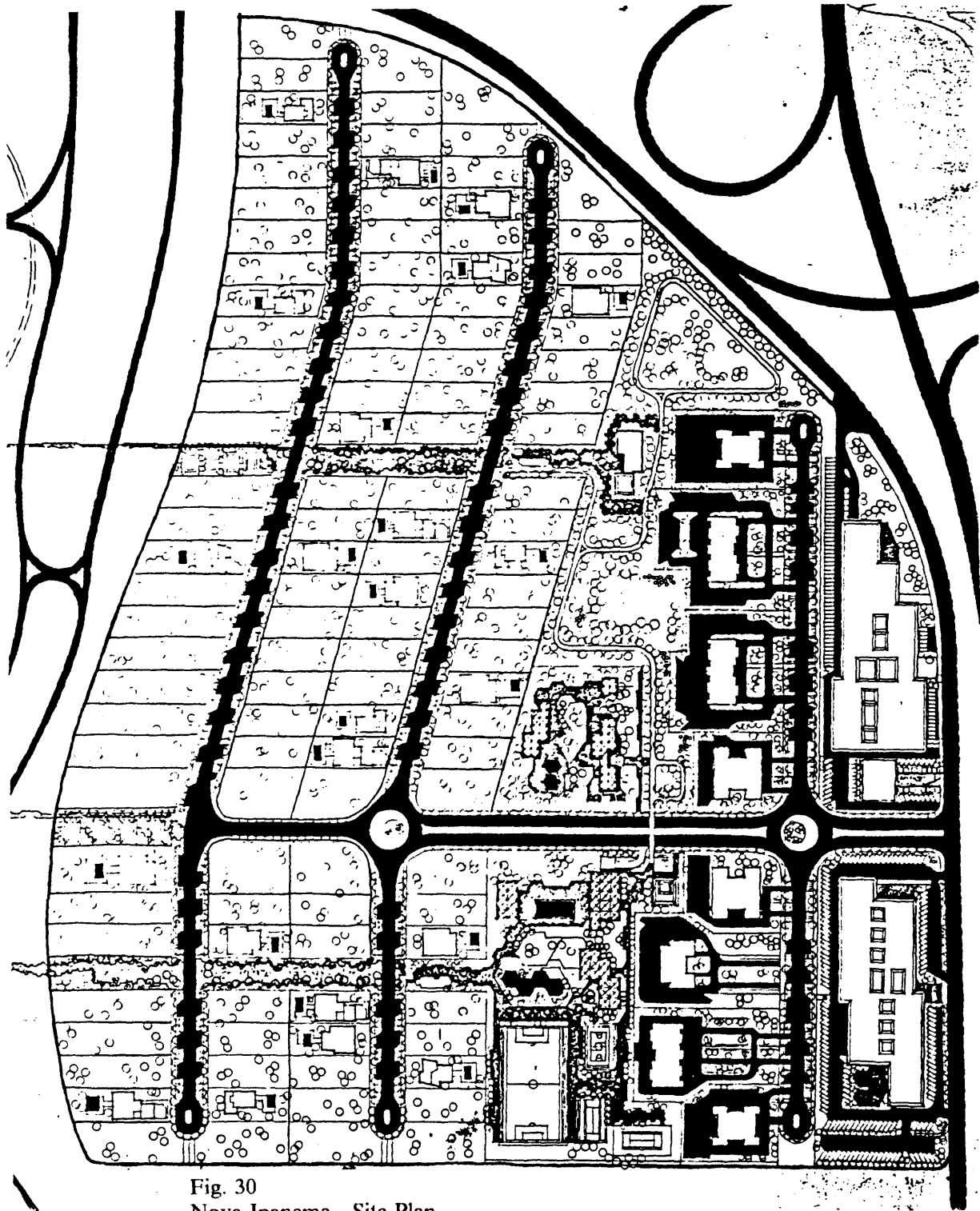Fig. 29
Nova Ipanema - entrance

Fig. 30
Nova Ipanema - Site Plan
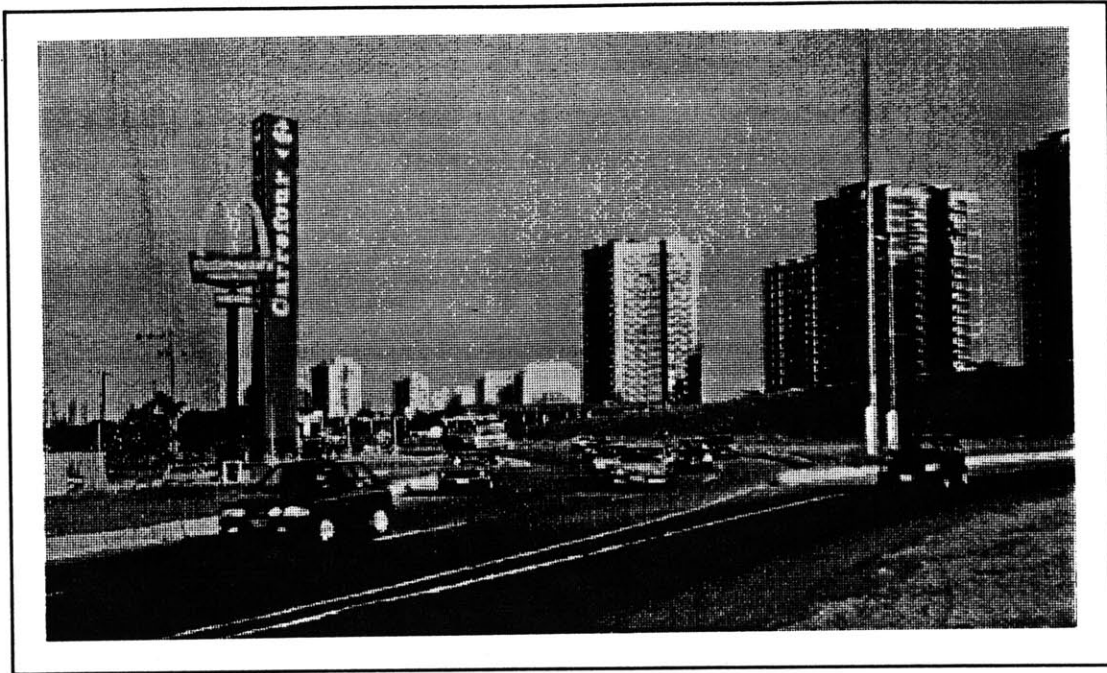(courtesy of Musa Architecture and Construction, Inc., Rio)

Fig. 31
Nova Ipanema (right)
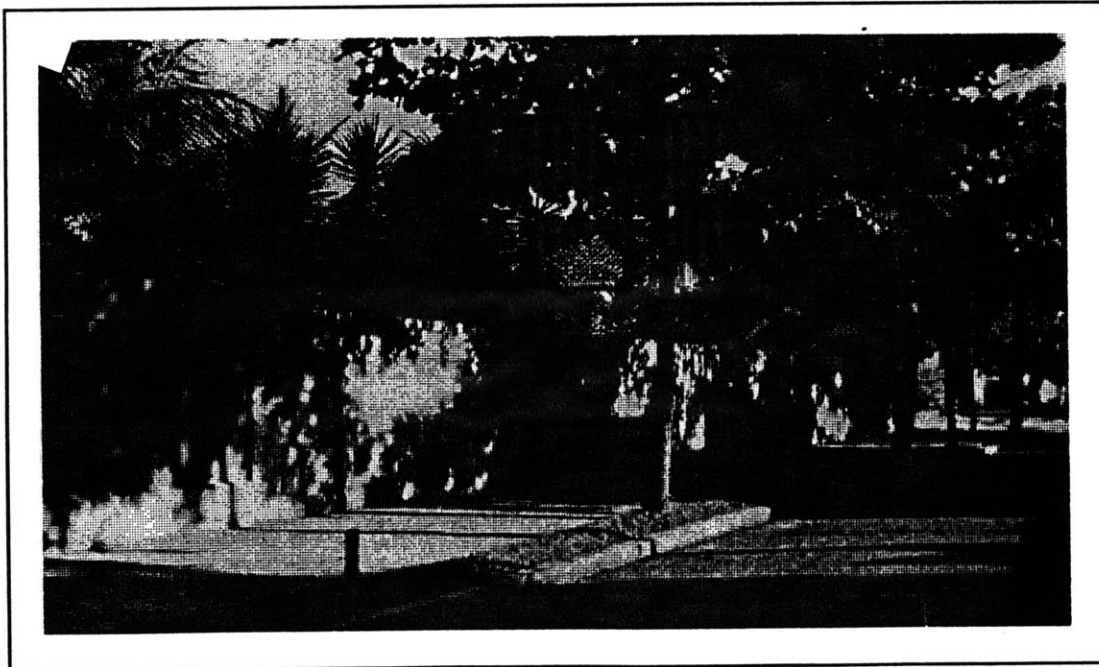
Fig. 32
Nova Ipanema, single family house - a wal within the "walled community"
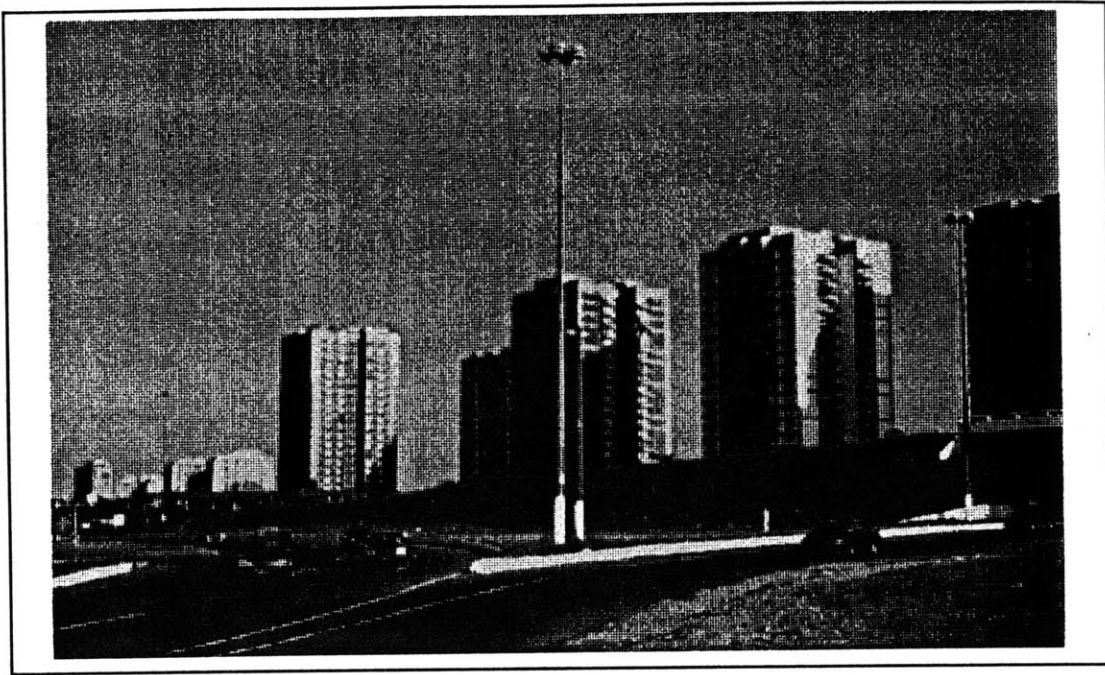
Fig. 33
Nova Ipanema
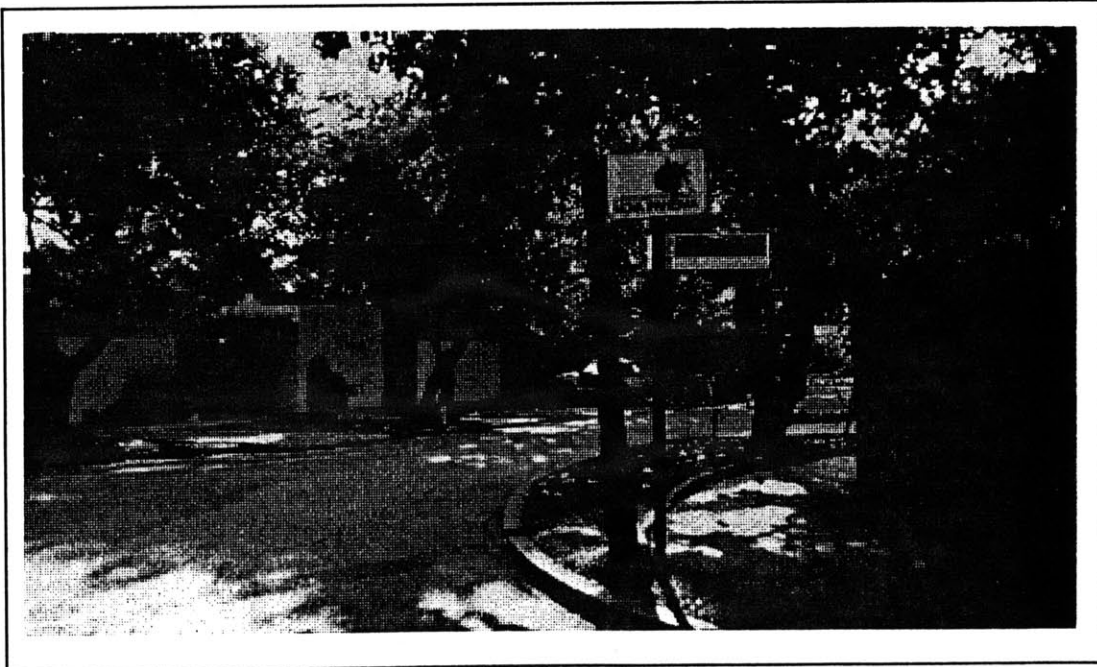
Fig. 34
Nova Ipanema, most houses feature walls

The name chosen for the complex was very fortunate in a way. They borrowed the fame and image of an exclusive bairro in Rio, namely Ipanema, and added the word "Nova" (new) to convey the idea of innovation.

The office of Musa Architecture and Construction Inc. was responsible for the architectural plans of this development. One of the partners, Edison Musa, once commented that when he was visiting California in 1971 he came across some groups in American society (he didn't mention which), that had decided to experiment with a new way of life through living in controlled residential communities. After he returned to Rio, he realized that Barra da Tijuca offered the ideal area for this type of residential model.

