

SWC – THE VALUE OF THE TECHNIQUE AND TECHNOLOGY IN SUSTAINABLE ARCHITECTURE

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Introduction

The technique and technology in the different scenarios that can be discussed, in this case relevant to the architecture, a subject that until now has been poorly treated, it remains that architects face every day. The voluble needs of each time, put constantly to the architect in an important social role, from planning of beautiful cities, to more complex architectural work, always innovating with materials, construction techniques to reduce labor and time of execution, as well to resolve shortages, interpret user needs, designs, shapes his ideals, still or create new trends, seeking to return your product a homeostatic entity or contrast with the surroundings, be seen, become distinctive mark to recognize his seal and architecture o signature.

1. Facts

Starting from the premise that "The architect is the key actor, who applied techniques: it encourages, creates or disseminates technologies for construction and architecture" that makes possible the innovation and development of the architecture within an elaborate sustainable plan, covering current environmental requirements, obtaining an aggregate value of its product by making relevant decisions for the method and technique, selecting appropriate technologies for use in construction and architecture.

Today we must leave the poetic romance of seeing architecture as a design leads to the highest artistic expressions of art; this topic is dominated more than a century. The architectural work is being globalized, enters the game in the marketing and sold as a staple. The current strategy if it wants to be responsible is to innovate in the use of sustainable technology development scheme, without losing the tenacity to integrate design and architectural composition showing total creativity.

The glimpse of the creativity of the architect must be fed by the imagination, freedom of thought over all the baggage of experience and knowledge acquired by and for architectural practice. I argue that the present duty of the architect is the search for techniques that will facilitate hard work in the area of sustainable architecture, considering alternative technologies, efficient, that are of value added to the product architecture to social, economic and environmentally [1][2]. It is sometimes very difficult to think and plan architectural products of value with all the current global needs. The work of the architect and his team is excessive, the architect is stressed to think how to solve the functionality, order, form, esthetics, geotechnics, foundations, structures, installations, hydraulic, sanitary, electrical, manufacturing and assembly , 2d and 3d presentation of the project, civil works, interior, landscape, construction management, impact studies, permits, etc. etc. to also remember that the variable should be present to care for the environment, balanced in harmony with the environment and context. The hermeneúsis ideas can be realize with electronic devices that replace the drawing pencil, applied to software design (skeltch, CAD etc.) other programs that are required to provide estimates of costs like opus. And the widespread concern about the ecological aspect has created new support tools for building thermal evaluation, assessment and quantification of the resource path solar, wind, simulation of energy expenditure, all to strengthen the bond between humans and their environment to make the architecture more than a surface volume, established as a blot on the landscape.

To conceive a holistic project, you select passive design strategies, bioclimatic, using organic or recycled materials and safe for the environment, materials of higher thermal inertia, promotes the use of self-powered systems to reduce environmental costs because, in the end that is paying the bills is the user. In the investigation by the originality of sustainable architectural design methodology, seeks to fuse the natural elements are printing a valuable difference to the openings, openings, natural ventilation, orientation, using

double glass with air or argon chamber for low emissivity solar exposure, cast shadows, use automation sensors, populated with native plants, recycling site rocks, if the design can be troweled plaster finish, to take advantage of prefabricated modules, preferably having location close to public transport, give priority to the use of bicycle to the automobile.

2. Sustainability-Architecture

The definition of sustainability got enormous acceptance since the ensuring of the future resources for the next generations to the most acceptable now days implicating social-economics-environmental. The word begins to outline sustainability since the nineteenth century, in the context of the current nature conservation, taking seriously in the 70's, the environmental argument for the proposed economic and population growth. The report Burtland sustainable development was defined as the entropy of interaction with the economic, social and environmental.

As a serious subject is discussed by experts from a single line reaches a certain topic and other people interested in the academic, business, professional or political, each person uses his own interpretation sieves. Sustainability has achieved many nuances, has become, that everyone interprets it as he pleases.

But, this is a philosophy, life style, which would be the posture of the architects? when they says: this is a sustainable architecture. To find out how much sustainable architect you are, observe and analyze Table 1.

Ethics	Thought / Philosophy	Authors	Causes of the environmental crisis	Solutions
Ecocentrism	Deep ecology	N. Naes, 1973, "The shallow and the deep, long-range ecology movement. A summary" inquiry, 16	<ul style="list-style-type: none"> • Anthropocentric ethic • Technological development • Urbanism and industrial development • Demographic explosion (neo-Malthusian) 	<ul style="list-style-type: none"> • Biospheric Egalitarianism (bioethics) • Stop the industrial and urban growth. "go back to fields" • Stop rising population Goal: preserve the nature
	Green ecologist (Mainstream)	1. Neomalthusianos, P. Ehrlich y J. Holdren, 1971, "impact of population growth", <i>Science</i> , 171. 2. "Mainstream", J. Porrit 1986, <i>Seeing Green</i> , Oxford, Blackwell	<ul style="list-style-type: none"> • Industrialism: economic growth unlimited • Population growth • Dirty technologies • Excessive use of non-renewable energetic resources in the context of finite world 	<ul style="list-style-type: none"> • Decrease the consumption • Stop the population growth • Green technologies: clean and small-scale • Clean energies based on renewable resources Goal : keep the nature (limited use, in quantity and quality)
Anthropocentrist Technocentrists	Cornucopians	Julian Simon y Hernan Kahn (eds.), 1984, <i>The Resourceful Earth. A Response to Global 2000</i> , Nueva York, Basil Blackwell	<ul style="list-style-type: none"> • No environmental criticism. The problem assumptions are fake and not serious 	<ul style="list-style-type: none"> • Free market without or very limited government involvement • Any shortage or problem can be solved by technology and market Goal: Do not limit the market economy.
	Environmentalist moderate	World Commission on Environment and Development, 1987, <i>Our Common future</i> , Oxford University Press	<ul style="list-style-type: none"> • Excessive uses of environment resources because are not a private property or doesn't has an appropriate price. • The poorness is so responsible for the environmental crisis as the rich of the consumption 	<ul style="list-style-type: none"> • Policies and tools for environmental management "internalize" environmental costs. • Economic growth to finance. • Efficient and cleaner technologies. • Reduce poverty. Goal: Environmental Care and decrease poverty, not to harm the economy.

