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SUSTAINABILITY IN SMART CITIES AND UNIVERSAL ACCESSIBILITY

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ABSTRACT

Considering the relation between the speech of "development" and the "seduction it exerts" (Rist, 1996) and the people with mobility difficulty (people depending on wheelchairs or crutches, suffering from temporary or permanent disability diseases, old people, pregnant women, obese people, people of low stature and so forth), concepts of accessibility, smart city and sustainability are analysed in this paper, topics that have taken a place of highlight and concern in this era of globalisation.

With the aim of proposing a reflection on the new approaches for the space planning in our cities, the present article starts from the idea the city cannot be dissociated from the social matter. The relation between environment and sustainability presupposes the integration of economic and social development.

In this context, the article focuses People with Mobility Difficulty (PMD), generally excluded from the spaces in the cities; exclusion that evolves itself by the lack of accessibility to certain resources, among what the urban space itself is the most important one.

This work fundaments its ideals in the notion of *borderline*, designed by George Simmel. For Simmel, the existence of borderlines or physical barriers constructed by men in the environment can lead to limitations in people's acting (Simmel, 1999).

In the specific case of PMDs, it may be associated to the notion of borderline set by Simmel the limits that they themselves impose to their daily experience and fulfilment.

From the studies of Simmel on the influence of the space organization over human behaviour, it's emerged a functionalist perspective from the School of Chicago on the explanation of the inter relation between man and environment, characterized by an interaction-made orientation and by new theories on deviation. The essays of one of his exponents', Erving Goffman, contributed to the considerations over stigma and identity of PMDs, listed in this article.

1. INTRODUCTION

In addition to environmental issues, contemporaneity has the challenge of establishing new parameters for development. About People with Mobility Difficulties (PDLs), the emphasis is on the search for a paradigm that abandons the old way of treating these people as passive recipients of help and charity and moves to a level where they have equal rights as citizens.

The article will briefly examine the construction of the identity of these people, based on theorists who have studied this concept. It will also be worked on and commented on the evolution of the idea of sustainability from the debates held during the UN World Commission on Environment and Development (UNCED), in 1987, when the concept of sustainability was inexorably linked to the idea of equality, basic freedoms, human rights and some notions of mental and spiritual well-being.

Likewise, the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992 and in 2002, maintained the theses of the first meeting held in Stockholm, generating commitments on the part of countries: Agenda 21.

In fact, there has been considerable progress since the Stockholm Conference in 1972. Social and cultural pressures towards a better quality of the environment are increasing. However, the article will show that to continue with progress, there needs to be no social exclusion in the built environment. Thus, for PMDs, the issue of accessibility has a key role to play.

Despite the evolution of mentality, it is still perceived that public planners, architects, urban planners, and professionals in design in several countries continue to conceive environments full of barriers in their planning.

The article concludes that, since sustainability policy must be the product of a social policy, accessibility and universal design are tools capable of correcting - or minimizing - inequalities. Thus, the principles of promoting the quality of life and identity of PMDs are sown, encouraging them to meet their own special needs.

It is to be assumed that sustainable development for our cities presupposes a new social order, where society, environment and quality of life can achieve a balance within the "city we want" and promote the socio-spatial integration of differences. Therefore, it is suggested a reflection on an environment that facilitates this identity and is constantly built with the total involvement of these people, who build and represent it, while playing the role of agents and actors in the environmental issue.

2. IDENTITY OF PERSONS WITH DISABILITY

Considering that identity is marked by difference and that, in turn, difference is sustained by exclusion, we begin our discussions about a specific group of people with mobility difficulties, thinking about what their identity consists of and how their difference is perceived. The difference associated with this identity may define the direction of exclusion that permeates the daily lives of these people and their physical and personal space.

Numerous theorists and intellectuals, including Stuart Hall, Erving Gofman, Gilles Deleuze, Michel Foucault, Tzvetan Todorov and others, have developed their thoughts towards understanding how these identities are constituted and what their conditions are in the social structure. Following the research leads of Kathryn Woodward (2000) and Stuart Hall (2001) on the importance of the concept of identity and its crisis in current times and postmodernity, it can be highlighted that: "*We need conceptualizations. To understand how identity work , we need to conceptualize it and divide it into its different dimensions*" (Woodward, 2000, p. 13).