Through the slogan, the developer's intentions were clear. The bairros of Ipanema and Leblon already had problems with regard to parking, security and noise. The idea of providing a total controlled environment, where one could relax and raise children, was very appealing and thus successful. Another aspect that led to such a design was the location of the site. "Sitting at the corner of two major artery roads, in a busy intersection there was no incentive to design anything that would not have an inward focus," commented one of the partners during my interview of 01/15/90.

The project for Nova Ipanema started in 1973 and was put on the market in 1975. There are apartment buildings -- three and four bedroom condos and the current total population is about 3,000 people. It features almost the same amenities of the later, Novo Leblon. The basic lay-out is almost standard for both developments, but Nova Ipanema is about 50% smaller than Novo Leblon.

The main features are: fence around the site, a private club, parks and private security 24 hours a day, a main gate and small gate houses around the site. Each building also has its own amenities such as, sauna, swimming pool and a function room.

In order to avoid repetition I will be more thorough in details on the next case, Novo Leblon.

The case of Novo Leblon

"Live where you would like to spend your vacation".

Under this slogan, Novo Leblon (see Fig. 35 & 36) was born and the quick sales proved it to be what people were looking for. As in the previous case, the developers also borrowed the name of another exclusive bairro in Rio, namely Leblon, and again added the word "Novo" (new) to symbolize the new image of a new community.

This residential complex is located on 600,000 square meters of area, developed by the same private firm that developed the first nucleus. It is only one kilometer from Nova Ipanema and maintains the same standards set for the previous project.

The population belongs to A (upper class) and B (middle class) income classes with approximately 6,000 people. It is double the size of Nova Ipanema and has a more varied condo lay-out that also features two-bedroom units, unlike the first version.

In both developments, botanical professionals were consulted for the landscaping. They studied local climate and flora, in order to plant trees and bushes that were appropriate for that particular region.

Its neighbors are: another exclusive residential development called Mandala and on the other side an empty lot, that is likely to house another secluded housing project in the future.

The Novo Leblon condominium complex is divided into two parts: the neighborhood and the country club.

The neighborhood is divided into eight buildings, having a total of 1,120 condos: 480 two-bedroom condos, 560 three-bedroom condos, 80 four-bedroom condos. Included are 56 duplex penthouses. Adjacent to the buildings there are 189 residential lots, for single family dwellings, each one ranging from 1,000 square meters to 1500 square meters.

Fig. 35
Novo Leblon, artist's impression
(courtesy of Novo Leblon Magazine)
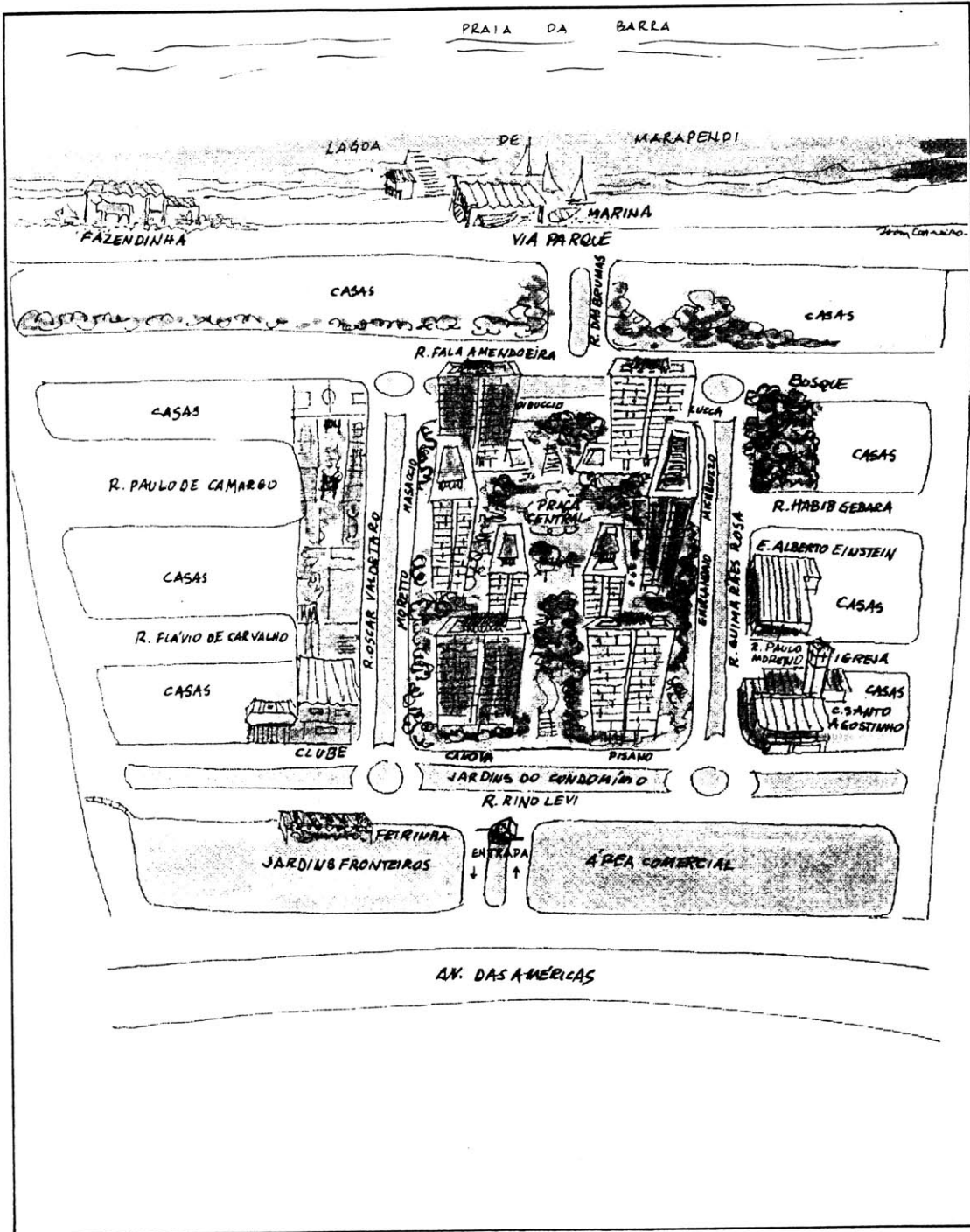
Fig. 36
Novo Leblon - Site Plan
(courtesy of Musa Architecture and Construction, Inc., Rio)
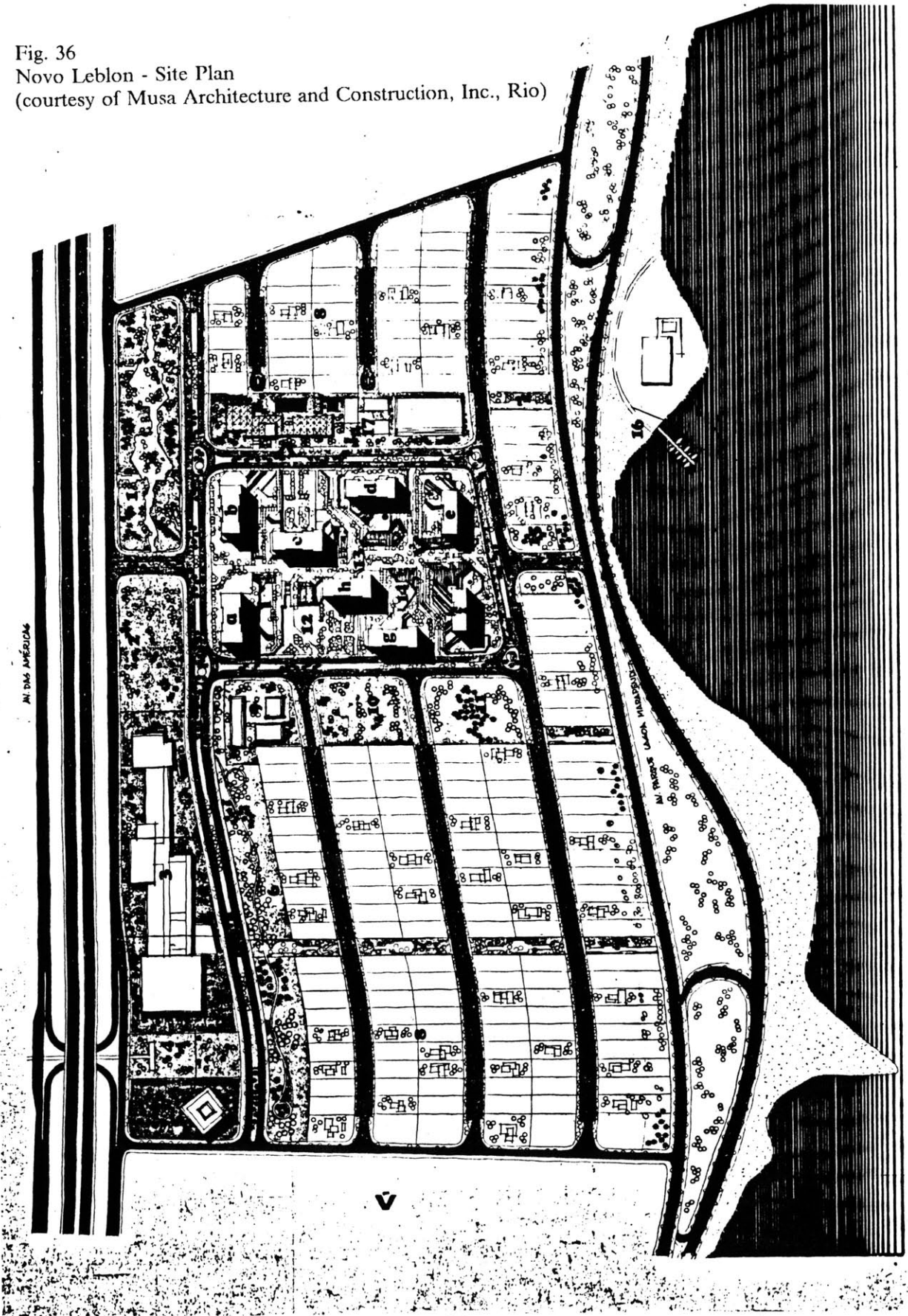
The common areas total 120,500 square meters: 50,000 square meters of public gardens, a 13,000 square meter central square, a 50,000 square meter private country club (see Fig. 37 & 38), and a 7,500 square meter park. There is a 168,000 square meter area reserved for commerce, a marina (Fig. 39) and a small community farm (Fig. 41 & 42).

The country club features: one soccer field, three swimming pools, three basketball/volleyball courts, four tennis courts, enclosed gym which holds up to 800 spectators, pool tables, ping-pong tables, Nautilus room, gymnastics room, martial arts room, sauna, massage room, beauty salon, two bars, one piano bar, library, big screen TV and video cassette room and administrative headquarters.

In both developments services like landscape maintenance, street cleaning, security and public transportation are provided by their own administration. A private firm provides transportation from 6:30am to 11pm weekdays, and from 6:30am to 00:15am weekends and holidays -- from the site to Ipanema and to the nearest metro station, in the bairro of Botafogo.

The administrative structure of each is divided into five positions: The Trustee, the finance manager, the administrative manager, the administrative neighborhood manager and the administrative club manager.

The club has about 60 permanent employees plus 25 temporary ones, and there is a private company that provides security 24 hours a day. They operate with 76 men who work three shifts. There are 18 gate houses around the site plus the main entrance gate. They check people in and out of the site, but they don't seem to be very rigorous in doing their job. One has only to give the name of one resident that he or she will visit. They write down one's license plate number, time of entrance, make of the car and then let one in.

The sewage system is divided into three small treatment plants, of which two are privately maintained, and one run by the municipality. As of this writing the one under the control of the municipality was not operating properly. The "treated" product is discharged into the adjacent Marapendi Lagoon.
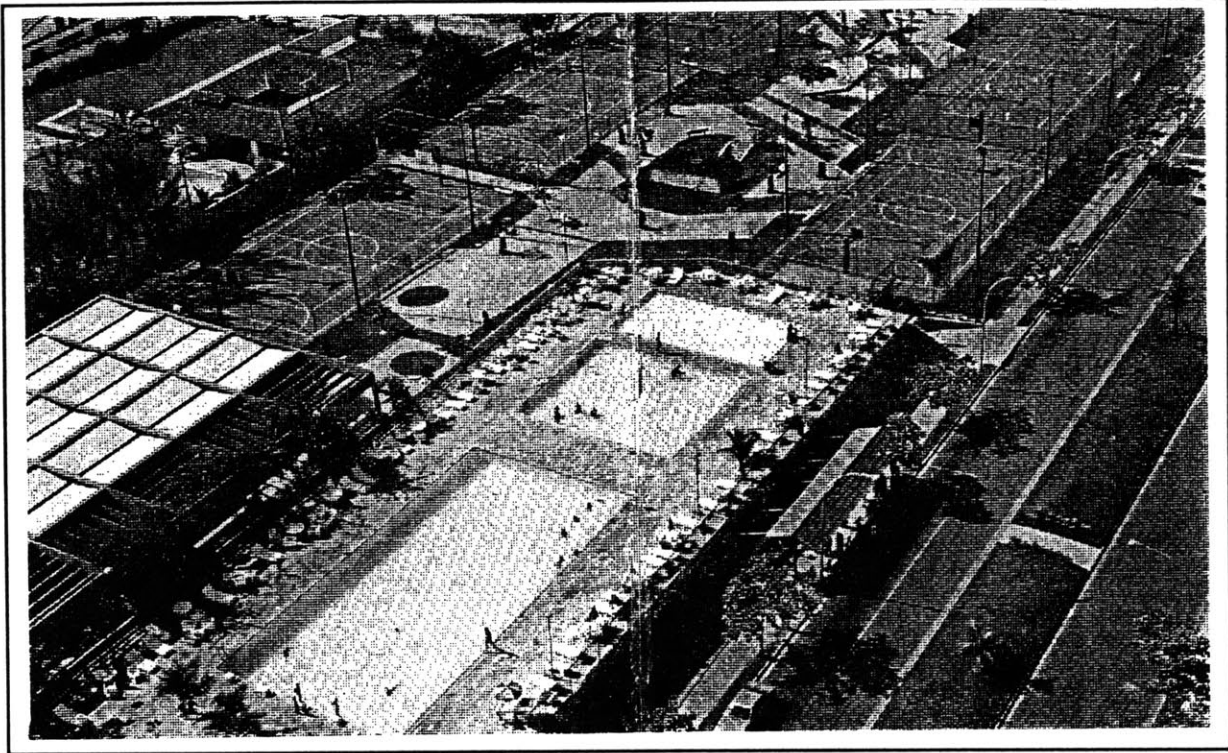
Fig. 37
Novo Leblon - Country Club

