


CHAPTER 119

The landscape archaeology as an environmental project instrument

 [doi 10.56238/pacfdnsv1-119](https://doi.org/10.56238/pacfdnsv1-119)

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ABSTRACT

This article is about the landscape comprehension using concepts as a technic-scientific period and the informational media and the interfaces between technology and the infrastructures, becoming necessary the review the recent accumulated layers on the landscape. The cultural landscape transforming, the urban landscape layers, processed at the time. This new methodology has an important role for the urban projects future applications.

1 INTRODUCTION

I will begin with a kind of survey of some ideas that were engendered from the scientific thought of the eighteenth century to seek understanding of how the various parts of this thought, arranged in areas of knowledge, culminating in their reunion, when dealing with such a multidisciplinary object as landscape, in a kind of archeology¹, both of thoughts and of its understanding. This archeological principle, over time, as well as the idea of landscape, was transformed, encountering the modernity of the 20th century and the sudden change of paradigms.

From recent scientific thinking, based on the relativity of knowledge and systemic visions, the principles of historical understanding have turned more and more to explaining the present and the conditions of the common man rather than to social monuments. So stated Foucault in his epistemological work of the 20th century:

(...) If one wants to undertake an archeological analysis of knowledge itself, then it is not these celebrated debates that must serve as the thread and articulate the purpose. It is necessary to reconstitute the general system of thought, whose network, in its positivity, makes possible a play of simultaneous and apparently contradictory opinions. And this network which defines the conditions of possibility of a debate or of a problem, is the bearer of the historicity of knowledge...
(FOUCAULT, 1990: 107)

¹ An archeology (from Greek *archei* - ancient, plus *logia* - discourse, ordering)

In the late eighteenth century, from the pioneering excavations of Pompeii and Herculaneum, Europe plunged into a fever of archaeological discoveries, motivated by the birth of modern scientific procedures and the richness of the legacy of the peninsula civilizations, the Greeks and Romans. Archeology, which according to PERINETTI:1975:13, was called by Plato "*the history of the ancient heroes and races and of the origins of the city*", was linked from then on to the monuments and artifacts of the ancient civilizations, whose search began to touch the Mediterranean, then Africa and later the Americas.

As research progressed, deeper into remote time was entered and scientific possibilities allowed for more and more distant times to be specified. Overlapping archaeological layers began to be identified more precisely, and the idea of civilizational overlaps was finally proven in the 20th century. (TRIGGER:2004)

Wars, forced domination of one city over another, trading interests and architectural typologies were revealed in successive layers, demonstrating the processes of reuse and subjugation of the weaker cultures, of the vanquished. Regionalisms started to be identified in time and Geography, discussed philosophically since ancient times, by the Greeks (MORAES: 2005: 49-58). It was now necessary to explain more concretely the spatialization of the finds.

First, a physical geography, of a deterministic nature, and then, in the reading of the landscape, the discovery of the evolution of the view of nature, fruit of the discussion of the relations between society and its environment, bringing new parameters for the establishment of the so-called Human Geography, today an important basis in the discussions about Landscape.

However, another phenomenon occurred, almost concomitantly: industrial civilization rushed to profoundly alter the geographical environments of its existence, causing urban agglomerations never before seen in the history of settlements. Cities, social artifacts, thus became an inexhaustible source of daily transformations of a landscape that starts to suffer overlaps of layers that are increasingly rapidly configured. Then the recognition of new forms of urbanization, through the implantation of large man-made geographical objects.

It is unquestionable, then, the need for a new archeology of the landscape, based on the visible present, that finds the closest testimonies of the transformations and processes materialized and superimposed in a society of velocities. This is an industrial archeology of the landscape in the cities and urban extensions.

2 THE LANDSCAPE AND LANDSCAPE ARCHITECTURE

"Civilizations rest on the earth"
Fernand Braudel, 1959

In 1993, in the development of discussions registered in my master's thesis, when I set out to conduct a reading of the landscape potentials along the giant Tietê waterway, I discovered in the Aurélio dictionary that the word landscape takes us back to the Latin origins of the word "*paysage*" from the French, whose root (*pays*) means "country". (KAHTOUNI PROOST DE SOUZA:1993:11). This proximity between PAISAGEM and COUNTRY, the latter word, the one we use as a designation of a territory of linguistic, ethnic and cultural identifications of a people, makes one notice the interesting fact that, in the search for the so-called "landscape units", territories of homogeneities and geographic identities are also configured and can be delimited.²

These delimitations are, in turn, very close to the empirical discussions that were contemporary to the European territorial reformulation of the nineteenth century, during the unifications, especially of Germany, experienced by the pioneering geography of Ritter, in the search and definition of places and that accompanied the German territorial unification ideal. His work was later expanded by the works of Ratzel, another German, who, in the last quarter of the 19th century, clearly represented in his formulations the state ideal of unification and constitution of the German state around the kingdom of Prussia. Ratzel defined the geographic object as the study of the influence that natural conditions exert on mankind. For him, according to MORAIS:

" territory represents the conditions of work and existence of a society..."

Elaborating the concept of vital space³ in this context, Ratzel ended up generating a geographical theory that legitimized Bismarckian imperialism at that time (MORAES:2005:70). As a positive aspect, this theory privileged the human element, approaching historical analysis when dealing with the formation of territories, but even so it still considered man in a similar way to an animal, in search of its territories and vital spaces, in a very naturalistic view.

In 1870, due to the Franco-Prussian war, France lost the territories of Alsace-Lorraine to the Kingdom of Prussia. These were important coal-producing regions, fundamental to the industrialization process in continental Europe. The German unification process and subsequent German imperialism had found in France a rival nation, already defined and delimited by its previous unification, which had occurred through its absolutist monarchy. The war would only materialize the territorial aspirations of each of the nations involved. In this time and context Ratzel's geography would face the displacement of geographic discussions to France by the hands of Vidal de la Blache, who "*defined the object of Geography as the man-nature relation, in the perspective of landscape*", locking with Ratzel's determinist and geopolitical theory

² About the etymological meaning of the word LANDSCAPE and its unfoldings, which I will not go into here, informing only that there are other discussions, perhaps more in-depth, recorded, by other authors and researchers, in the Bibliography.