> Because it is believed that the examination of the issue should go through the recognition of the right to difference and never through a hegemonic process of equality, it is important to define new paradigms for this construction. After all, if no two beings are identical in physical, social, economic, intellectual, political or cultural terms, why has this been a controversy throughout history?

In the specific case of the subjects we are analyzing, which can be, in addition to people with physical disabilities, any individual who is prevented from performing the same activities as those

considered "normal", such as the elderly, the physically disabled, pregnant women, obese people or people with street carts, what comes to light is the evidence of a concrete and visible difference that cannot be hidden or denied. This visibility can announce, at first, some of the characteristics that these people carry, but that, for sure, do not define their identity. Their differences may be just these, despite all the labels and stereotypes created beforehand and what Erving Goffman characterizes as the stigmas[8] that these people carry, despite other attributes that they possess. This constitutes what Goffman calls a virtual social identity, and it is quite different from what the person really is – his or her real social identity.

Often, the bodily difference characterized by a visible physical aspect serves to define who can be included. For Woodward (2000), "the *body is one of the places involved in establishing the boundaries that define who we are, serving as the foundation for identity*" (Woodward, 2000, p. 15) – for example, for physical identity. In this aspect, Hall also contributes to the broadening of the issue when he considers that: *"Conceiving the body as subjected to normalizing regimes of truth is a productive way of rethinking the so-called 'materiality of the body'"* (Hall, 2000, p.122).

What normalizing regimes would these be that classify according to this 'materiality of the body'? "*A division between what is 'normal' and 'abnormal', between 'equals' and 'different', ends up placing normal things and people on one side and on the other everything that diverges from society's expectations or escapes*

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[8] *The term 'stigma' was coined by the Greeks. For Erving Goffman, stigma characterizes the situation of the individual who is incapacitated for full social acceptance (Goffman, 1988, p.7).*

this rule: the abnormal, the pathological and what is different" (Cohen, 1998, p.926-927).[9]

Normality is also questionable and too fragile a concept to define who can be included. People who do not correspond to the parameters established by society in terms of physical, sensory, mental, or aesthetic criteria may not have the same rules imposed by this same society. "*Other conflicts arise from tensions between expectations and social norms… Different identities can be constructed as 'strange' or 'deviant'*" (Woodward, 2000, p.32). A person with a physical disability may, however, have the feeling that he or she is the complete and normal person, and that others are the "deviants."

In the work developed by Tzvetan Todorov (1993), the question of alterity and the vision of the other, discussed by the author, highlights very old conceptions, which come from the discovery of America, about this external other. The identity and difference of People with Mobility Difficulties are marked by the same ambiguity: their otherness "*is simultaneously revealed and refused*" (Todorov, 1993, p.47).

If it was considered that this is research that can never be completed, this may be due to our eternal difficulty in living with the diversity that has always been so present in society. The denial of the other will also contain a repudiation of any dialogue. For these reasons, these brief considerations about the identity and difference of our subjects were developed. In this way, this

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[9] *These considerations were developed by the author of this paper and presented during the Seminar: Human Rights in the XXI Century, organized by the Institute for International Research. The article, among many others, was later published in book form. The Seminar and the publication of the articles were part of the Brazilian government's commemoration activities of the fiftieth anniversary of the Universal Declaration of Human Rights.*

possibility of dialogue is sought as a starting point in which the physically disabled person can participate. Who knows, maybe in this way we can really understand what the difference of People with Mobility Difficulties consists of and what identity they seek through their claims.

3. PERSONS WITH DISABILITY: Identity and Accessibility

"On the other side of life there are also, among others, the insane, the physically handicapped and the elderly.... Most of the time they don't bother because they are not taken into account. Excluded from the streets, banished from our gaze, away from our consumerist, disposing, discriminatory and, allegedly, efficient haste, they timidly move through "our" space (...)