Fig. 38
Novo Leblon - Country Club

Fig. 39
Novo Leblon - Marina

Fig. 40
Novo Leblon - Community Gardens
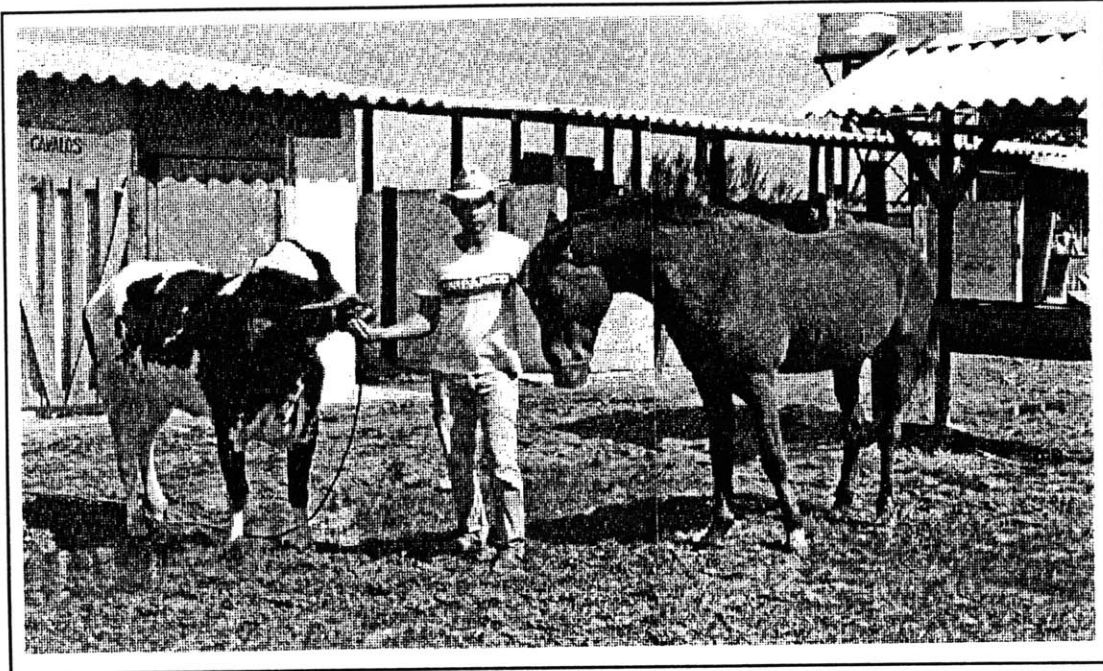
Fig. 41
Novo Leblon - Small Farm
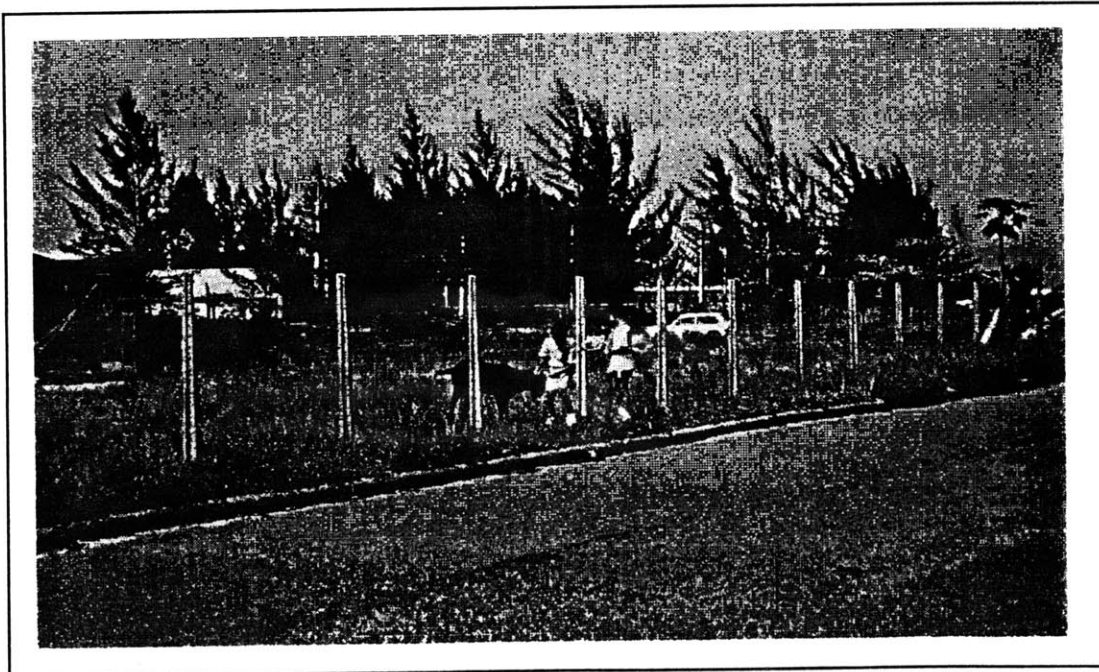
Fig. 42
Novo Leblon - Small Farm

Garbage collection used to be done by their own administration since its opening. Recently the authority in charge of this service in the city, Comlurb (Companhia Municipal de Limpeza Urbana), made them sign a contract with the city, to provide this service, as of December 1989. There is a state law that prohibits other companies from collecting the garbage in the city. Even though this service is included in the real estate tax bill, they are charged an additional fee for a service that is already paid for. This is clearly double taxation but no one seems to care about it.

Education is also an issue for the residents. They have two schools that serve their needs exclusively. There is a private school and a public one, and both provide education until high school (see Fig. 43).

When I was doing my field research in Rio, I had the chance to interview the trustee of Novo Leblon. Here are some of the highlights of the interview of 01/23/90:

With regard to services that should be provided by the city' government the trustee claimed that they try to provide most of the services in order to ensure reliability and to have decision-making power as well. Thus, the community is not dependent on the municipality.

Even though it may sound a little odd, all streets inside these secluded communities are legally public. When I asked him about their policy of people's exclusion the trustee commented that they try to ban strangers any way they can. He also acknowledges that there are true public spaces inside the complex, but still, they try to restrict access only by creating obstacles. He knows that legally they can not do that; nevertheless their goal is non-discriminatory: It aims at keeping unwelcome people away from us, he added. He claims that they have been very successful in terms of discouraging any strangers to come to their environment. I also asked him if the general public were aware of the fact that their (Novo Leblon) common areas were literally "public". He thinks that apparently both ordinary citizens and municipal officials are unaware of this situation. They pretend not to know about it, in

Fig. 43

Novo Leblon - Restaurant

Novo Leblon - Security Patrol

Novo Leblon - Private School

order to ignore non-compliance with municipal laws. That is, not providing the basic services that they, the community, are entitled to enjoy.

It is interesting that the condo bundle's population does not always realize the degree of isolation they live with. During my research a few residents were interviewed, and some of them had shared a strange and yet peculiar feeling after they moved into their condos. They all agreed on one thing; they felt depressed for the first month because they had realized that his or her privacy was gone. In other words, they had opted for a communal type of living, which compared to his or her former quarters, had less privacy. The choice was clear: more security and less privacy.

This type of isolation can be seen as a positive one where the individual has the control over it, as opposed to an absence of choice.

These two examples depict the typical residential development that has been implemented in the bairro of Barra da Tijuca. The idea embedded in these two developments, as well as many others, is to sell not only a residence, but more importantly, security and leisure to its buyers.

In short, inside a private-based controlled residential environment, people are seduced to conform with the norms in exchange for amenities, security, image and the delights that those places have to offer.

In the Condo Bundles situation, the control is visible and is exercised on any stranger or visitor that attempts to enter the site (see Fig. 44). Residents are identified by their windshield sticker or by their condo association ID card. Their view of control attempts to be perfect. However, they are far from being flawless, but again who is? I noticed that their security personnel need more training, but for Brazilians, in times of economic hardship, even security companies have cut back on training for their employees. Training has to be a pervasive feature in one's control tactics, just as is done at Disney World.

Unlike the Medinas and the Favelas, Condo bundles could not be included in the crime watch type neighborhoods. In a condo bundle complex the idea of crime watch, by residents, is to a certain extent less rigid due to, the already

Fig. 44

Novo Leblon - Security Gate

Novo Leblon - Country Club
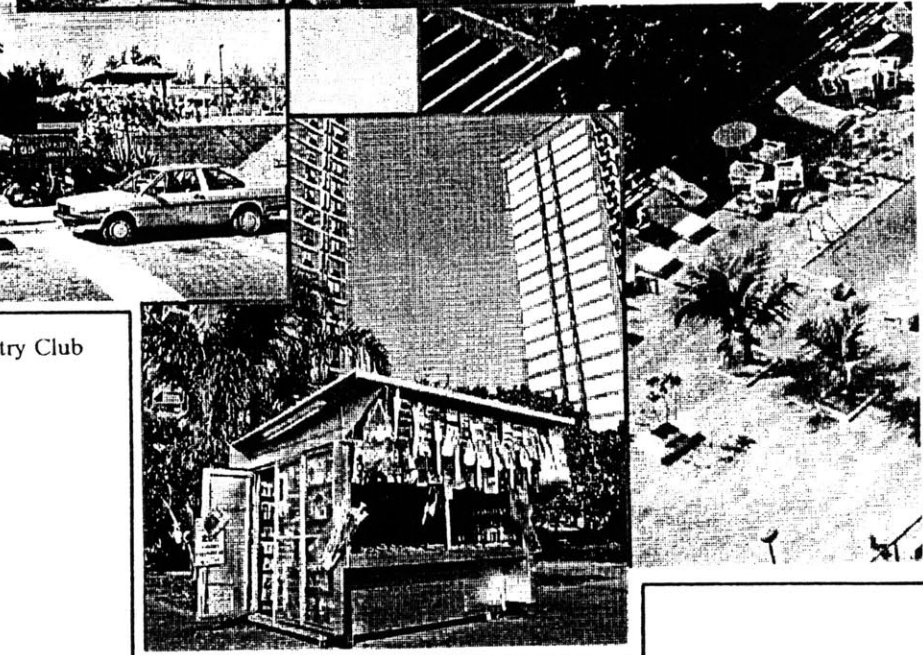
Novo Leblon - news stand
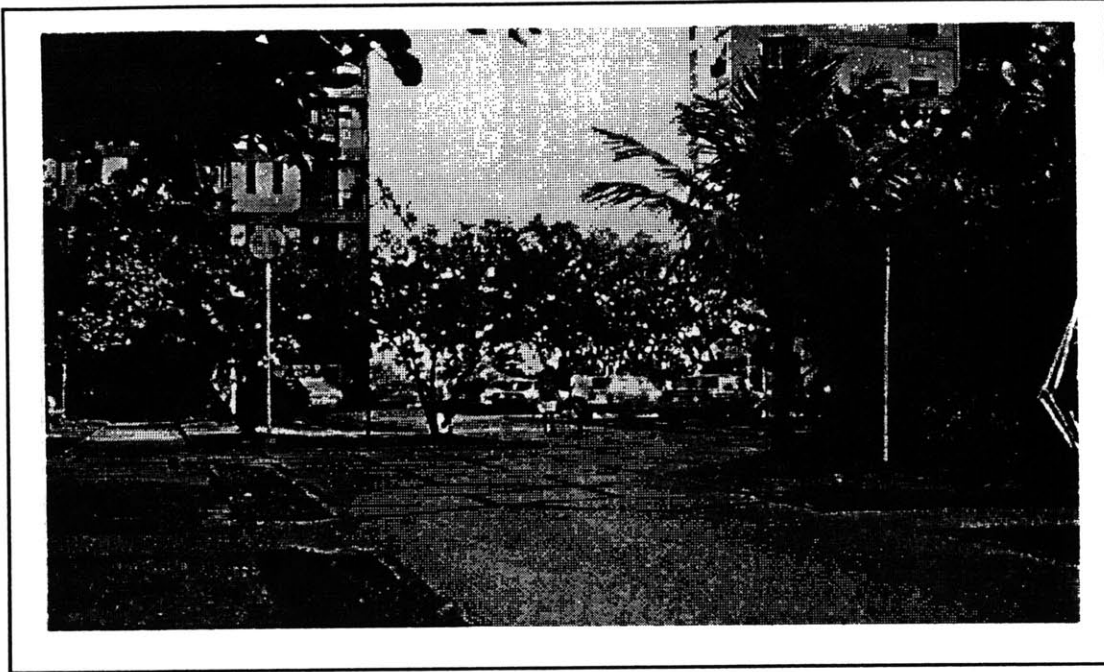
Fig. 45
Novo Leblon - "Public" Spaces
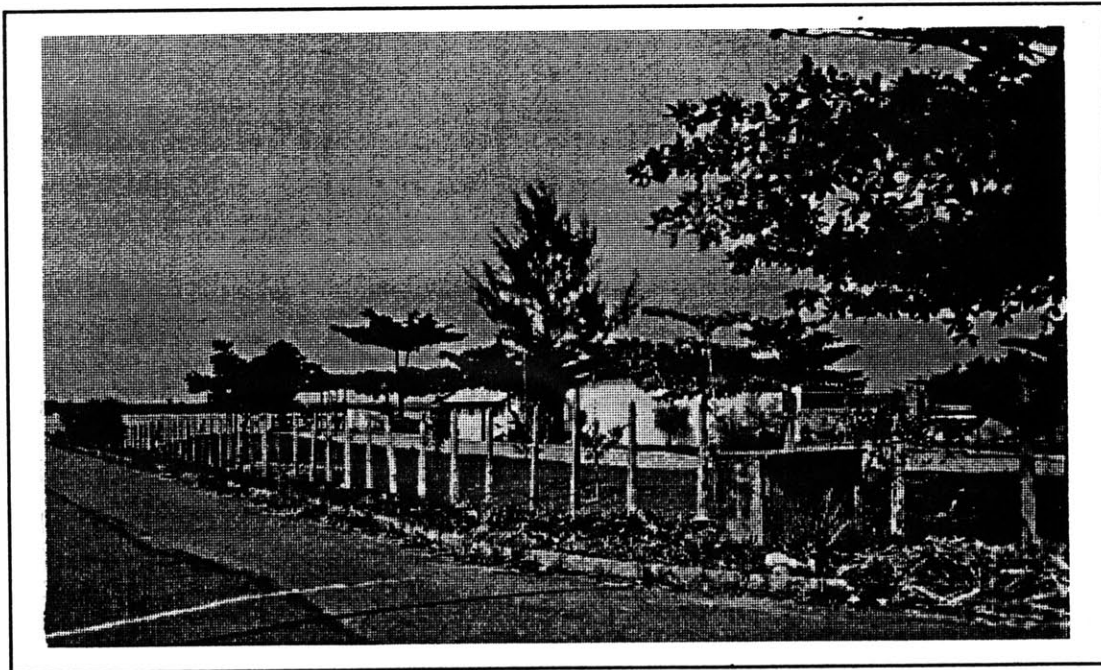
Fig. 46
Novo Leblon

present heavy security control. They feel trouble-free and more relaxed than in the former examples. There is a considerable difference in behavior when one delegates power as opposed to one actually taking part in any task when this task is for his or her own benefit.