³ It would represent a balance ratio between the population of a given society and the resources available to meet its needs, linking to this its possibilities to progress and its needs for territorial expansion.

a rich dialogue of oppositions, which was based on the discourse of geography as an objective science (MORAES:2005: 81).

The geography of Vidal de La Blache emphasized the study of landscape as a methodological principle, focusing on human-nature relations rather than on social relations. Founder of the possibilist doctrine, Vidal de La Blache challenged the determinist ideas of the Germans and created a plethora of followers, which lasted until the mid-twentieth century. However, the discussion about landscape, present since the first discussions of geography, has also undergone changes over time. Today it would be impossible to discuss landscape without society and its issues, associating it with the concept of Environment⁴.

In the past, it is well known that the ancient Latins called "*pagense*" the land delimited for the practice of agriculture and resulting from the human action of the reticulated division of centuries, the "*centuriatio*" (BENEVOLO, 1983) in the advance of the vast Roman Empire across Europe. There is also no doubt that from the beginning, the word landscape and its roots are associated with the idea of field, of rural territory, of this "*pagan*" where crops, plantations and cities were established. The cities are, in turn, in the beginning, the cell of the productive command linked to an extensive agricultural area, through which canals were extended, and then bridges and roads. A first idea of humanized landscape is born there, still linked to the countryside and the establishment of human cultures, because the conformation of the landscape by the people, since the first cities and plantations left their mark in an extensive territory, fruit of the western expansion of the Roman Empire that dominated the late antiquity.

This process, emphasized by European historiography, developed from the archeological discoveries of the 18th century, later led Geography to abandon the first deterministic ideas of its founders and to think about human action over the planet and its morphologies, mainly from the 20th century on. This also gave rise to the first idea of culture, which, also having its etymological roots in rural work, deepens in the 19th century its broader definition as a human manifestation, which could even distance itself from the idea of "civilization" cultivated throughout the 18th century. The culture that, according to Terry Eagleton, also starts from the relations between man and nature, between subject and object,

"means a double refusal: of organic determinism on the one hand, and of the autonomy of the spirit on the other. It is a rejection of both naturalism and idealism..." (EAGLETON: 2005,14)

In fact, the most remote origins of this trajectory of the discussion of man in relation to the objects of nature, may be in the first philosophical reflections developed by the ancients, ideas about which I will not go deeper here, as they would be worth a specific article, which I do not venture to write?

⁴ I develop this parallel between the concepts of Landscape and Environment a little further in the article entitled "Conceptual Bases for Research on Urban Infrastructure and Environmental and Landscape Quality", published in the Revista da Pós-graduação FAUUSP in June 2006, where I resume concepts initiated during the elaboration of my Master's thesis, in the 80's and 90's.

Starting, then, from a more recent and fundamental moment for the domains of the so-called modern science, the 18th century, it is noted that the English term for landscape, the word "*landscape*", was already present in the English Landscape Tradition Movement, in those works of the so-called "*landscape painters*" in England, representing especially at that time the escape from the bucolic, the search for scenes far from the city in intense transformation, and that also reminds us of the idea of "piece of land".

Realizing that nature provided in itself an indisputable aesthetic pleasure, they created an almost "naturata" way of making new gardens, less humanized. The observation of the cycles of nature itself and of autochthonous formations gained strength in this new English school. Its developments will be briefly outlined here, based on the viewpoints of some well-known landscape architects, as representatives of the landscape thought engendered in the industrial era, now on the new continents. Artists and technicians, contemporary to the Industrial Revolution made explicit their concerns with these issues of the historical materiality of human action on nature and of human action on nature itself, contributing so that, later, many of the so-called landscape architects in the following centuries, went from gardening, from the construction of the beautiful "lost garden", to the environmental project

The development of this new vision for a "New World", improved in the 19th and 20th centuries, and which surpassed the search for the "lost paradise" expressed in Renaissance and Baroque gardens in Europe, contributed to the establishment of new concepts and practices, especially in the American continent, in the United States. The grandiosity of a new and virgin territory, marked by the path of the pioneers, which culminated in a true ethnic destruction of the Native Americans during the 19th century, generated in a privileged portion of the population the desire for conservation and respect for at least the monuments built by nature, many of them still associated with mythical issues of the people of the land, such as the well-known Yosemite Valley, transformed into a National Park in 1872.

The American movement for National Parks, large territorial portions demarcated for preservation, gained worldwide notoriety. It was in this country that, in 1858, Frederick Law Olmsted, a sanitarian, created the term "landscape architect". At that time, Olmsted stands out for numerous urbanistic projects, including New York's Central Park, having participated in 1865 in the campaign for the preservation of Yosemite Valley, in California, and its transformation into a national park inaugurated in 1872 (JELLICOE:1995), laying the foundations for the foundation, in 1905, of the U.S. Forest Service and the creation, in 1916, of the National Park Service (LAURIE:1983:88). These projects crowned the empirical learning of American landscape architects in working with the landscape.

Olmsted also stood out for pioneering works on the urban landscape, linked to issues of sanitary engineering and urban planning practice, and which are still to be recognized as a strand in the history of the practice not only of landscape architecture, but of urban planning. Two of his disciples, Horace Cleveland and Charles Eliot, created in 1901, at Harvard University, the first complete program of landscape architecture. In 1907, the profession of urban planner emerged as a discipline derived from this course. It is worth consulting American authors such as LAURIE:1983, HAMMACK:1988, and SPIRN:1995, who,

in a certain way, introduce the new urbanistic vision that the exercise of landscape design brought and its serious implications on the discussion of American city planning, up to the present day.