This is how the theme of accessibility in architecture finds its peers in the struggles for a more dignified treatment (...), in the efforts (...) to rescue respect for old age, to discover potentialities in the physically and mentally handicapped (...). All very recent themes, but which come up against an old difficulty, not only of respecting the other in solidarity, but, above all, of valuing the different as a possible element of composition of a given reality, which, only in this way, becomes richer and more generous – with everyone."

Ana Lúcia Maiolino. Accessibility, Brazil 500 Years and Our Eternal Difficulties with Difference.
http://www.brasil.terravista.pt/ipanema/3391/

In view of the considerations made above, it can be perceived, according to Richard Sennet, that there is a paradox between this

visibility and the isolation that surrounds modern public life. Sennet is about an isolation *during visibility in this chaotic but still attractive domain"* (Sennet, 1988, p.44) of our cities.

Visibility deserves a new approach in the sense of thinking about these visible differences relating them to spaces. Bourdieu speaks of the existence of a social space as an objective space.

However, the issues of the identity of a PMD and its difference that is not always recognized, certainly, can assume a character of differentiation from the urban universe itself when there is no adequate and universal planning. What will happen will be the existence of many accessibility barriers in the built environment and the configuration of a universe that excludes these people with their differences.

The urban universe has become more and more extensive, thus imposing a greater need for the power of displacement and leading all men as citizens to use their mobility in this unstructured and heterogeneous space.

We live in smart cities that don't stop growing, which increases the number of commutes and that's why we see that movement increasingly marks urban life. This has been the view of many[10] who work with the city and where images of speed are also present.

For Gomes and Costa (1988) this is the characterization of modernity that combines constant changes in urban daily life with the rhythm and speed of transformations, tending to create an

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[10] *These authors include Choay (1979), Gomes (1994), Lefebvre (1991) and Mettetal-Dulard (1994).*

atmosphere that requires a great effort from the individual to reinterpret these changes at each step, recreating, albeit symbolically, their particular spaces of reference. (Gomes and Costa, 1988, p.58).

Given this dimension of cities, some theorists[11] observe that experiences with the environment lead to an ethic of the instant and of speed, which makes the speed of communications, displacements and changes of all kinds tend to be spatialized.

Thus, it can be assumed that the understanding of the urban environment is based on an accumulation of information received by the people who live in it during their displacements, having caused the very notions of space and time to evolve considerably over the last few years. For Harvey (1989), this represents the production of new meanings for space and time in a world of ephemerality and fragmentation.

In this way, for people whose main problem is precisely that of mobility and who cannot solve the space/time equation like most citizens, the process of exclusion is sometimes seen as a product of the smart city with severe accessibility problems for PMDs tends to discourage these people from leaving their homes.

Physical obstacles or accessibility barriers mean that people must plan their commutes to reduce the number of unpredictable things the city has. In these situations, it may be necessary to anticipate places because of the barriers encountered. In many cases, PMDs, before going somewhere, seek information whether they can get there.

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[11] We can mention Michel Maffesoli as one of these theorists who work on this question. (Maffesoli, 1996)

"I always have my itinerary in mind, down to the smallest detail, and it is a lack of freedom that often bothers me; I dream of speed, but I am haunted by anxieties such as the fear of falling when trying to go down a very high sidewalk... (Interview, *in* Mettetal-Dulard, 1994, p.39)

Many PMDs will not go to certain places due to the obstacles they encounter, configuring spaces of exclusion or forbidden where there is no accessibility for people with limitations in movement. This means that the dimensions of the smart city appear, for them, reduced to certain locations.

Although Tuan (1980) considers that it is not possible for any person to know well only a fragment of this extensive urban universe of modern metropolises, it may also be true, according to the author's logic, that a PMD that inhabits a city has a psychological need to possess an image of the totality of the environment to locate its own neighborhood. other places and their space within the city.

Physical barriers also generate psychological barriers that accentuate the feeling of exclusion. In this way, it can be seen that the relationship of the PMDs with the smart city is not limited to the difficulties they encounter in moving around but reveals another dimension of space and a new form of social division and exclusion.

Although Goffman (1988) deals with conflicts generated by social discrimination, he also considered the role of spaces in this process. The notion of forbidden, reserved and open places,

developed and proposed by this sociologist, gives an idea of what spatial division can be.