Fig. 47
Novo Leblon - Child at Work
(courtesy of Novo Leblon Magazine)

CHAPTER III

CLASSIFICATIONS OF CONTROL

As we have seen in Chapter I, different instances of controlled residential environments repeated themselves at distinct times in Brazilian history. The methods of control varied; nevertheless, the rationale was indeed the same.

In this chapter we will discuss two important aspects of the post-modern city relative to residential settings. For the first, (see Fig. 48), "The Individual's Relationship to Space", that is, how one perceives and how one circulates within three basic contexts within the city. The second deals with all existing forms of controlled environments in Rio today, their ratings, as to how safe they are and their control features, if any. These are summarized in fig. 49: the "Controlmatrix".

Finally we will examine the interrelationship between both proposed classifications: how increased control and increased seclusion of people within the city has affected function, form and interaction in the environment.

THE INDIVIDUAL'S RELATIONSHIP TO SPACE

All spaces that surround us in a city can be subdivided into three groups: personal space, free zones and organizational space. They are all integral pieces of the city puzzle, and it is impossible to encounter any metropolis that does not feature all of them.

These three groups reveal circulation flow, privacy, interaction, productive, intellectual, and punishment sectors of a city.

People make use of all features in the city for different purposes. The reasons for doing so could probably be described under five main headings:

*   to move from one place to another
*   to work and to shop
*   to enjoy cultural activities, to be open to
    discoveries
*   to interact with other people, to enjoy the outdoors
*   to enjoy diversity

Among all of the above mentioned, "interaction" and "diversity" have a special meaning in relationships among people. They are probably the key words for defining any liaison in city.

In the book Asylums, Erving Goffman defines his concept of modern society, where interaction with others from other places is a natural process:

> A basic social arrangement in modern society is that
> the individual tends to sleep, play, and work in
> different places, with different co-participants,
> under different authorities, and without an over-
> all rational plan.
>
> [Erving Goffman]

Each category of the proposed diagram (Fig.48) can be related to Goffman's definition, thus showing this natural process.

Personal Space

Personal Space refers to one individual or a group of individuals. It is any space that can be subdivided into four main sub-groups: one's private space, others' private space, group public space, and group private space.

One's private space refers to a single individuals' private ownership, whereas others' private space refers to anybody else's private ownership. Group public can be, for instance, a courtyard of a residential building, and group private is any private yard in a single-family house. In these places one has total control over all the determinants that affect each particular environment. For instance

INDIVIDUAL'S RELATIONSHIP TO SPACE

Fig. 48

```
        ┌──────────┐            ┌──────────┐
        │ Streets  │            │  Malls   │
        │  parks   │            │Amusement │
        │ beaches  │            │  parks   │
        └────┬─────┘            └────┬─────┘
             │                       │
        ┌────┴─────┐            ┌─────┴────┐
        │  Public  │            │  Quasi   │
        │          │            │  public  │
        └────┬─────┘            └─────┬────┘
             │                        │
┌──────────┐ │  ┌──────────┐  │  ┌──────────────┐
│ Personal │─┼──│   Free   │──┼──│Organizational│
│  Space   │    │  Zones   │     │    Space     │
│          │    │          │     │              │
│LOS = MEDIUM│  │LOS = LOW/HIGH│  │  LOS = HIGH  │
└──────────┘    └──────────┘     └──────────────┘
```

Personal Space · LOS = MEDIUM

Free Zones · LOS = LOW/HIGH

Organizational Space · LOS = HIGH

Group private

Group public

Intellectual/ Productive

Total Institutions

One's private

Others private

Schools Universities Offices

Prisons Asylums Monasteries

courtyard single family house

house condo car boat

courtyard apartment building

LOS = level of security

the kind of relationship that goes on in a house, a condo, a car, a boat, etc., can always be dictated by the owner.

Free Zones

Free zones work as an interface between personal and organizational spaces. People have to move through free zones to have access to another part of the city. Free Zones are places/spaces in the city that are accessible to anyone. They can be subdivided into two sub-groups: public and quasi public.

In the public category one can find: streets, parks, beaches. All provide the user with freedom of choice for their use and pleasure. However, there are, of course, basic rules of social behavior that one has to comply with, such as nudity restrictions.

The "quasi public" category includes all the private-based amenities that are open to the public, such as: malls, amusement parks, cafes, restaurants and museums. They all provide the user with a limited quasi freedom of choice. The norms that guide these spaces are more restrictive than the ones for any true public space.

Organizational Space

Organizational space is all spaces subject to any specific ruling but not open to the public in general. Only people who are somewhat related to those spaces are allowed access. They can be subdivided into two categories: Intellectual/Productive spaces and Total Institutions.

Intellectual/Productive are spaces open for those who are legally bound to them. People have the right to enjoy, produce, and ultimately comply with the rules -- otherwise one may be expelled or fired. These spaces provide the economic basis for a city to be viable. The better their performance the more attractive a city will be, from an economic point of view. Some examples are: schools, colleges, universities, and office buildings.

PEOPLE'S CIRCULATION FLOW

Fig. 49
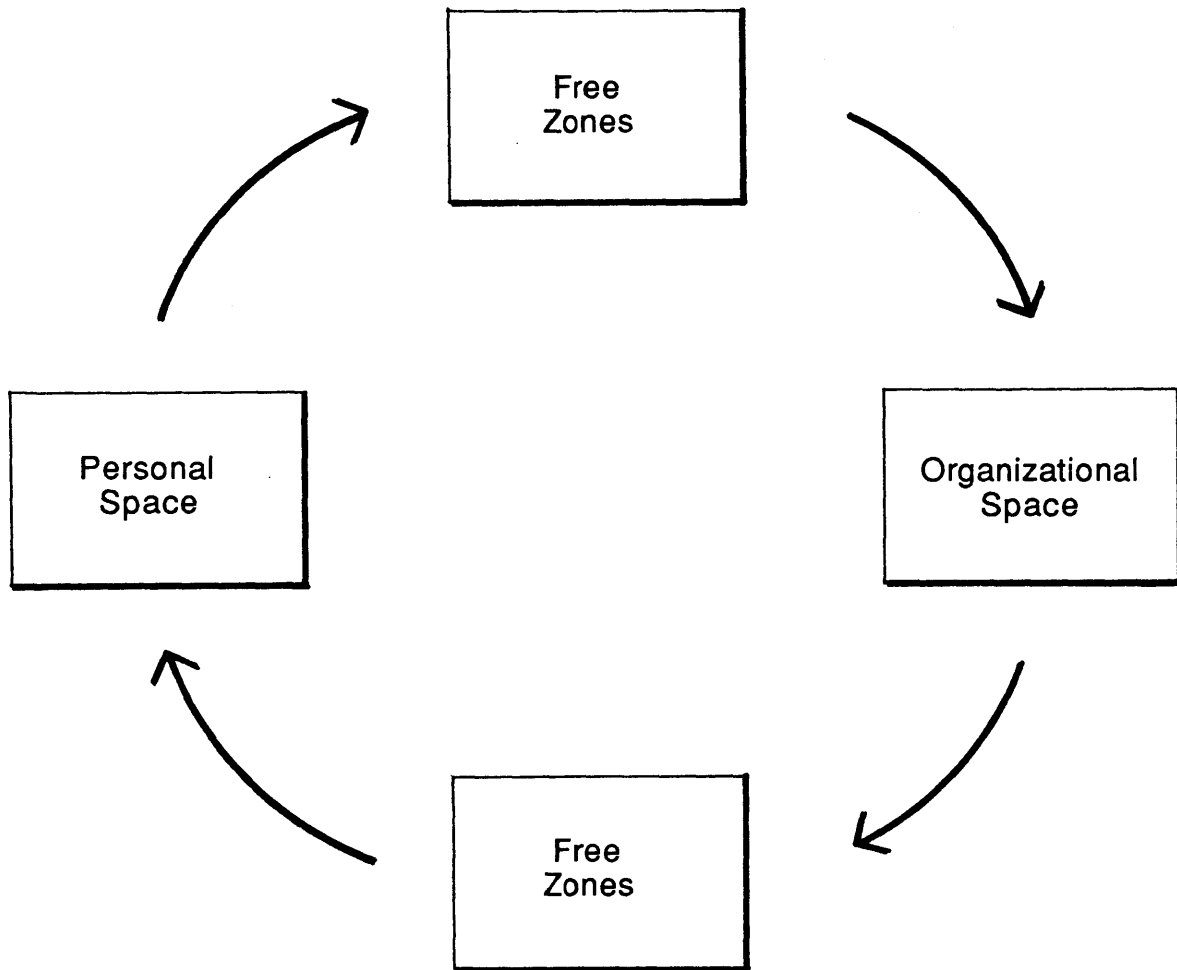
Total Institutions: This terminology comes from Goffman's book <u>Asylums</u>, where he makes a clear distinction between ordinary institutions and, what he calls, total institutions. They are total in the sense that their design gives no options to their users. They are highly-controlled environments and one has no choice but to abide by the rules. Some of their members have broken no laws and others have, but in the overall picture they hold involuntary memberships. They have restricted contact with the world outside the walls. Some examples are: prisons, asylums, monasteries, and the like. Monasteries are included because they are administered as total institutions, despite the limited choices inmates might have.

All three pieces of the urban puzzle (personal, free zone and organizational) rule the flow of people through the city, as shown on page 69 (Fig. 49). As mentioned before, there is no way to avoid any free zones in order to have access to another zone. Public and private transportation link all of these places.

The main center for interaction is found in the free zones, which provide the ambience for such activity to happen. People interact in different ways: directly, by choice and indirectly, by coincidence.

TYPOLOGY OF CONTROL: THE CONTROLMATRIX

The Controlmatrix (see Fig. 50) was designed to compare various types of control. It takes into account personal spaces and free zones only. Five controlled residential environments in the city of Rio were classified from the least to the most controlled. This matrix takes into account: different types of residential settings, existing control features, income groups, space category, social control, and finally, number of existing barriers.

Degree of control is rated according to different control features used. The features are so varied that residential control can be evaluated by numbers. That is to say, the rating includes the quantity, as well as the quality, of existing physical and technological barriers in a residential complex. Presumably, the greater this number, the safer a community will be. Most

CONTROLMATRIX

Fig. 50

	A	B	C	D	E	F	G
1	TYPOLOGY OF CONTROLLED ENVIRONMENTS						
2							
3							
4	DEGREE OF CTRL	TYPES	CONTROL FEATURES	INCOME	CATEGORY	SOCIAL CONTROL	BARRIERS
5	THE LEAST			GROUP			
6	1	NEIGHBORHOOD	POLICE PATROL	A, B & C	FREE ZONE	NO PHYSICAL INSULATION	NONE
7		STREETS				offender exclusion	
8						by arrest	
9	2	SINGLE FAMILY	FENCE, WALL, DISTANCE	A, B & C	PERSONAL/	SOME INSULATION	1, 2
10		HOUSES	& OTHER HI-TECH		ONES	separation by exclusion	
11			DEVICES		PRIVATE		
12							
13	3	APARTMENT	FENCE, DOORMAN,	A & B	OTHERS	SOME INSULATION	1, 2, 3
14		BUILDINGS	INTERCOM & OTHER		PRIVATE/	separation by esclusion	
15			HIGH TECH DEVICES		GROUP PRIV.		
16							
17	4	CONDO	SECURITY GATES, PRIVATE	A & B	OTHERS	TOTAL INSULATION	1, 2, 3, 4
18		BUNDLES	POLICE, WALLS, FENCE,		PRIVATE/	overt security	
19			DOORMAN, INTERCOM		GROUP PRIV.	control	
20			& OTHER HIGH TECH DEV.				
21							
22	5	FAVELAS	NEIGHBORHOOD WATCH	C	OTHERS	NO PHYSICAL INSULATION	NONE
23	THE MOST					covert psycological	
24						control	
25							
26							
27	income groups: A = upper class / B = middle class / C = lower class						
28	Insulation = protective shield						
29	Barriers = provided by technological and physical features						

recently, the number of features have increased, and have also become far more complex than the ones seen in the senzalas and the Doxiadis Plan. Any method works as a preventive measure, as well as a disincentive to the potential offender. The different types of features available today are immense. Security /surveillance hardware and services of security guards can satisfy anyone's needs. Devices like retinal scanners, motion detectors, and many others are accessible to those who can afford to pay the high price.

The results shown in this matrix proves that the assumption: the more the security features the higher the control -- may not always be true. People's minds are very innovative in times of tight resources, as we shall see below.