The North-American contribution, from the 19th century on, to landscape issues is also emphasized by Prof. Catharina LIMA in her beautiful and instigating article entitled: *Nature and Culture, Gilgamesh's conflict* (LIMA: 2004), which concludes with the following assertions:

"In time, North American landscaping bequeathed to history these important contributions, through names like Olmsted, Church, and Eckbo, whose sensibility in the appropriation of natural processes (whether on the scale of garden or city) did not mean a denial of the aesthetic possibilities of the project and vice versa. However, in the second half of the 20th century, more precisely at the end of the 1960s, the vision of synthesis between natural and human processes, science and art was lost, with the consolidation of design lines that positioned themselves as distinct - the environmentalist orientation (advocated by Ian Mc Harg, John Lyle, Robert Thayer, Ann Spirn and Michael Hough, among others) and the view of landscape as art (advocated by landscape designers such as Peter Walker, Martha Schwartz, Georges Hargreaves, and Michael Van Valkenburgh). In the midst of this controversy, landscape designers such as Laurence Halprin advocate the compatibilization of these orientations, emphasizing issues related to the perception of the people who will enjoy the built environment.

An analytical investigation is necessary at this moment, in order to better understand the universe of these conceptions, which often present themselves as divergent, precisely at a moment in history when the consequences of a fragmented and excluding perception are questioned, and the consequences of the rupture between nature and culture are evaluated. (LIMA: 2004:55)

Let's look in a more chronological and very simplified way at part of what happened in the 20th century ideology. After the great American preservationist movements of the 19th century and the ideal foundations of American urban planning, it was only in the following century, in the 1930s, during the so-called "Depression", that landscape architects resumed major works in America, where large public programs linked to landscape planning were formulated. The works linked to the U.S. National Parks Service stood out. The experience in the project implemented by the Tennessee Valley Authority in the Tennessee River valley is a remarkable example of the scale of work achieved by landscape designers, involving the implications of ecological links and hydrological cycles - floods and ebb tides - in planning and land use (KAHTOUNI:1995). The American agency, now called The Tennessee Valley Water Shed continues to exist and plan, in an integrated manner, for navigation, power generation, recreation, agriculture and sanitation uses, regardless of which governments are elected. It covers the state of Tennessee and five other neighboring states, and has been the pioneering experiment in continued territorial management by watershed, still a worldwide example today.

This pioneering experience, through the management of water resources for power generation and multiple uses inspired here in Brazil the creation of large national state companies, from the 1950s, many of them now almost extinct and privatized, such as CESP and others, which followed in their deployments and construction programs the geopolitical ideals of development of the national territorial occupation of the time, marked by the leaps of our industrialization and the logic of territorial organization of our power generation ventures (KAHTOUNI:2005). Within this, there was the long process of implementation of the Tietê waterway, in the state of São Paulo, which is now in operation, where in a certain way some landscape

issues were introduced, either linked to leisure uses or to the ideal of recomposition of the immediate surroundings of the reservoirs (KAHTOUNI:1993). The planning of the wider territory, the broader vision of landscape planning, in turn, were not applied in Brazil in this period of our implementation, limiting the landscape practice to treatments of the surroundings of reservoirs, also carried out with many difficulties.

Perhaps in this fact is already apparent the conflict between the various visions of parts of society in the world and in a country, with regard to landscape, nature and the environment. The environmentalist ideology was born from movements for the preservation of the landscape, seen first in a philosophical and contemplative way and then, with the development of ecological sciences, in a more scientific and comprehensive way. Even today, the maintenance of the Everglades aquatic reserve, created in 1935 in Florida, is of fundamental importance in the process of replenishing the aquifers of the southern United States. Environmental issues were already being raised there, in an essentially practical way, in these larger-scale works carried out by the Americans.

In Brazil, some concerns formulated since imperial times are revealed with more force in the reorganization after the new Constitution of 1934, in the Republic of Getúlio Vargas. Our Water Code in 1934, our first Forest Code in 1934, and the foundations of large National Parks and of SPHAN- Serviço de Patrimônio Histórico e Artístico Nacional in 1937, later designated IPHAN.

Over time, especially since the 20th century, the visions of landscape and also of environment have changed worldwide, expanding and recycling themselves according to the development of the understanding of the processes that form and consolidate the construction of territories and landscapes, natural or artificial. Ecological processes (objects of biology and ecology) and anthropic processes (objects of anthropology and the so-called applied social sciences) are progressively unraveled over time and thus increasingly understood by landscape and environment scholars. Thus, a desirable approximation between objects and subjects (KAHTOUNI,1989:57) would be progressively made, moving towards an environmental view of landscape.

Still in the field of geography, Max Sorre's theoretical contribution focuses on the landscape, which is discussed from the concept of "habitat", bringing in the core of this discussion the idea of transformation and dynamics of the interactions between man and his environment. The idea of a geographic space of interrelations, of the overlaps between cultural actions and ancient nature emerges. It is the foundation of a new human geography, arising from the recycling of La Blache's ideology, specifically focused on the products of human action and not on social processes, object of sociology.

Looking again at the comments of LIMA:2004, who discusses the possibility and the need for further research on the real contradictions between the two orientations of working with landscape, one focused on the environment and the other on art, I think that the great link between apparently contradictory currents in working with landscape is the creative will. The creative gesture, which recovers and sows a new landscape, in a certain way rescues the pre-existing situation. Even if it destroys and destructs it, this gesture, when human, embeds in itself its reading and positioning.