In the reserved places described by the author, segregation finds its most striking form, as they will be inhabited by those who are different among their equals. This creates all the known ghettos. Open spaces are thus qualified because they are accessible and allow PMDs to use them. Spaces classified in this way are barrier-free spaces and can play an important role in allowing access to activities of daily living in an environment that allows travel to perform them.

Such spaces can be the 'locus' of a whole satisfactory perceptual spatial experience through which she can, perhaps, achieve intense sensations of belonging to the city and, thus, the awareness of not being excluded by it. This experience belongs to your daily life. According to Guimarães (1994), it will be the environments that challenge, as opposed to those that intimidate, that will allow the natural reaction of the user, who starts to develop physical and psychosocial skills.

A city, even if fragmented into forbidden, exclusionary, reserved, intimidating or difficult spaces for a PDL to move around, may, however, provide it with an even more extensive imaginary urban universe that will allow it to build its symbolic high point consisting of countless high points or living spaces.

Although the itineraries, routes, itineraries, and displacements of the PMDs are inscribed in an intricate game of strategies, prohibitions and spatial and social limits, their living spaces represent the meaning of their existence and integration. The concept of integration will be situated at the extreme of this

paradox of the city that, while excluding, continues to seduce a PMD. Cities continue to Even when access to certain places is permeated by many barriers, will continue to desire this smart city where the logic of movement and speed can be transformed into other paradigms of urbanity.

We understand that true urban spaces are those capable of changing people and being lived in common. They are still spaces of dream and imagination, but they are spaces where, despite the fragmentation of the city, the emotions, affections, and symbols of many of these people circulate. This will be the universe that will undeniably continue to seduce because it will symbolize, amid chaos and exclusion, and despite everything, a certain form of identification in spaces and in the built environment.

5. THE EVOLUTION OF THE CONCEPT OF SUSTAINABILITY

It is of fundamental importance for the study of the historical evolution of ideas ranging from the Chicago School to the concepts of sustainable development, to understand Simmel's study and its influence on the research work carried out by Robert Ezra Park on "The City" and his suggestions for the investigation of human behavior in the urban environment.

Since Kant, who, in turn, influenced Simmel, space has taken on the character of a "possibility of coexistence" (Simmel, 1999, p.601) and also its sociological role. This coexistence and reciprocal action between people makes space, previously empty, something meaningful insofar as it makes human relationships and interactions possible. Simmel adopted this idea as a premise both when trying to explain the meaning of spatiality for the forms

of socialization and when he proposed to verify the significance that the spatial conditions of a socialization have, from the sociological point of view, for their determination and evolution.

The notion of frontier and the discourse on the foreigner developed by Simmel also reveal essential aspects for the purposes of this work. It is a matter of absorbing from Simmel's considerations that space often contains divisions that give a unique nuance to the relations between its inhabitants.

We can associate the notion of frontier established by Simmel with the limits it imposes on their daily experience and realization. "*In all relations between men, the notion of frontier is of paramount importance, even if it is not always of a sociological sense; for very often it means only the fact that a personality has found its limits, as to its strength, its intelligence, its endurance, or its youth.*" (Simmel, 1999, p.607).

From Simmel's work on the influence of spatial organization on human behavior to Robert Park's explanations of the urban system, when the latter takes from Biology the concepts of the study of the ecosystems of living beings, we see the emergence of the functionalist perspective of the Chicago School in the explanation of the interrelationship between man and the environment.

The Chicago School developed a series of sociological research papers between 1915 and 1940. Professors and students at the University of Chicago inaugurated a kind of sociological inquiry unprecedented in American society. He also left his mark on the

studies carried out in urban sociology and on the main problems experienced by large American cities (Coulon, 1995, p.7-8). Its importance can be felt by the numerous works written by it and about it.

According to Coulon (1995), Chicago sociology was extended by the "second Chicago School", which emerged in the post-war period, and was characterized by works with an interactionist orientation and new theories of deviance. One of its exponents was the sociologist Erving Goffman, whose work contributed to considerations of stigma and identity.