1- Neighborhood Streets:

A neighborhood street is the least-controlled environment within the free zone category. It is the place where one can be exposed to forces, individuals and events at maximum level of freedom, without having any assurance of protection. As mentioned before, the security rating is the lowest possible and even if one is inside an automobile, for instance, the protective shield is still somewhat limited. There are no control barriers and the individual is limited to getting help from third parties, mainly from police patrol. The neighborhood streets include all income groups and it is the arterial link between places in the city. The only social control, is the offender exclusion by simple arrest, by the only control feature, namely police patrol.

2- Single-Family Houses:

A single-family house can be rated at a somewhat intermediate level by security standards. It falls under the category of personal space - one's private space. Security insulation must be provided by the user. It can assure limited protection to individuals and fits all income-type groups (A, B & C). Social control features depend on what each individual can afford. The average number of barriers is usually two: a fence or a wall and high tech devices. Another possible barrier could be distance. There is no security screening. That

is to say, anyone can approach the site and try to gain access and/or communication. The residents are subject to be taken by surprise.

3- Apartment Buildings:

This type is the most common and it represents the average controlled environment in a city. Insulation becomes stronger and more effective. Basically, the control features are increased by one, namely the doorman (the screener), and the income group decreases by one as well, A & B only. Apartment buildings introduce common areas and one single "watcher", the doorman, which was one of the first features in group residential control. It may be a weak form of control by today's standards, nevertheless it was efficient up till the mid-1970s. It falls under the category of other's private space and/or group private space. The separation is made by exclusion, that is to say, there may be first one or two screenings -- by the doorman and through an intercom, before someone can actually move into one's private space/condo.

The next rating shows that the number of features have increased and have also become more complex.

4- Condo Bundles:

Condo bundles are a more enhanced version of the single apartment building and deals with income groups A & B only. They emphasize all control features found in the previous example, with the addition of two more, namely, a wall and security gates. They fall under the category of others' private and/or group public space and their social control tends to be strict, overt, and direct. There are various levels of screening before one is actually allowed access onto someone else's premises. The first screening takes place at the security gate, then the doorman or an intercom, and finally, the owner himself. This type is rapidly becoming the standard configuration for all new residential developments in the bairro of Barra da Tijuca, in the city of Rio.

5- The Favelas:

To most people's surprise the favelas can be classified as the most controlled residential environment, in Rio. They are strictly residential and hold only income group type C. Their control features rely principally on a covert, but effective, psychological control, that uses "neighborhood watch" as a means of social control. The number of physical barriers surrounding the site are surprisingly none. Like the Medinas the squatter settlements in Rio exercise a strong sense of self-protection due to the nature and social status of its residents. That is to say, they fear the unknown and share the same social problems. Like the Medinas they form a very united community, much more so than any other social group in the city.

THE URBAN PUZZLE

The point now is to question precisely what this intricate web means in urban and social terms. From the described problems, we can conclude and demonstrate that the present state of security concerns in the city has led to the following changes:

TABLE 4:

CHARACTERISTICS OF THE ENVIRONMENT	WAS (before 1970)	IS (after 1970)
FUNCTION	active uniform committed	inactive unstable aloof
FORM	dense urban grid	private security islands
INTERACTION	higher	lower

We already saw the reasons that have caused these changes to happen to the urban puzzle. There are several problems that are associated with the above shift, that made people realize that the best way to accomplish one's needs is to make the best use of a community's own resources. That's why the city is now

Rio's Population Growth
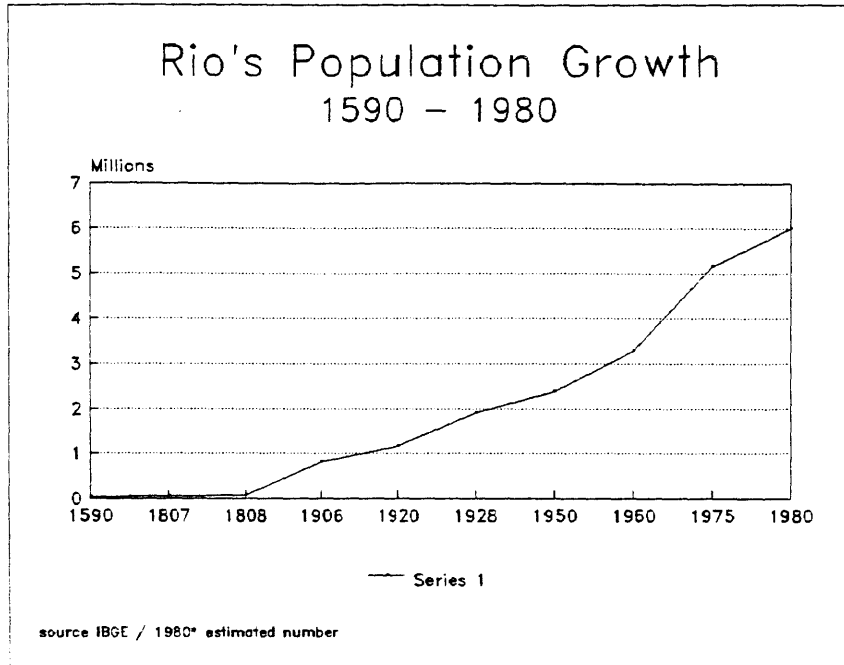### 1590 — 1980

Millions

source IBGE / 1980* estimated number

Fig. 51

Rio's Population Classification

1950

Favelados
169309

Affluent pop
237445

Others
1967703

1960

Favelados
335063

Affluent pop
328190

Others
2618655

1975

Favelados
762000

Affluent pop
515449

Others
3877044
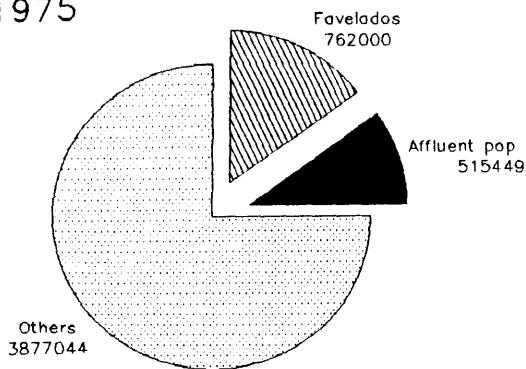
1980

Favelados
1000000

Affluent pop
600000

Others
4400000

source IBGE

-74-
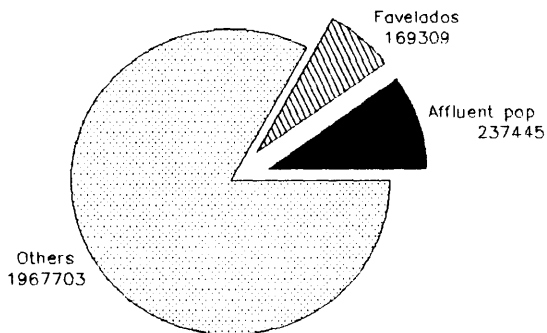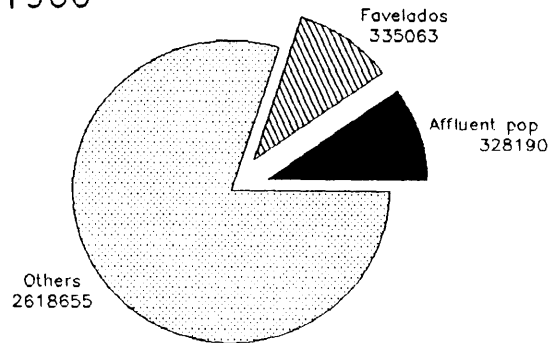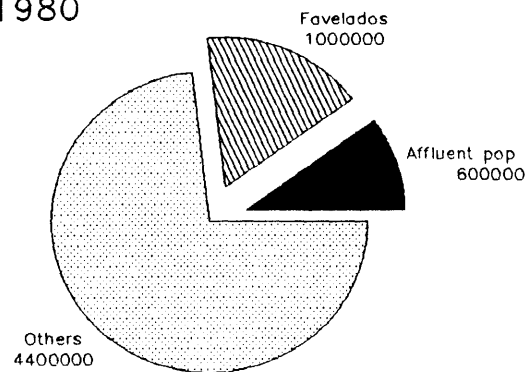
divided into three classes: the rich, the favelados(6) and others (see Fig 50). The rich seek protection in their condo bundle, made possible by their extra resources, whereas the poor (favelados) come up with innovative ideas, within existing resources. The last classification, "the others", cope with the situation, without having much to do about it, but fear.

We can conclude from the evidences shown that, the public space became second to the quasi public one, that is to say true public spaces show signs of decadence, as well as signs of omission by local governments. Such inefficiency has provided a loophole for the private "touch" to succeed, which has proved to be efficient, in most cases. It is clear the high levels of privatization in the city of Rio, and has thus resulted in the beginning of an increasing discrimination process in the way people perceive the living environment. It is discriminating simply because it does not give to all individuals the same "choice".

Unfortunately, local government policies to deal with the abstraction of security control do not exist, which leave the environment at the mercy of the controllers. As the private sector steps in, a viable and social solution is simply deferred. In the meantime, government officials are more likely to expect people to "help themselves".

In short, the overall changes in the city's life are related to: safety, seclusion, diversity, interaction, form, function; affecting public and personal spaces. As shown in table 5.

---

(6)   Name given to people who reside in a favela.

TABLE 5: CONDITIONS OF THE URBAN ENVIRONMENT

	A	B	C	D	E	F	G	H
1		HIGHLY	ALMOST	HIGH	LOW	HIGH	LOW	SECURITY
2		PROTECTED	FORGOTTEN	DEMAND	DEMAND	LEVEL	LEVEL	ISLANDS
3	SAFETY	0	1	1	0	0	1	1
4	SECLUSION	1	0	1	0	1	0	1
5	DIVERSITY	1	1	0	1	0	1	1
6	INTERACTION	1	1	0	1	0	1	1
7	FUNCTION	1	1	1	0	0	1	0
8	PUBLIC	0	1	0	1	0	1	0
9	PRIVATE	1	0	1	0	1	0	1
10	PERSONAL SPACE	1	0	1	0	1	0	1
11	FREE ZONE	1	0	1	0	1	0	1
12	URBAN FORM	0	1	0	0	0	1	1
13								
14	1 = TRUE							
15	0 = FALSE							

Table 5 shows all the concerns discussed so far, which basically leads to the following assertions:

Safety levels are considered very low, leading to a degree of seclusion never seen before. As a result, personal space is highly protected, however, in different ways, depending on social economic status.

Within the free zones, public spaces show: low demand, low safety levels. They are, in fact, becoming nothing more than passage ways. On the other hand, the quasi public spaces are in high demand, have proved to be safe and diverse, thus attracting more and more people.

Interaction among people varies, depending on the location. In the public realm: lower levels, and people are skeptical, whereas, the quasi public, with a stimulating environment, presents higher interaction among people and a safer atmosphere. Personal spaces still show somewhat high levels of interaction, but they are discriminating and restrictive.

Diversity is high within quasi public spaces and exclusively-controlled personal spaces. As a result, variety is decreasing within the true public spaces.

The function is loosing its original purpose. With stronger participation of community groups, without governmental aid, private-based measures are more likely to prevail.

With regard to the urban form, it is clear that it is slowly taking the shape of secluded security islands, which significantly disrupts the traditional form of the city, as seen in Fig. 14 and 15.

To understand the reasons and rationale for the existence of this phenomena of privatization and seclusion, the quote below provides us with a little clue to explain this success.

> Every institution captures something of the time and
> interest of its members and provides something of a
> world for them.
>
> [Erving Goffman]

We are living in a world of skepticism and the controlled residential environments provide all the features that one expects in affluent living and that is why they are spreading nowadays.

So far I am far left with more questions than answers: What if the future urban pattern of our cities show an increased number of residential enclosed pockets? What would the symbolism of the urban wall be now and in the future? Social status, unshared premises, exclusiveness? Are those types of residential developments a good form of living? Do they provide a good pattern/model for our cities? Is privatization the right answer to the question? Are crime and a lack of safety likely to decrease? Is social inequity likely to increase?

In the next and final chapter we will try to answer some of these questions and try to envision a few urban scenarios that might become reality in a near future.

CHAPTER IV

IMPLICATIONS OF CONTROL

This chapter deals with impact of control over the environment, increasing privatization, and ongoing lack of security in the city of Rio and cities in general. It is divided into two impact categories: the physical, which can be understood by considering concepts of "the wall" and "the free zones", and the social, which includes the concepts of "the orphans of society" and "the orders of control".

PHYSICAL IMPACT OF CONTROL

The impact of control may be understood in terms of two concepts: the wall and the quasi-public zones.

The Wall

A wall, as a barrier, has different meanings in different cultures, as well as in different times in history. A physical barrier between one's property and the outside world conveys two different ideas: privacy or defense/security. In American society, for instance, the idea of having any property boundary shows, in general, a concern with personal privacy. For the communities of the medieval walled cities and the Condo Bundles, privacy is less important than other concerns, such as security and protection.

Taking into account that the future always comes from the past, in the 1990s, the wall will symbolize the idea of unity, cohesion and seclusion against everything that is beyond a community's physical limits, just as it did in medieval cities. This image will continue to be an important component in such strategy.

In the medieval towns, the surrounding walls were not only for defense, but also were a facade to the outside world. The walls and their gates dominated

the viewer's attention, and conveyed an idea of military strength and power over the ordinary visitor.

Today's secluded communities' physical characteristics differ substantially from medieval walled cities. Nevertheless, their transparent fence is likely to be replaced by a fortified wall. This will depend on the need for strong barriers relative to external menaces. A secluded community's walls will differ from one development to another, and some of the implications can be understood by the design impact and the idea of control and isolation.

The design impact will be highly noticeable,. when an architect designs a Condo Bundle. The final product is the result of defense-wise and interactive-wise concerns, and the outcome is certainly different if compared to no walls at all, such as in the case of an ordinary building in the city. The design of a secluded condominium complex has an inward focus like the aldeias, the senzalas and the Doxiadis plan, as seen in Chapter I. It takes advantage of available land to build in a troubled-free environment, whereas the ordinary apartment building in the city faces space constraints and has to avoid the "immediate" hostile outside. In the apartment building case, there is no direct link to the exterior and all activities are performed indoors, on a much more limited inward focus.