These positions, then, would be pioneered by those who had in the work of landscape design and intervention their great channel of contact with the objects of the conceptualizations historically worked by geography. Therefore, the Americans... since the 19th century, by the possibilities of a territory to be urbanized and by the challenges imposed by the projectual practice on a new landscape

In the 1950s, Garret Eckbo, the great California landscape architect of the 20th century, defined landscape architecture as

"[...] that part of the landscape that man develops and shapes, beyond buildings, roads and services and even wilderness, which in the first term is designed as a space for man to live in (excluding agricultural and forestry performances). It is, then, the establishment of relationships between building, cladding and other outdoor structures, land, rock formations, bodies of water, plants and open air, and the forms and features, representative of the landscape itself; but with a primary focus on human content, on the relationship between people and landscape, between humans and an outdoor space that is quantitatively and qualitatively three-dimensional." The field of work and performance of the so-called "landscape design" is widened again. (ECKBO,1950:5)

It is interesting how this specific formulation clearly evolved from the ideals of William Morris when he defined Architecture in the 19th century, as *"the set of modifications and alterations operated, due to human needs, on the earth's surface, which outside of this is pure desert"*⁵. (BENEVOLO,1983:87)

In his first text Eckbo, from 1950, includes a quote from geographer Carl Sauer⁶, in which the idea of natural and cultural landscape is thus expounded:

... "Geography is based on the reality of the union between the cultural and physical elements of the landscape." (ECKBO: 1950:31).

According to Milton Santos (SANTOS:1986:16-26) Carl Sauer, *"the great American geographer"* would also represent an offshoot of Vidal de La Blache's ideas, constituting a branch on the other side of the Atlantic, concerned with the interrelations between human actions and nature, despite the terminology of the time treating these two geographies as two branches: human geography and cultural geography. Sorre states, also in the 1950s, that American sociologists, through urban studies, mainly the Chicago group, led by Burgess, had also found Geography (SORRE,1957:152,153) for the elaboration of their models to explain the city.

The consideration of human action as a primeval, creative act was further relativized by Eckbo, but the stance of Mc Harg, a Scotsman living in the USA, is revealed in the following sentence:

"Perhaps the most important conceptual contribution of the ecological stance is the perception of the world and of evolution as a creative process. This is easily demonstrated if we examine the difference between the Earth in its primitive times and the planet we know today." (McHARG:2005: 52)

⁵ Miranda Martinelli Magnoli in her 1987 memoir (MAGNOLI:1987) takes this fundamental discourse of Morris as the great motto of her work as a professor at FAUUSP since the 1970s, considering the work with landscape as an attribute of Architecture.

⁶ This American geographer and others, such as Max Sorre, are extensively discussed in Milton Santos' **For a New Geography**, especially in its first part.

In the 1960s, when this author wrote the important work "*Design with Nature*", the process of economic growth in the United States and Europe exploded in the metropolization of cities, especially American ones. The growth in consumption led to imbalances due to technological development, the increase in population densities, the expansion of the scale of environmental impacts, the expansion of the use of agrochemicals, a situation that spread to developed and developing countries. Thus, in various parts of the world the first appeals of the post-industrial society appeared, questioning the purely developmentalist values of Western civilization - that is, the first ecological movements. The fact is that the chart overlay method advocated by Mc Harg and the recurrence to human history and its transformations on the environment guided the work of landscape architects in the following decades.

At that time, for the first time, the perverse effects of pollution were felt on a global scale, affecting cities, fields, and water resources. The extent and intensity of the impacts of the new technologies implemented by man grew, causing real ecological disasters in a short period of time. Everything made it possible for conservative, preservationist voices, many of them extremely romantic in nature, to rise up against the so-called "modernity". The "ecopolitics" arose. And a great conflict arose: the questioning of real development and about growth and its implications. From then on, modernity began to have an ambiguous meaning.

In 1972 the Club of Rome report was consolidated, demystifying the pure economic growth, so exalted "in the golden years" (HOBSBAWN:1997:257). That same year the Stockholm Conference was held, when, for the first time, the possibility of sustainable development was raised, still in a subtle way. It is in this period that the first forms of environmental assessment of enterprises are established in the USA and Canada, with the creation of bodies that control environmental impacts. In 1969, in the United States, the National Environmental Policy Act (Nepa) implemented the Environmental Impact Study system for enterprises, which became effective in 1970. According to Tommasi (1994), Germany adopted the Environmental Impact Study system in 1971, Canada in 1973, France and Ireland in 1976, and Holland in 1981, the same year as Brazil. In the mid-1980s, several peripheral nations adopted legislation for the environmental control of projects, requiring the prior preparation of environmental impact studies for the licensing of projects.

Just before the meeting in Stockholm, in 1970, Vilanova Artigas, newly arrived from a UNESCO meeting, the *Meeting of Experts on the Teaching of Architecture*, held in Zurich, Switzerland said in his speech at the IAB:

" ... Now, if man wants to launch himself toward the Cosmos, he will have to abandon the Earth because he has destroyed it entirely. This is the problem that presents itself to us in today's world: to make nature or to exploit it, and to make a properly human nature. And how to create a properly human nature? One that has such characteristics that man can harmonize with it, and not be the predatory element that he has been until today, due to the circumstances of his intentions to modify it?

From the notion of project as design, the architect, from his performance in industrial design, through visual programming and as a constructor of the landscape, will have a greater responsibility. It is necessary, then, to form, from the schools, a new kind of man, the new architect,

turned to a conjuncture that is no longer the one with a semi-Renaissance character, which would make us simply a kind of pseudopods of the building industry, or at most, builders of monuments.
(ARTIGAS:2004:87)

And from there he goes on to advocate the multiple possibilities for action and social insertion of the professional architect in a society that increasingly demands interdisciplinarity. This path, especially designed for the Architecture courses at FAUUSP, and discussed throughout Brazil, would not privilege only Art, Science, Urbanism or History, but searched for a full environmental comprehension research, in its geographic, historical and social interfaces, opening the possibilities for the equating of the exercise of landscape architecture, in the search for a greater social insertion, as previously recommended by master Artigas. The methodological orientation of Marxist origin, searching for the understanding of processes and not only of forms, as advocated by the old Morris, remained there vigorously, even in the midst of difficult moments of our political history, of which many of our professors at the University of São Paulo were part.