The foundations of Human Ecology, as a discipline, formulated by Hawley (Marcondes, 1999, p.43) followed the premises of a technological determinism to the detriment of environmental determinism. However, Marcondes considers that it contributed little to the advancement of the environmental discussion by directing itself to an opposite line of analysis – that of social determinism.

Having initially established a relationship between man, society and nature, the paradigm evolved in terms of man and his environment, "*whether it was artificial nature (...), or that represented by the industrial Chicago of the twenties*" (Marcondes, 1999, p.43).

In view of the above, it is already possible to perceive the evolution of the debate on the environmental issue, ranging from conceptions of the environment as an autonomous figure, studies of ecology and ecosystems dissociated from their social

production, environmental determinism, technological determinism to the ideas of human ecology and social ecology.

5. FINAL CONSIDERATIONS

In addition to environmental issues, contemporaneity has been faced with the challenge of establishing new paradigms and new notions of development. Henri Bartoli believes that, despite all the efforts of international organizations, the same findings emerge every year in their reports on development: the persistence of a poor mass, a greater distance between individuals, groups and countries, an increase in the incidence of AIDS, unemployment and job insecurity, a decline in the average life expectancy in some countries. environmental insecurity, armed conflicts.

Conclusions that are not encouraging for the beginning of this millennium. In his article on rethinking development, Bartoli talks about the challenge proposed by Frederico Mayor for a development that he calls durable. This new paradigm involves reconciling the demands of economic growth, social equality, the strengthening of democracy and the preservation of the environment.

Despite the evidence with which the concept of sustainable development has been used, it is worth making a brief review of its history. In the 1960s, discussions about the risks of environmental degradation began.

The debates around eco-development have given way to the concept of sustainable development. In 1987 the UN World Commission on Environment and Development (UNCED), chaired by Gro Harlem Brundtland and Mansour Khalid, presented a

document called *Our Common Future*, better known as the Brundtland Report, which defined sustainable development as follows: "*It is one that harmonizes the imperative of economic growth with the promotion of social equity and preservation of the natural heritage, thus ensuring that the needs of current generations are met without compromising on meeting the needs of future generations.*" (Brundtland Report, Our Common Future, 1988).

The importance of the introduction of this new concept lies in the fact that development does not concern only economic aspects, as was usually proposed. It is about encompassing in the idea of sustainability the concepts of equality, basic freedoms, human rights and some notions of mental and spiritual well-being. According to Jim S*. Sandhu (2001), "the closest we can get to defining all this is the human development index (HDI) developed by the United Nations Development Program (UNDP)*" (Sandhu, 2001, p.2).[12] His idea was to combine in a complex but rational medium the reach of a country with respect to life expectancy (health) and income level.

The United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992, showed a growing global interest in the future of the planet; Many countries have ceased to ignore the links between socio-economic development and changes in the environment. According to Marcondes (1999), the document resulting from this conference, the Rio Declaration on Environment and Development, maintained the Stockholm theses, generating an agenda of commitments on the part of the signatory

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[12] *Ideas developed by Jim S. Sandhu in a lecture on "Inclusive Design and Sustainable Society", Quebec, Canada, June 2001, at the Congress "Inclusion By Design: Planning the Barrier-Free World". Her work, although not published, is available online at the www.ccrw.org website.*

countries, Agenda 21, and the Joint Declaration of cities and local authorities.

Problems such as the unsustainable consumption of the earth's resources, especially in industrial countries, and the accelerated growth of population with greater demand for resources, were viewed by the industrialized with the belief that environmental degradation was essentially a problem of the poor. They were ready to provide some help.

In these circumstances, it is ironic that designers, rather than generating ideas to recycle this enormity of loss, are currently increasingly focusing on a disposable world: shirts, pens, socks, scarves, and even furniture and laptops. This is contrary to the principles of universal design and sustainability. It is also ironic, within the central theme of this work, that public planners, architects, urban planners and design professionals in Brazil and in some countries, poor and rich, continue to conceive environments full of obstacles, difficulties, barriers or borders for PDLs – to use the term used by Simmel – in their planning.

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