The entrance gate, besides welcoming or blocking visitors will be considerably enhanced. The more prominent a Condo Bundle, the more unique its gate will be. Medieval towns, for instance, had a wide range of figurative images that appeared on the facades of gates. This enhanced feature will convey the notion of high social status and signs of an affluent population within. By today's standards, it is clear, from the distinct design types, encountered during my field study, that this issue is always carefully thought out. They may vary from single gates with guards to literally small "military" headquarters, checking people in and out.

Today's professionals face similar design strategies, as once others did when designing aldeias, senzalas and medieval towns. As Friedman describes in his

book(7), there were design requirements when building medieval cities in order to get an effective product. This concern is certainly true for this recent version of walled cities - condo bundles - in Rio.

The wall is associated with the idea of control and isolation from outside agents. It also limits interaction to within the complex. History shows us that since the Stone Age humans have clustered in groups, for various purposes. The purpose of secluded communities of the 80s and 90s is to provide residents with choices of living in a suburban-like atmosphere, highly secure and socially-interactive environment. The wall brings back a sense of neighborhood and solidarity between members.

It is true that this "new" concept in living will not simply be in vogue as a defense strategy per se, rather, it will be a social image strategy. The Condo Bundles are directly related to a higher-income group in the society, which will strongly continue to symbolize prestige.

The Free Zones

The free zones are the interface between the personal and organizational spaces in the city (see fig. 52 & 53). They are compose of public spaces, owned by the city and quasi-public spaces, owned by private companies. Both aim at attracting the public.

The shape and importance of free zones have changed over the years. The public sector used to be predominant during the times when the coalition between the church and government was strong and clear. At that time, both institutions had the chance to provide people with the early version of the free zones in history, which were defined by cathedrals, monuments and centers of government. The monumental architecture of these buildings conveyed the affluence of a particular city.

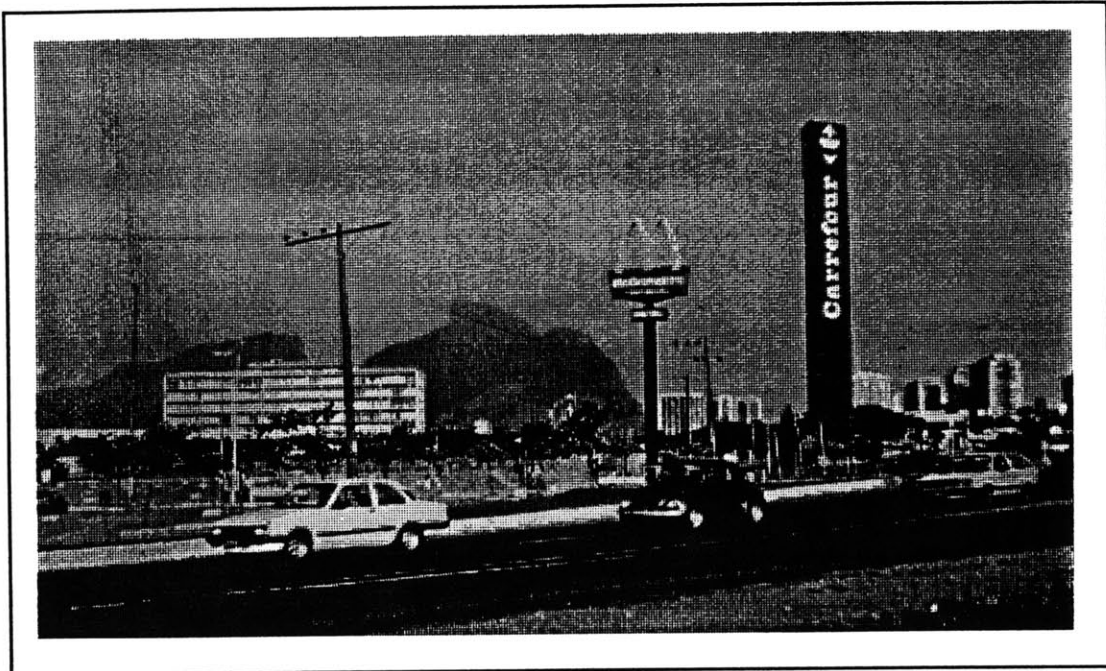(7)   See Florentine New Towns, David Friedman, The MIT   Press, Cambridge, MA, 1988.

Fig. 52
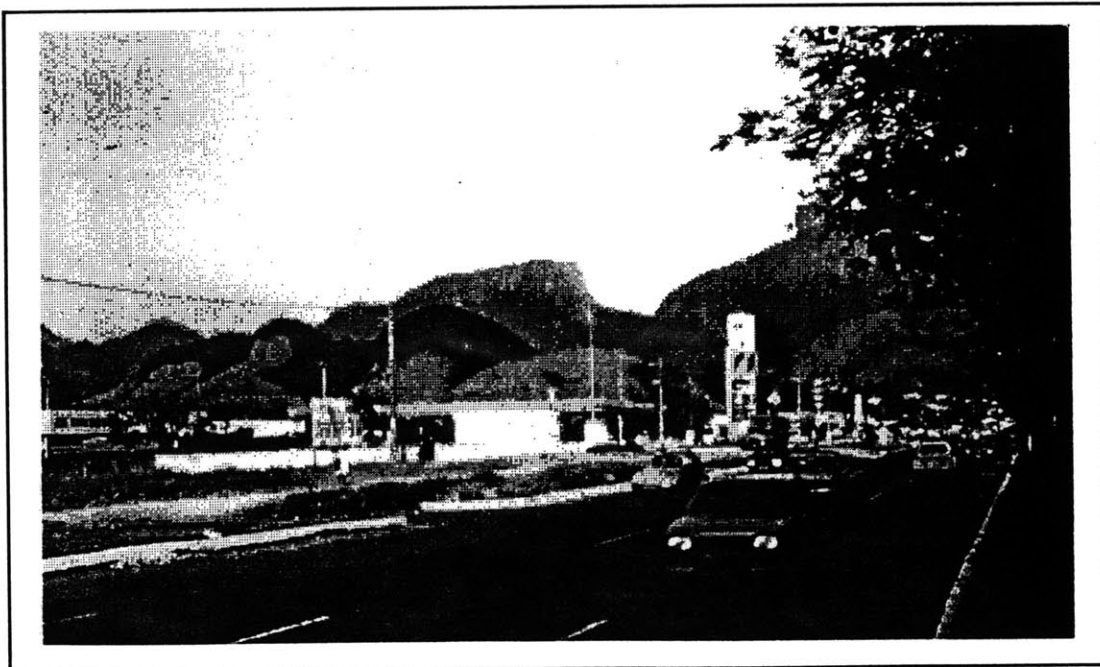Free Zones - quasi-public spaces

Fig. 53
Free Zones - public spaces

Later on, with the decrease of the church's influence over the government and at the same time the increase of private groups' influence over the city, the quasi-public spaces stated to gain importance.

Nowadays the secular aspect of society has suffered a drastic change and the quasi-public spaces have taken over the public spaces. People's perception of monuments within the city has changed substantially, which was witnessed by the novelist Beryl Bainbridge. In the 1960s, she made a trip in an attempt to retrace J. B. Priestley's trip around England in 1933. She describes the transformation that had taken place in cities, as she was amazed by the changes that had occurred mainly with regard to visitors' attractions. What once were main tourist attractions had become secondary to shopping malls. "People now worship shopping", Bainbridge commented. The real center of public life now occurs in private zones.

It is certainly true that visitors that come to Boston are more likely to visit Copley Place as opposed to the State House or even Park Street Church. The monumental Government Center, in downtown Boston, is hardly noticed by tourists that explore the excitement of an important free zone, quasi-public space, called Quincy Market.

The quasi-public zones have increasingly gained an important position within the urban environment. The quasi-public spaces due to diversity and security, easily seduce people. These private-based amenities, will continue to move the local economy and attract tourists as well. People now is more likely to "kill time" in quasi-public space, such as a mall, than going to a park.

With relation to the form of control the quasi-public spaces are more effective than the public spaces, due to a camouflaged security control, such as electronic surveillance. What is good about this type of control is that nothing appears to be atypical within the fake atmosphere they create.

Concluding, quasi-public will tend to be predominant in the urban scenario. They have the formula to combine, in one single package, all the items for public enjoyment. The quasi-public space is where both the disillusioned

affluent and poor citizens mingle -- today and tomorrow, and try to find an answer for some of their needs.

SOCIAL IMPACT OF CONTROL

As noticed in the evidences shown before the private sector took over the role of providing more effective services to people. The social impact caused by this change in the city, leads to two implications They are: the Orphans of the Society and Orders of Control.

The Orphans of Society

The word "orphan" in this case does not necessarily have its denotative meaning of "fatherless" but, rather, it means people that have increasingly been denied their rights to enjoy the provision of basic public services. In a broad sense orphans include all taxpayers in a city, which encompasses poor orphans and affluent orphans. Although the poor suffers the most, both, the rich and the poor, can be considered orphans for not getting the services they need from the government.

In Latin American countries, people are more likely to expect more provision of services, such as security and maintenance services, from local governments than other capitalist countries. This is probably due to the very fact that private assets are less likely to be found in abundance, particularly from individuals, and the existence of many paternalist governments in an economy where the public sector is predominant. In other countries, such as in the United States, the involvement of the private sector as a provider of services, usually in exchange for some sort of benefit from the public sector, has been in practice for quite some time.

This reality has been changing with the return to democracy in major Latin American countries, such as Brazil. However it will take a long process in order to decrease the state's interference in the economy.

In the case of Brazil, the public sector controls over 50% of the economy. Nevertheless, this reality is undergoing changes and the idea of private/public partnerships has started to pick up. One can see in the mid-70s and the 80s increasing participation of the private sector taking the role of the government. In Rio, as described in past chapters, the boom of the condo bundles shows a private-based response, to a particular income class's needs, playing an important task in the development the bairro of Barra da Tijuca.

In other words, the orphans are related to inequities which unavoidably accompany every city, and it seems that in the near future social inequity in our cities is likely to increase. The gap between the poor and the rich will tend to grow. If the basic rule of the game were "fairness", the richer a community is, the less it would get from government resources. Similarly, the poor would be more likely to receive more resources. Unfortunately the game does not operate this way; therefore inequities emerge. The richer communities will simply be able to afford the extra cost of providing whatever they lack, whereas the poor orphans have very limited choices to deal with whatever they get and have nothing more than imagination to cope with their problems on a more focused basis.

Government's bad management and inefficiency is not likely to change, and if citizens keep their inertia, just counting on the public's action for solution, we will be forever orphans, just sitting there and waiting to be adopted by a competent administration.

Orders of Control

The orders of control define how control will be applied in our cities in the future. Assuming the fact that increasing privatization is inevitable, separate orders will be defined by private individuals in private developments. The orders of residential control, will lean towards diffusion. That is, each new development will have its own policy about security control, and the form of control will vary depending upon the degree of wealth of a particular community. Sophistication of control features in the future is unavoidably a

A handshake's good enough for me, Jack
This whole meeting's on videotape anyway.

Fig. 54

THE WALL STREET JOURNAL

LOAN DEPT.

"That's right, sir, no collateral is necessary.
However, we will have to chain this little
electronic device around your neck."
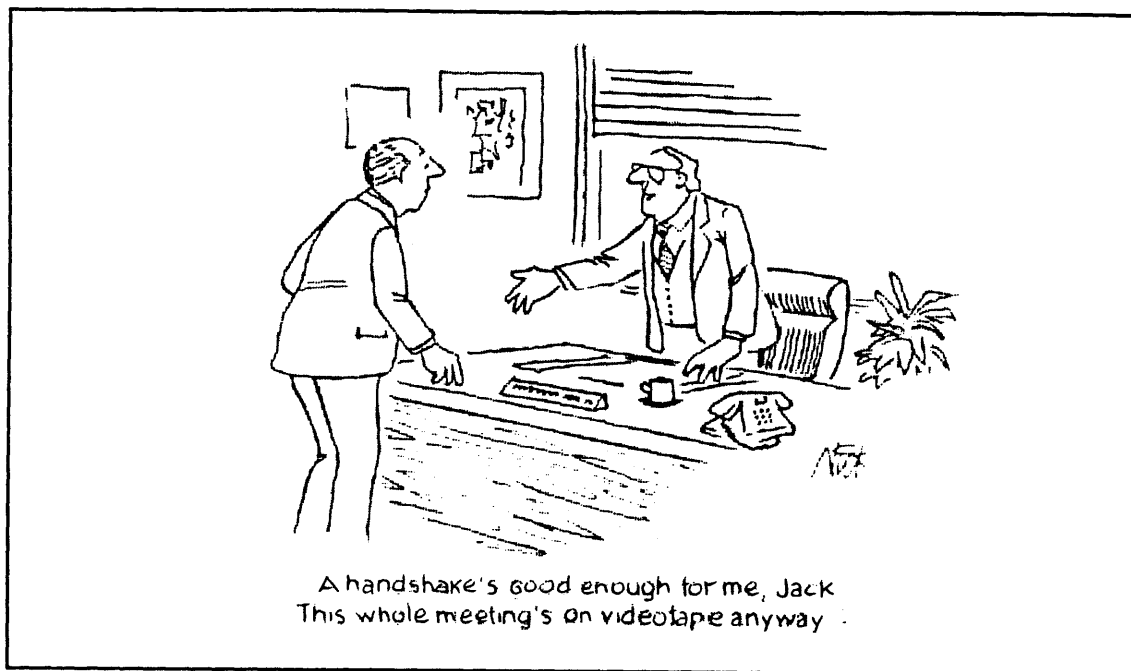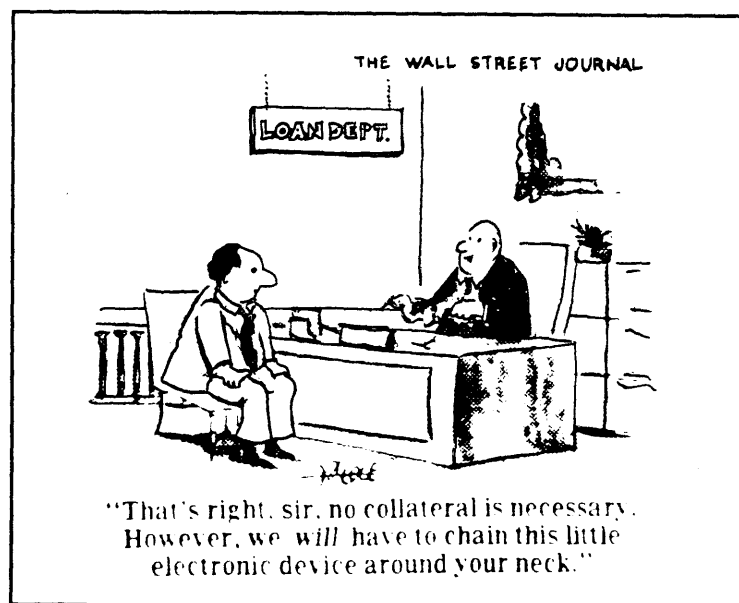
Fig. 55

matter of bargaining power to attract new residents to new secluded condominium developments.