These changes in planning directions are clear since the 1960s, when McHarg writes about big cities, about the conurbations that are taking place between different cities, and about nature in metropolises. He advocates working methods based on the reading and consideration of natural processes to indicate the potential uses of certain areas, suitable for urbanization, preservation, industrialization, agricultural, recreational and other uses. The author detects the various types of landscape conformation, interrelating the natural processes of the supports to the potential uses of each of them, within a territory cut according to morphological and ecological criteria, making intensive use of geographical and ecological instruments. In one of the chapters of his work *Design with Nature*, recently translated into Spanish (Mc HARG:2005), he contrasts primitive visions of the natural environment with the history of gardens, to talk about the human values involved in the recreation of a new nature, domesticated and symbolic.

As a teacher, Mc Harg declared that every year he was faced with a ceaseless struggle to break the anthropocentrism present in the minds of his young students, eager to project. The author glimpsed two polarized points of view in the way of understanding the man-nature relationship: the first, anthropocentric man, unaware of his origins and trajectories, destructive wherever he goes. The second, not so sure of his knowledge, reserving to himself the right to justify the human presence, a species differentiated by the gift of conscience. The latter would bring with it respect, born of understanding, seeking, then, its creative role. (Mc HARG:2005:46)

In the same period, Garret Eckbo wrote his fourth book on landscape design (ECKBO:1969), addressing the need to return to Eastern concepts of integration between human beings and nature. Also criticizing Western society for its "technocratic anthropocentrism," the author points out that the field of landscape design encompasses architecture, nature, history, and society, each of which must be understood in its differentiated role, integrated and balanced. Eckbo defines architecture within the landscape field as the primitive expression of creativity and control of nature as by man; he defines nature as the important

world of forces and processes with which we live and work; history as the result of social processes, and landscape as a portrait of the history of human culture and society, and that society is reflected in the landscape. According to him, "*anthropic is the expression of social forces in the natural world*. And for this reason all activities connected with the construction of spaces, facilities, infrastructures can be considered participants and conformers of the landscape.

In the mid 70's, Michael Laurie, in his retrospective work about the methods of working with landscape, demonstrates the clear influence received from these masters (LAURIE:1983). The analytical working method, based on the interpretation of several factors separately in its graphic representation, isolated letters to be superimposed, predominates, in the incessant search for a projectual synthesis that integrates processes and products. In a single literary work, the author gathers theoretical subsidies and practical examples for the performance of the landscape designer. Laurie identifies three scales of work: that of planning and evaluating the landscape, that of planning a given site, and that of detailed landscape design, through the selection of components, materials, and plants and their combination, to give solutions to concrete and clearly defined problems.

In the 1980s, the Californian professor John Tillmann Lyle delved into the methodological issues of landscape design. His ecological vision is so broadened that it is no longer enough to recognize the processes of nature and integrate them into the implementation of uses and design, it is necessary to create and recreate processes from the readings made. Design is no longer something so subjective; it is the fruit of an analytical method that suggests very clear objectives to be achieved, becoming the means rather than the end. The incorporation, in the new projects, of the fourth dimension of the landscape (time) and the ecological instruments start to aid the domain of the processes and dynamics of the work object.

The project/impacts interrelation is definitely placed as the dynamic of creation in environmental design, as it provides the traditional project with new objects. On the other hand, in the geographical thought developed from the 1980s on, urbanization is no longer the focal point of the analyses of several landscape theorists, as already placed.

Also in the 80's, in the geography classes of the Brazilian professor Milton Santos, in which Prof. Miranda Martinelli's architects were compulsorily enrolled, important ideas of this process were taken up again. The author developed the concept of a new period of space-time in human history called "technical-scientific environment", defined as "*the historical moment in which the construction of space will take place with a content of science and technique*." (SANTOS:1986, SANTOS;2002:120) and in another text (SANTOS:1994) the author discusses more specifically the idea of landscape from the concept of cultural geographical objects. The dimension of perception is already incorporated into geographic knowledge.

3 GEOGRAPHY IN POST-MODERNITY AND THE NEW CHALLENGES OF HERITAGE

Also in the 1980s, in the geography classes of Brazilian professor Milton Santos, in which Miranda Martinelli's students were systematically enrolled, important ideas about this process were taken up again.

The author developed the concept of a new period of space-time in human history, designated as technical-scientific period and defined by him as "*the historical moment in which the construction of space will take place with a scientific and technical content*" (SANTOS, 1986). In other texts (SANTOS,1994,2002), the author discusses more specifically the idea of landscape from the concept of geographic and cultural objects. The dimension of perception was already incorporated into geographic knowledge and the meaning of landscape was under discussion.

"Perception is always a selective process of apprehension. If reality is only one, each person sees it differently; thus, man's view of material things is always deformed. Our task is to go beyond the landscape as an aspect, to reach its meaning. Perception is not yet knowledge, which depends on interpretation and this will be more valid the more we limit the risk of taking as true what is only appearance". (SANTOS:1994:62)

Precisely after the 1980s, when urban growth was not so explosive in the more developed countries and the anthropization phenomena were already occurring through complex systems for the establishment of infrastructure, communication networks, and intensely mechanized agricultural uses, the territory is seen as a "set of possibilities," not necessarily restricted to the urban network and its interconnections. Rural space then takes on a different role. It is no longer the empty space threatened by urban or industrial growth, devastators of ecological processes in balance. It is also a set of artificialized spaces, in which support processing is intense.

The traditional view of geography meets and assumes, from then on, the new theoretical contributions, such as that of Milton Santos, who brings "*within the critical geographic thought the dialectic between unity and diversity. He also brings the conception of science as a moment of praxis*" (MORAES:2005:130) and this stimulates reflection on the present. From conscious reflection on the present, transforming action unfolds. The ideals of a modernity focused on the integral project developed from the 1930s on, find then, in this more recent moment from the 1980s on, marked by the contradictions of the modern world project, only partially concluded, its conceptual contribution based on a critical reflection that involves social issues in the discussion of landscape and its mutations.

Thus, I could risk thinking that, in the face of all this, in the 20th century, marked by the two world wars, fruit of the mass destruction of several nations and by the need for the reconstruction of torn countries and cultures, first of all history sought geography through the great writings of BRAUDEL⁷, and later, in a moment of expansion of ideas around the world, marked by post-modernity, Brazilian geography sought to understand the cultural context in the texts of Milton Santos. Our geography also sought history. And our new Architecture needed to recover these two disciplines. In Eagleton's words

⁷ I discovered Fernand Braudel in an informal conversation with Murillo Marx. From something so beautiful that he told about him my curiosity grew and from then on I began to try to understand more and more his importance as a historian. From his first writings about the Mediterranean generated in a prison, as the professor had told me, I understood by reading the text that there was registered the latent memory of the landscape, the geography alive by the facts of the past, in a Europe that was burning and agonizing in war.

"Shrewd and disenchanted, postmodernism opts for culture as real conflict rather than as imaginary reconciliation. In this, of course, it is not original: Marxism had already anticipated this situation...."
(EAGLETON: 2005:64)

From understanding this conflict that multiplies into conflicts between past and future, ideals and materialisms, globalisms and local traditions, comes the idea that it is necessary to anticipate choices and selections of what should remain or what would be important in a given cultural context. And who would make them within a design?

The landscape, as a cultural product has come to be endowed with values and social judgments in its time. The materiality is registered in the interactions between "*ecofacts and artifacts*" (MENESES, MIMEO, 1975?), products of nature and society. The *ecofacts*, remnants of the simply natural transformations, increasingly rare, and the *artifacts*, increasingly aggravated and modifying the landscape. From the junction of the two, my speculation of a new category for the reading of the landscape becomes necessary : the eco-artifacts.

We then realize that the pre-existing structures and forms of the landscape present a set of potentialities to be pointed out according to the understanding of which landscape and environmental values should remain or be further developed. This is where the discussion about Heritage and its presence in the landscape also takes place, whether cultural or natural, because all of nature has already become part of the humanized and recognized territory.

For example, in 1985, the Serra do Mar, near São Paulo, was declared a National Heritage Site by CONDEPHAT - Conselho do Desenvolvimento do Patrimônio Histórico e Artístico do Estado de São Paulo. The geographer Aziz Ab'Saber, who had as one of his assistants the architect and professor Murillo Marx, was working in the organization.

Flávio Motta wrote with optimism at that time:

"...and the current situation allows for greater intimacy with an art and a science that are ever closer, thanks to the emancipation of the people, to the effort of linking essence to appearance. It is the new vision of the landscape, in which the human being, the gesture, the seed, the plant, the city and the grandiose territories are allied in constructive commitments. The perspectives opened, painfully or joyfully throughout history, will surely find considerable parts of the globe's population committed to transforming their projects into systems open to a continued humanism..."
(MOTTA:1984:42)

As we can see, the entire development of the geographic thought unfolded from the discussion of the relations between men and nature (MORAES. 2005). While the urbanistic thought was born from the organizing ideas of the territory, the course of the geographic thought started from the founding works of determinist geography to the most recent works, all of them of empirical character. Later, the multiple strands of human and critical geography, in the more contemporary geographical thought, also found the city as an object of study, as a humanized landscape.

Written by a philosopher at the end of the 1960s, the work "The Right to the City" (LEFEBVRE:1968) inaugurates one of the modifying strands of current geography and urbanism.

"... The theory that could legitimately be called urbanism, which would bring together the significations of the old practice, called "dwelling" (i.e., the human), which would add to these partial facts a general theory of urban times-spaces, which would indicate a new practice arising from this elaboration, this urbanism exists virtually. It can only be conceived as the practical implication of a complete theory of the city and the urban, which overcomes the current splits and separations. Especially the split between philosophy of the city and science (or sciences) of the city, between partial and global. Current urbanistic projects can figure in this path, but only through an unabashed critique of their ideological and strategic implications.

" ... the method consists in overcoming both description (ecological) and analysis (functional, structural) without, moreover, overcoming them, in order to tend towards the apprehension of the concrete -of the urban drama_, the formal indications coming from the general theory of forms. According to this theory, there is a form of the city: meeting, simultaneity, encounter...". (LEFEBVRE:2001:126)

From these encounters, the very vision of the Urban evolved over time, due to technological transformations that allowed man to extend his capacity for environmental and landscape transformation beyond the city limits, deploying his works, objects, and engineering systems to ever greater distances. The walled city, the undisputed seat of power and achievement, was then put in check, as well as the consumer society and all the apparent rationality of traditional urban science. MUNFORD, in his writings on the History of the City, originally published in 1961, states it well:

" Nevertheless, there is a remarkable difference between the first urban age and our own. We live in an age in which there is a multitude of technical advances without social meaning, divorced from any other purposes than the progress of science and technology. In reality we live in an explosive universe of mechanical and electronic inventions, whose parts move at a rapid pace, moving further and further away from their human center and from any rational and autonomous human purposes. This technological explosion produced a similar explosion in the city itself: the city burst forth and spread itself, in complex organs and organizations, across the landscape. The walled urban container, in fact, not only broke up: it was also largely demagnetized, with the result that we are witnessing a kind of degeneration of urban power into a state of occasionality and unpredictability. In short, our civilization is losing control, overcome by its own resources and opportunities, as well as by its superabundant fecundity..." (MUNFORD:1983:42)

In fact, it was about the glimpse of a process that would still take place here, in South America, precisely facilitated by the advances in technology and the formation of another urban space, which would transcend the limits of the city. The urban systems already clearly extrapolated the physical limits of the cities by the end of the 1980s (SANTOS, 1985). Cities, in turn, still represent the PLACE of concrete relations, the materiality closest to SPACE, where collective actions take place, the PLACE of the most fundamental human experiences.