We are unequivocally far from being close to the Orwellian State as described in the book 1984, but control will be as fine-grained as George Orwell imagined himself, although featuring different characteristics. Its source is and will continue to be private not public, and its medium won't be a central controller, such as Big Brother, featured in Orwell's book.

My hunches say that the picture of the future of control in residential settings won't be inspired in Orwell's socialist dream. Rather, my view is more associated with Huxley's description in his book Brave New World, where a picture of consensus-based control conveys a strong resemblance to today's control systems. In Huxley's book, people are attracted into complying with the rules, by the pleasures offered by a drug named "soma". Metaphorically speaking, the future and success of residential controlled environments will rely on another kind of "drug" - new features in addition to the already existing ones - that developers will eventually offer to seduce and persuade people to move to a particular development.

Visions like Orwell's and Huxley's can provide us with a picture of two extremes that our society may undergo. Neither of the dreams will form the kind of picture we will be seeing in the future, but something of a mix between the two.

Discipline will be another important aspect of the orders of control. Discipline works as a preventive mode of control along with surveillance. Surveillance can be made through human personnel or electronic devices, and in the condo bundles instance it is mostly done by security guards. One way or another this is the basis of the relationship between the controlled and the controller.

The ideal examples of perfect discipline will have to follow the norms of Disney World, for instance. In Disney, for instance, control strategies are embedded in the environment. Disney is a good example of a very well controlled environment. This proves that a good form of control has to be preventive, subtle, non-coercive, and more importantly consensus-driven.

The residential controlled environments of the 1990s will have much to learn from Disney's discipline control. It has to be neither overt nor threatening, but also preventive and unperceived, but ever present.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

One conclusion of this research, is that a new form of residential controlled environment, in western culture, will become a dominant force in the 1990s. The feudal-like domains of the "Condo Bundles" and the like, will be in fashion, as long as cities continue to lack both security and stronger government presence, to provide the necessary services for the well-being of its citizens.

I believe that the idea of secure islands in the city, such as the condo bundles, is a good alternative for a new way of life, taking into account the problems faced by residents of a big metropolis. This new way of life implies living in an environment within the city, but with all the amenities one would expect to find in an vacation resort.

The private sector is taking over the role of providing security to people in Rio, which used to be the government's responsibility. Therefore, the public sector has benefited by this trend, allowing it to take care of other social concerns. That is why local government overlooks irregularities in the condo bundle's site, such as fencing off and restricting public access to true public streets.

It is clear that there is a trend in Rio today, as well as in other countries (see p.5), for this suburban-type environment on a controlled site. The examples outside Rio were not fully discussed in this research, but they can certainly be new case studies for future work.

The terminology used in this study -- condo bundle -- to express this type of development, should not be understood as bitter criticism or a pejorative meaning but, rather, as an alert to government to try to deal, perceive and integrate this new urban form with the environment, instead of simply allowing speculation by developers on a hot product in the market.

With regard to the "rich and famous", I anticipate an increasing participation of this particular sector of the population to provide their own special services. The public sector will tend somehow to overlook wealthy areas in the city, by allowing, or giving incentives to community-based actions, in order to enhance a certain area. The new slogan will probably be, "Let the Rich Take Care of Themselves".

Due to the explicit self-isolation of today's communities, we might be heading towards a new kind of society (see scenarios pp.92 & 93) where the main concern will be self-protection in a highly-controlled environment. This is evidence of the fact stated in Chapter IV that the future always comes from the past. That is, these new communities go back to the old concept of a village, with new added features incorporated.

It would be fair to say that the more controlled an environment is, the less privacy one has, so the search is not for privacy but, rather, personal security. This vision is not as nearly close to the Orwellian state, due to one simple aspect, namely self-choice.

A number of positive aspects can be found in these controlled developments, as described below:

1. They offer a wide range of communal facilities to their members. Besides the on-site country club and other communal facilities, a swimming pool, a sauna and a function room, are also provided for each building.
2. They offer private security services to assure one's well being and peace of mind.
3. They sell a social image -- a fancy address, along with a condo.
4. They provide a new style of living, no pollution, better options for leisure, a new united community and an ideal environment to raise children with other children from the same social status.
5. They eliminate the perception of poverty, or vagrancy, by creating a clean and happy environment within the walls.

A number of negative aspects are also encountered, such as:

1. Too much freedom in the master plan -- resulting in different urban patterns for each development.
2. Lack of design guidelines to deal with the architecture of the controlled-residential islands, so as to promote good design and integration within the area.
3. Lack of a policy to explore tourism in the area. That is, there should be provided secure true public spaces, in order to attract visitors.
4. Children raised in a controlled environment may grow "naive" without seeing social contrasts, compared to other children that are raised in the city.
5. Government negligence to the area. That is, even though the strong presence of the private sector was evidenced, there is still a lack of local government's involvement in managing or maintaining true public spaces in the area and providing local infra-structure services.

I would recommend four guidelines to deal with the problem, more effectively, as described below.

Stimulate Quasi-Public Spaces: I believe that the solution in order to have safe, neat and highly interactive cities, will be to stimulate quasi-public spaces within the free zones in the city. The private sector is likely to take the initiative in developing and maintaining these zones. It is true that there must be incentives to attract private resources, which have to be formulated by the public sector. Not only will this formula increase interaction among people, but also, benefit the population, and thus increase safety in the city. Secure free zones will enhance the relationship and trust among people.

Monotony and Design: There must be policies to deal with the overall image and diversity of these new urban scenarios, within the environment. Governments should not simply allow controlled environments to be built because they are in high demand and follow the norms. There must be a policy to deal with building design, as well as urban design per se. It is an issue that has to be taken into consideration to avoid the monotony of the walls and repetition of buildings. One could have a bundle, composed of several buildings, designed by different architects, providing an identity for each

building and thus more design diversity to the development, that is found in any city. As of now, each development is designed by one single architectural office, which simply repeats the same design for every building. I believe that Costa's plan, needs to be revised, so as to provide measures for urban integration between condo bundles and free zones, thus stimulating an interlock between them.

The idea of a network: Today's controlled environments can be defined by the condo bundles and the favelas, encompassing two extremes social classes in the society. Condo bundles, because of the way they are designed and administered, can only be afforded by a higher income group of people.

The idea of a network of controlled residential environments is viable. It can and should be fomented due to increasing insecurity in Rio and cities in general today. It would be possible to expand the condo bundle concept to be more accessible to other sectors of the population, neither found in the favelas nor in the condo bundles. That is, different versions should be constructed with different variations of features, thus decreasing costs and reaching different income levels. Variations could mean sharing the financial burden with the public sector or even relying and reinforcing the strategy of the favelas, namely that of a crime watch neighborhood. Governments should provide some sort of incentives to those who want to foment this type of residential complex, once it is advantageous for both sides. This option will make wealthy developments undergo substantial changes, and that is where the orders of control (see Chapter IV) will play an important role.

Capitalize on Tourism: Rio has drastically suffered a decrease in tourism activities. The negative promotion conveyed by articles from various international magazines, relative to low levels of security in the city cannot be ignored.

Local government should capitalize on the number one industry to be in the year 2000, namely tourism. There is a total negligence by local government towards this particular aspect that is one of the main sources of revenues for Rio's economy.

I suggest the improvement of local public site's conditions, beaches and parks, incentive cultural and sports activities, as well as enhance transportation to Barra da Tijuca. These measures could help spur tourism activities in this newly urbanized area. Another aspect that needs some attention is the improvement of the road system, which, as of this writing, barely supports the increasing traffic flow in the area.

Finally, I believe that the implementation of the four guidelines above mentioned will help people and government to deal with the abstraction of control and its implications for the urban fabric, when designing a city or any development. It is crucial to spot the "disease" before it is too late. The earlier the government acts the better chances there are for reaching a solution.

DEVELOPMENT MODELS

One may ask where this trend will lead. It is fairly certain that condo bundles of the 1980s will proliferate in the 1990s, as the city of Rio develops further towards the south. Two scenarios seem possible as visions for future profiles of condo bundles: One is the Productive Bundle, and the other is the Super Bundle.
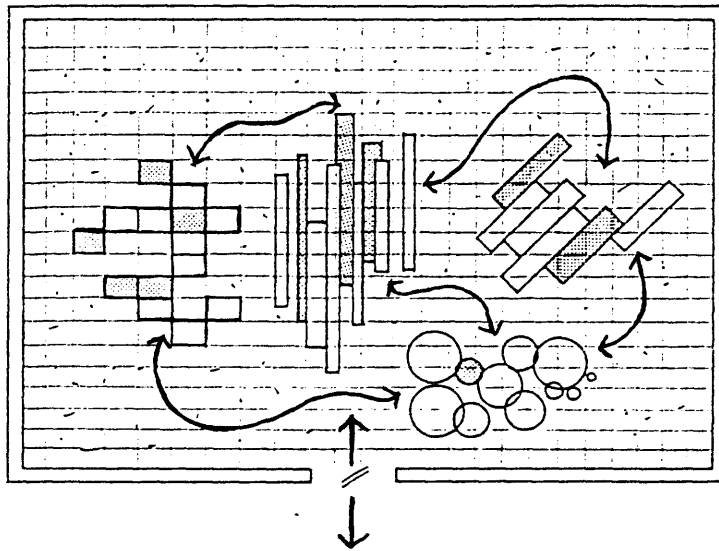
SCENARIO # 1

THE PRODUCTIVE BUNDLE

This will be the reemergence of the medieval walled city. There will be a tendency to resolve and provide all one's needs within each bundle: garbage, transportation, food, electricity, gas, and neighborhood shopping, among others, will be taken care of without any dependency on external help.

If we take into account that advancements in technology provide us with extensions of our biological machine, the more extensions available, will result in fewer people having to leave the bundles. In other words, for humans to

perform better, technology has come up with extensions of our body. For instance, a pair of glasses, a telescope, and a satellite are the extension of one's eyes; an automobile is an extension of one's legs; the telephone is an extension of one's voice. The greater the extensions the better the performance. It is true that by today's standards, social classes can be rated depending on the numbers of extensions one has. These extensions/ advancements in technology such as: electronic mail - via computers, conference calls - via telephone, and fax machines, will allow people to work from their own condo, hence less commuting will be involved.

There is also a chance for an evaporation of the free zones and the organizational space, which may be slowly, but not totally, incorporated into the bundles. As a result, one will witness a gradual dispersion of the city grid in areas newly urbanized.
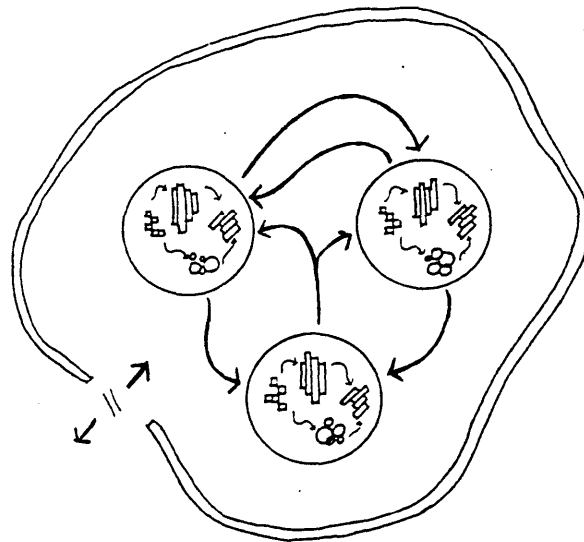

The Productive Bundle

SCENARIO # 2

THE SUPER BUNDLE

Condo Bundles joint ventures will become prevalent, as a result of the merging of different adjacent bundles. All the three components of the city's space, personal space, free zones and organizational space, are now integrated under one roof. The rationale behind this concept is both financial and social. The financial aspect has to do with cutting costs and improving services. On the other hand, the social aspect attempts to integrate people within the same social, economic and intellectual status. The condo bundles will become very big and important in the urban scenario and they will eventually claim autonomy from the city, will perhaps become cities in themselves.