The landscape potential is then the driver of a synthesis process aimed at environmental design and planning. The correct reading and interpretation of the landscape, as an object unveiled from its main angles, can become an instrument for environmental modification. The landscape can also be considered a temporary portrait (because it changes every moment) of the environmental transformations, considering the dynamics of the processes of environmental transformation of a place.

The construction of places, through technique, also takes on an increasingly cultural meaning. Art occupies another place in the history of human making, in search of common artifacts from the history of ordinary men.

Industrial archaeology, a term coined in the 1950s by Prof. Donald Dudley of the University of Birmingham (HUDSON: 1979), frees men from formal history, based on narratives about great deeds and personalities. Classical archaeology had already begun this work to some extent, when it brought to light not only the palace, but also the slave house.

Humanity becomes aware of its human condition throughout time, in the most everyday scenes and situations. In the modifications of the landscape by the productive needs and human work, "*places become a set of increasingly technical objects*". Space, then, goes from being a condition to an instrument of human actions (SANTOS, 1989).

4 TOWARDS AN ARCHAEOLOGY OF THE LANDSCAPE OF THE PRESENT

"Modern art has expanded the territory of creativity: it has unveiled new forms of knowledge of matter; it has also recovered the consciousness of doing. It has de-alienated technique and annulled the mystification of the means, in numerous immobile conditions of our society. The vision of landscape was renewed. Since impressionism, this vision contained its abstractions, resulting from the experience in the industrialized city. With this capacity of detachment, artists began to "read" reality deeper and deeper, farther and closer. They became aware, thus, of the subordinate conditions peculiar to city life. The transformations in the forms of coexistence imposed the improvement in the investigation of language, aiming at emancipation. The simplest gestures, the most precarious materials, the most remote conquests of History and also the contributions of people and peoples considered as marginal to this same History acquired greater significance. (MOTTA:1984:2).

The extent and intensity of transformations on Landscape are remarkable facts "*of the technical-scientific period*" (SANTOS, 1986), where information precedes action, where the connectivities between places are necessary for the maintenance of increasingly complex systems, where the objects themselves are also information. In this way, the landscape in general should be seen as the great receptacle of information that the walled city once was for historical studies.

In fact, contemporary Nature represents a set of resources that are easy to locate - no longer restricted to a certain territory - due to technical advances that nowadays allow remote soundings, research and recognition of localized potentials, predominantly minerals and energy. Large geographical objects are then created, since the insufficiency of technical instruments for the maintenance of the structures of the period entails the transformation of tangible space into instrumental space. The production sites become the basis for the installation of infrastructure, where the processing of the landscape begins to precede production itself, where environmental changes result from the geographical suitability for the desired production.

Dams, for example, are cultural geographical objects. They are part of the set of engineering systems that belong to the local technological network, records of a technical-scientific moment. They bear witness to a moment of civilization, marks on the landscape of a kind of urbanization spreading through the

countryside, and already have their own evolutionary history. To each of the artifacts that are installed in the pre-existing landscape we can attribute meanings. These meanings are associated with local signs, and there is an intense overlap of cultures in their construction. The changes on the waters through the reservoir, for example, bringing economic and social impacts, do not fail to bring great alteration to the local landscape picture, like those of the Tietê River along the state of São Paulo (KAHTOUNI:1993), closer to our reality and associated with the design of gigantic "works of art" and human ingenuity, of pre-industrial origin.

According to HUDSON:1979, the dams of Spain, built in the days of the Roman Empire, inspired later hydraulic technologies used all over the world. In a landscape with a hostile and stony climate, the construction of large reservoirs was necessary for the supply and irrigation of the colonization centers. These techniques persisted through the Christian period, with the presence of these relatively gigantic constructions, taking advantage of geographical accidents provided by the nature of the place. The dam of Alicante, built on the Monegre River is one example. Built between 1579 and 1594, it symbolizes one of the great human interventions of the new unified Kingdom of Spain.

In the twentieth century all tangible space is transformed into networks and systems of fixed and flows, with cities as nodal points, where the superposition and connections of circuits take place. Today we are dealing with a true "techno-sphere" (SANTOS, 1989), an increasingly artificialized nature, marked by the presence of large geographical objects, idealized and built by man, articulated in systems. It is possible to describe such systems, measure them, and evaluate their impact on local, regional, and global life and landscapes. This same space is, at the same time, a condition and a support for human actions. A condition that is no longer determining, but making alternatives possible. And support, within the new concepts of Landscape and Environment. In this period "*Places are distinguished in Space by the quantitative and qualitative load of information. They are stocks of culture*". (SANTOS,1989).

This new landscape archeology, focused on understanding the present, may represent a point of convergence between projects focused on process design, environmental issues, and impact surveys, and project currents that focus on landscape architecture as an expression of human art.

The reading of what pre-exists under a point of view that overcomes what is merely apparent or what is merely ecological, can rescue a representative memory of a society in transformation, which takes care of its heritage. The overcoming of the ideal of heritage necessarily related to the fact of antiquity already brings the possibility of using the precepts of industrial archeology (HUDSON:1979:) to identify the elements that should remain or be destroyed/transformed. The understanding of technical, social and cultural motivations within a vision of the civilizing process and the consideration of everyday objects of a collective history as samples of a creative and also artistic activity transcend the apparent oppositions between men who seek art and those who seek the nature of Place.

This dilemma should not exist in the societies of the future. It was created by ourselves. This dichotomy does not exist, it is actually a fruit of our mind and our subjections.

Technical or technological production also shapes artifacts that represent the idea of Place. Territoriality manifests itself in a very concrete way through geographic objects. As we can unveil the industrial processes that generate the configurations found and their whys, we will be expanding human consciousness about space and the landscape of the human environment.

We are talking about prospection through testimonies and objects, a true superficial archeology, based on cartographic, iconographic, and field surveys. A set of prospections capable of listing the testimonies of a certain moment or moments materialized in that present and perceived landscape, as already recommended by geographers and landscape architects. The conceptual and methodological elaboration of the use of history in intervention-oriented diagnoses is necessary.

The archaeological instrumentation is quite exquisite, considering something different from the stereotypical excavation methods, which we imagine as the only means. That is not what we are talking about!⁸.

In the urbanistic field, the discussions brought by the post-modern movements of the 1980s have also borne fruit. The old antagonism between urban renewal and extreme preservation has been overcome⁹. Aldo Rossi's (ROSSI:1883) precepts, configured in the 70's, here recently published, went methodologically through the "landmarks", and the structuring elements of the city. In this search, historical issues guided the indications. It was about the link between elements of the urban landscape's concreteness and symbolic elements and the functionality present in the city's space. In a European context, this could be done very easily. We must also remember the available instruments and the real possibilities of popular participation that occurred in the Bologna experience and the beautiful work of Giulio Argan.¹⁰

We must not forget that, from the 1960s on, new instruments for reading and understanding the urban landscape formulated by neo-humanism and by the psychological or gestalt-influenced approaches were proposed to help study the configuration of scenarios closer to the user's scale, bringing important conceptual contributions (LYNCH, CULLEN); but they are still used here as a kind of prescription that justifies technical action, often without taking into account the effective participation of space users.

On the other hand, in the field of the so-called "environmental evaluation of enterprises", the methodologies are still being improved and incorporate an important fact: the mandatory participation of the population affected by future enterprises through a seat in the deliberative councils on licensing, despite the difficulties still experienced. The discussion of the feasibility of the developments goes beyond, in

⁸ It is worth remembering the lines of work already developed by professors and architects Julio Katinsky and Ruy Gama (the latter already deceased), from FAUUSP, by Ulpiano Bezerra de Menezes, among several historians, and by technicians from DPH, founded in the late 1970s in São Paulo, more focused on industrial archeology in buildings.

⁹ I well remember having written my graduation paper about Brás in 1986, later published in the Revista Projeto (KAHTOUNI, 1988) in the midst of this climate of discussions among intellectuals, especially about the neighborhood of Santa Ifigênia. I have a strong memory of having experienced as a student several polemics of that time, when there were also discussions about the complete removal from the city of Luz, Santa Ifigênia and Paulista Avenue.

¹⁰ From the 1960s on, the concepts of a new form of studies about art, cities, and Architecture emerged, interrelating the created objects and the urban political cultural contexts, mainly European.

theory, their economic aspects, and other priorities are discussed. The landscape issue is part of this new repertoire of discussion and approval of projects, within a new, more comprehensive vision.

In these works the professional archeologist is already inserted. However, it can be seen that the instruments for evaluating the impacts mainly incident on landscapes are still restricted to mistaken visions of the society x environment interrelationships, whose legal instruments are very recent.

Besides the physical accessibility of public spaces I advocate accessibility to the memory of the landscape. A reading of processes. A retaking of a lost consciousness in the hustle and bustle of the city, which makes citizens no longer recognize their places and destinations. I propose the retaking of the sense of Country, through the unveiling of the present configurations, opening one by one the layers that form its current situation, from the most recent ones, many times already forgotten and hidden, of difficult collective visualization, incorporating new researches about the landscape configuration, as in the work I did about the waters of São Paulo (KAHTOUNI, 2003).

When the designer analyzes his land or the city where he works, he must ask: what are the processes that take place in the transformation of the everyday landscape and are not conscious or captured by passers-by? After all, what are they doing there? What have they recently done there? The processes are still very little registered and unknown. They go unnoticed. And the landscape is undone and remade in time, in an ever more immediate time, by the current technical possibilities.

When you pass by an abandoned mining operation, next to a road, and you don't even know why those marks appear on the ground, or why there are those big holes. When you drive by a landfill full of garbage and covered up, and you don't even know what is there. When an architecture student realizes that he doesn't know where the materials he specifies come from.... or even doesn't know where the leftovers go....

Product life cycle awareness, part of contemporary environmental understanding has to go through this new landscape reading, in which processes will be unveiled and the very close memory should be exposed to the city people or urbanized people who walk through places close to large technological objects exposed in the new landscape configuration. This vision can be incorporated into the methodological principles of new research on our contemporary landscape. Like when we pass by an avenue and we don't know that there is a river underneath it...

In Europe, industrial archeology has advocated technological museums associated with the production sites themselves, reinventing uses for degraded and abandoned areas. We could intentionally work the marks of this recent past, left at the locus of the proposed new spatialities. This would allow the creation of a new accessibility to places, tangible through the cultural relationship they establish with society. Ulpiano de Meneses when reflecting on "the cultural uses of culture" (MENESES: 1996:94) proposes cultural policies that concern the totality of social experience and not only segments of society or its experience. He says:

"... The dominant tendency among us takes culture reductively as a compartmentalized, privileged segment, instead of locating it in the totality of social life. On the contrary, we see one more added to the various levels and instances of social phenomena (economic, political, religious, etc, etc, etc, etc), even though it is considered important. This concentrating and spasmodic vision of culture is embodied, for example, in the culture centers. The very term center introduces as necessary the idea of periphery. To privilege the center is to be uncommitted to what is not central. It is to hierarchize the spaces of social life and qualify them in a discriminatory way..."(MENESES: 1996:94)

Finally: interdisciplinary teamwork is fundamental in the design of a new environment inserted in the process of landscape formation. Only history, in the dialectical and procedural sense, brings the real dimension of transformations, which are successive and overlapping within the cultural landscapes we create.

From then on, a new Architecture will be given, the Landscape Architecture .

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