This vision practically reproduces what citizens were trying to get away from, when the condo bundle concept was first implemented. If this really happens, I also envision, along with it, a return to the single apartment building, most likely back in the city, but still heavily protected. Remember, humans like diversity. It is conceivable that the wealthy sector move out of the condo bundle into another zone and create a new fad in residential living.
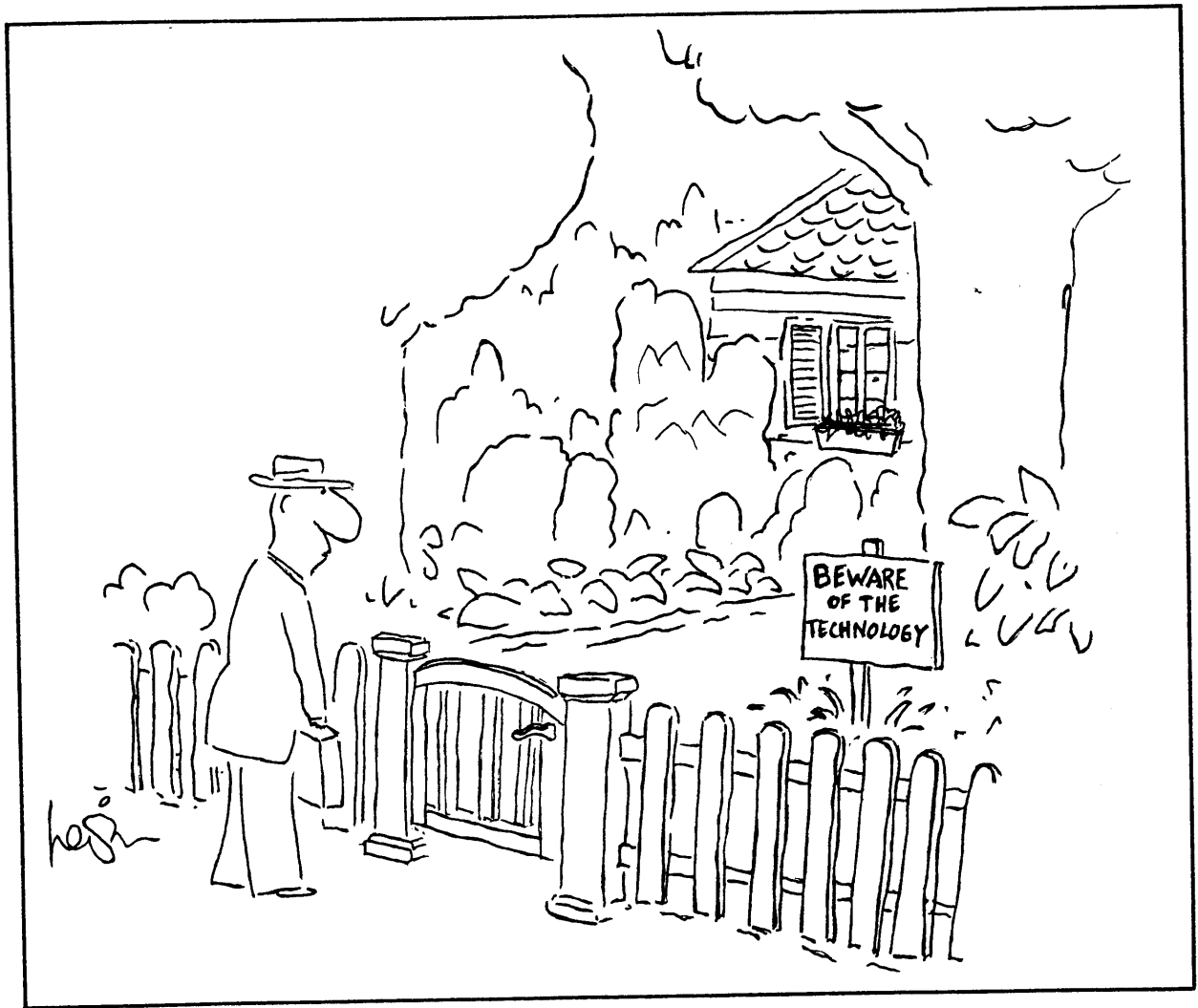

The Super Bundle

Fig. 56

The Productive Bundle, scenario # 1, depicts an interesting concept that somehow attempts to reach higher levels of autonomy from the city's services. We may be heading towards this new style of living without knowing it.

The Super Bundle -- scenario # 2, combines the idea of social and political autonomy. At this stage, bundles will be mirror images of small and manageable cities, but in the end they very likely will become the sort of environment that the original condo bundle inhabitants were trying to escape from, that is another city.

FINAL REMARKS

This research dealt with a piece of the urban pie in Rio that is currently undergoing transformation. The research concludes that a controlled environment can provide a good ambiance for a new style of living and is a viable alternative to deal with personal security problems.

The private sector as a provider of services should be recognized and encouraged by Rio's local government, thus government's monopoly, as the only provider of basic services, should decrease.

The secluded residential islands in the city need more attention from the local government in order to recognize and capitalize on the idea.

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APPENDIX

SUBZONE A-18

I. DELIMITATION

The subzone A-18 is composed of two areas:

A - This area shall have the following boundaries: south: limited by the north alignment of Via 2 pursuant to the PA 8 997, north: limited by the Avenida das Americas and at west by the Avenida Arenapolis;

B - This area shall have the following boundaries: South: limited by Avenida Sernambetiba and North: limited by the Marapendi Lagoon, assigned for the implementation of a nucleus of commercial and multi family buildings at the crossing of Avenida Alvorada and Avenida Sernambetiba.

II. CRITERIA FOR SUBDIVISION

a) The maximum area assigned for multi family uses that constitutes a nucleus: 70,000.00 square meters.

b) The area assigned for commercial uses, with forefront for Avenida das Americas and depth of 70 m (seventy meters):

- Minimum area of the lot: 3,500.00 square meters
- Minimum forefront of the lot: 50.00 square meters

c) Areas assigned for single family uses:

1. subdividable area:

$$SL = 1/3 \, [sg - (C + N)$$

SL = subdividable area for residential use (single family)
SG = total area of the lot
C = area for commercial use
N = area of the nucleus

The remainder 2/3 are reserved to open space, roads, schools, public services and other public services.

2. Minimum lot area: 1,000.00 square meters
    Minimum lot forefront: 20.00 m

III. CRITERIA FOR CONSTRUCTION

a) Residential single family use
   - building height: 2 stories
   - I.A.A.: 0.60
   - Maximum occupancy: 40%
   - Setback:
         front - 5.00 m
         sides - 2.50 m

For forefronts equal or superior to 10.00 m the setback on the sides are not mandatory.

b) Residential multi family use (nucleus)

   - building height - minimum of 18 stories and maximum of 30 stories
   - I.A.A.: 3.00 m
   - minimum setback:
         front -   1/4 of the total height of the residential units
         sides and rear -   1/4 of the total height of the residential units
         between buildings - 40% of the total height of the tallest building
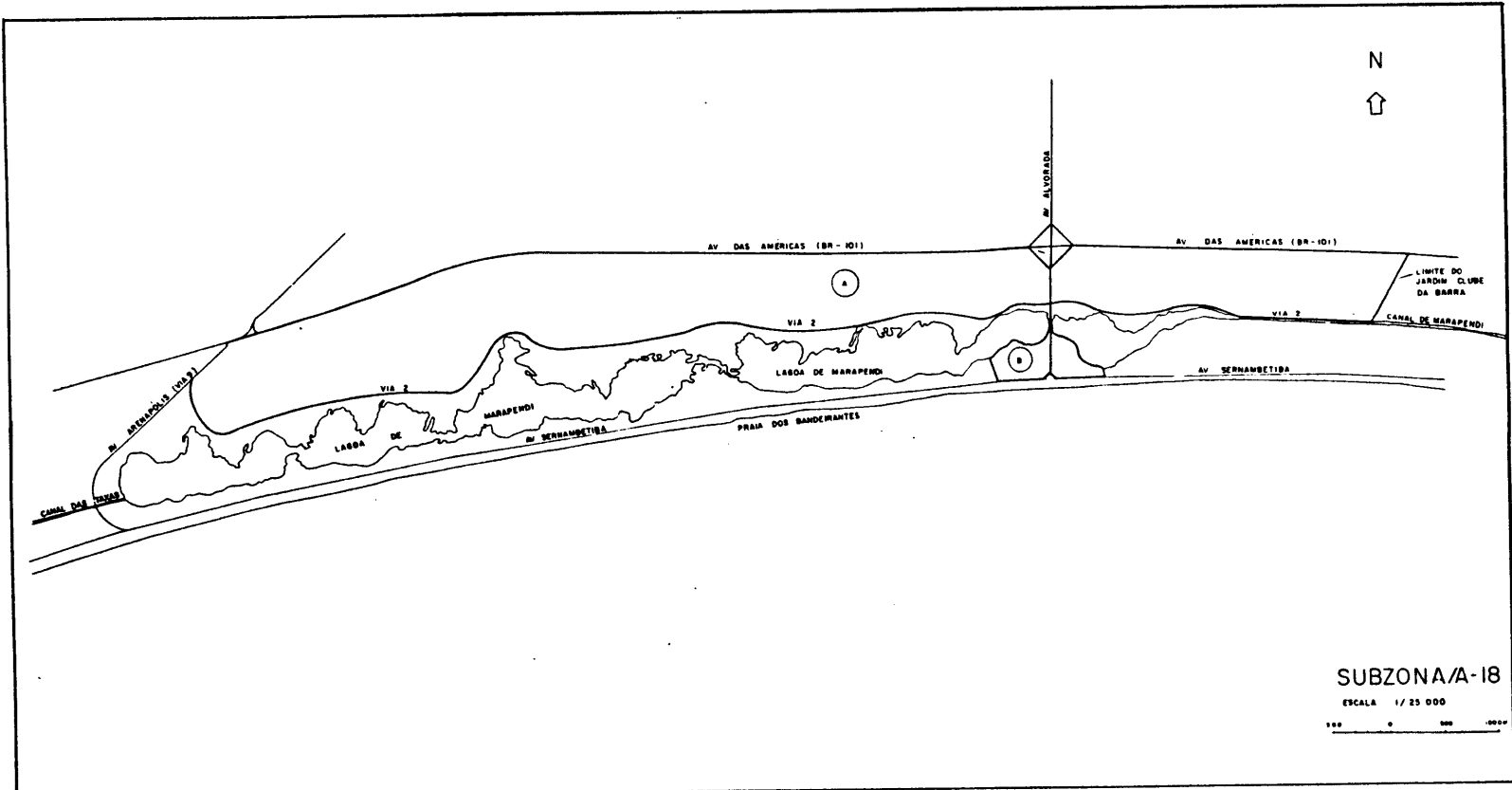within the nucleus

c) Commercial uses

      1. Within the parcels with forefront to Avenida das Americas, as a result of new subdivisions:

   - building height: 2 stories
   - I.A.A.: 0.75
   - Maximum occupancy: 30%
   - Minimum setback:
         front - 10.00 m
         sides and rear - 10.00 m

      2. Within the parcels 1 to 25 pf the PAL 25.917 and within the lots 1 to 4 of the blocks A and B of the PAL   30.114 will be allowed commercial buildings only, provided they abide by the following rules:

   - height: 2 stories
   - maximum occupancy: 30%
   - Minimum setback:
         front - 10.00 m
         sides and rear - exempt

N

AV ALVORADA

AV DAS AMÉRICAS (BR-101)

AV DAS AMÉRICAS (BR-101)

LIMITE DO
JARDIM CLUBE
DA BARRA

A

VIA 2

VIA 2

CANAL DE MARAPENDI

LAGOA DE MARAPENDI

AV SERNAMBETIBA

AV ARENÁPOLIS (VIA 2)

VIA 2

B

MARAPENDI

LAGOA DE

AV SERNAMBETIBA

PRAIA DOS BANDEIRANTES

CANAL DAS TAXAS

SUBZONA/A-18

ESCALA 1/25 000

I – DELIMITAÇÃO

A Subzona A-18 é constituída por duas (2) áreas:

A — área limitada ao sul pelo alinhamento norte da Via 2 do PA 8 997, ao norte pela Avenida das Américas, a leste pela divisa ocidental do Jardim Clube da Barra designado pelo nº 1 981 da Avenida das Américas e a oeste pela Avenida Arenápolis;

B — área limitada ao sul pela Avenida Sernambetiba e ao norte pela Lagoa de Marapendi, destinada à implantação de um núcleo de edificações multifamiliares e comerciais no encontro da Avenida Alvorada com a Avenida Sernambetiba.

II – CRITÉRIOS PARA PARCELAMENTO

a) Área máxima destinada a uso multifamiliar constituindo um núcleo: 70.000,00m^2 (setenta mil metros quadrados)

b) Área destinada a edificações comerciais, com testada para a Avenida das Américas e profundidade de 70,00m (setenta metros):

— Área mínima do lote: 3.500,00m^2 (três mil e quinhentos metros quadrados)

— Testada mínima do lote: 50,00 (cinqüenta metros)

c) Área destinada a uso residencial unifamiliar:

1. área loteável:

$$SL = \frac{1}{3} \left[SG - (C + N) \right] \text{ em que}$$

SL = área loteável para o uso residencial unifamiliar

SG = área da gleba

C = área de comércio

N = área do núcleo

Os 2/3 restantes serão destinados a áreas livres, vias, praças, escolas e serviços públicos e outros equipamentos de uso coletivo.

2. Área mínima do lote: 1.000,00m^2 (um mil metros quadrados)

Testada mínima do lote: 20,00m (vinte metros).

III – CRITÉRIOS PARA EDIFICAÇÃO

a) Uso Residencial Unifamiliar

— Gabarito: 2 (dois) pavimentos

— I.A.A.: 0,60

— Taxa de Ocupação: 40% (quarenta por cento)

— Afastamentos mínimos:

frontal — 5,00 (cinco metros)

das divisas — 2,50m (dois metros e cinqüenta centímetros).

Para afastamento frontal igual ou superior a 10,00m (dez metros) não é exigido o afastamento das divisas.

b) Uso Residencial Multifamiliar (núcleo)

— Gabarito — mínimo de 18 (dezoito) e máximo de 30 (trinta) pavimentos

— I.A.A.: 3,00

— Afastamentos mínimos:

frontal — 1/4 (um quarto) da altura total dos pavimentos destinados às unidades

das divisas — 1/4 (um quarto) da altura total dos pavimentos destinados às unidades

entre edificações — 40% (quarenta por cento) da altura total da edificação mais alta.

c) Uso Comercial

1. Nos lotes com testada para a Avenida das Américas, decorrentes dos novos loteamentos:

.- Gabarito: 2 (dois) pavimentos

— I.A.A.: 0,75

— Taxa de Ocupação: 30% (trinta por cento)

— Afastamentos mínimos:

    frontal — 10,00m (dez metros)

    das divisas — 10,00m (dez metros)

2. Nos lotes 1 a 25 do PAL 25.917 e nos lotes 1 a 4 das Quadras A e B do PAL 30.114 será permitida edificação comercial de uso exclusivo, obedecidos os seguintes critérios:

— Gabarito: 2 (dois) pavimentos

— I.A.A.: 0,75

— Taxa de Ocupação: 30% (trinta por cento)

— Afastamentos mínimos:

    frontal — 10,00m (dez metros)

    das divisas — isento.