Anthropocentric Critical	Ecodevelopment	1. Sarchs, 1974, "Ambiente y estilos de desarrollo", <i>Comercio Exterior</i> , 24 (4): 363	<ul style="list-style-type: none"> • Inappropriate technology • Cultural domination • Consumerist model imposed by historically unequal hegemonic countries 	<p>Model of production and alternative consumption based on:</p> <ul style="list-style-type: none"> • Local natural resources • Local knowledge • Alternatives local technological • Balance and rural-urban integration <p>Goal: To develop self-sustaining (self reliance) based on meeting social needs.</p>
	Social ecology	Murray Bookchin (seudónimo: Lewis Herber), 1962, <i>Our synthetic environment</i> , Nueva York. A.a. Knopf	<ul style="list-style-type: none"> • Domination relationships between human being and nature. • Market logic 	<p>Expand communities with small-scale production and partnerships</p> <p>Goal: a caring society without domination between men and on nature (eco-anarchists).</p>
	Marxists	1974, "A Critique of Political Ecology", <i>new left Review</i> , 84	Social relations of production and operation extended to external nature, particularly those involving capitalist relations unlimited production and rising unemployment	<p>Change the capitalist relations of production to other non-class and solidarity based on social ownership and management of the means of production.</p> <p>Goal: Non exploitation among humans, where the responsible use of nature is inherent to the social logic of production for the satisfaction of needs (ecosocialism).</p>

1. Table (Sustainable approach philosophy)

In the classification of ethics, are threefold: Eco-centrist Anthro-centrist-techno-centrist and Anthro-centrist-critical. Where you take the philosophical currents for each one. Eco-centrist: Deep Ecology, Ecologists Greens (mainstream). Anthro-centrist_tecno_centrist: cornucopians, moderate environmentalists. Anthro-centrist: Eco-developmental, social ecology and Marxist.

As you can see, sustainable architecture, marking down certain areas green, brown and gray, not defined or pigeonholed into a specific area. All figures and tables should be cited in the text, numbered in order of appearance and followed by a centered title. All table columns should have a brief explanatory heading.

if we lock up the most famous architects in any of the classifications, we would observe that Frank Lloyd is an approach to the ecocentric, unlike Gaudi, who cataloged for projecting an organic architecture, which is not necessarily anything attached to environmental ethics. if we look back at the productive career of the most important architects, we will see the beginnings only care about the design, a more anthropocentric or Marxist philosophy to as success in their careers had been established, there is a tendency to look and some concern environment, as the case of Le Corbusier and Norman Foster.

3. Techniques

The technique is a systemic set of decisions fully intentional, as to the means, goals, objectives and their contexts of operation, choosing a technique is deliberately chosen the results.

The methodology used in architecture is a mixed qualitative and quantitative process design principles used computers, generators called ideas are concepts that influence or shape design, offer ways to organize and generate a conscious way. Allow the coexistence of various shapes and spaces, both perceptual and conceptual, in an ordered and unified. With the ideas begin to prefix the resulting configurations. Making a purely qualitative systemic efficiency, try to improve the sense of freedom of design, setting decisions based

on results tecné sensitive about the quality of life. Making the phenomenal expression of intelligence in the practical use of reason.

And for the quantitative methodology is used to maximize or minimize something (costs, benefits, energy, manufacturing, etc..) Propositional knowledge or known as the know-how, subject to validation for assessment practice

Choose elegance and intelligence solutions to a problem specific tectonic, which often is restricted, no freedom for the consumer's budget for the site, and valuable time.

4. Technologies

These techniques are designed to alter or preserve some aspect of reality, driven predominantly by scientific knowledge. Many technologies can have a wide range of applications, and in many cases this may be "universal." The important thing is that its use is not irrational. Must analyze and evaluate the social, cultural, environmental, etc.. and establish its relevance or not, if adapt and define how to use under different conditions to those that gave it birth. In architecture serves the energy problems of the buildings. Make efficient use of energy and resources, tending toward self-sufficiency of buildings is an important issue to address.

Through proper design of the spaces is possible, avoid or reduce the use of artificial air conditioning, choosing the right equipment to the technology available to a particular climate of the site as well as take full advantage of natural lighting during the day. Additionally, there are several teams of alternative energy technology that can be used in buildings such as photovoltaic panels, windmills, lamps, lighting efficiency, solar water heaters that can greatly reduce gas consumption. And of course all these actions will entail energy of economic benefits to users. The envelope must be designed as a dynamic agent that interacts favorably between the exterior and interior, that is to act as a selective filter biothermic, acoustics, lighting, etc.. able to favorably modify the action of natural elements, admitting, rejecting and / or processed when required. It is necessary to make proper use of water, proper disposal of solid and appropriate treatment of gray and black water, encourage the use of digesters, dry toilets. You can have methods of harvesting rainwater using the roofs of buildings, provide a system for saving water. The architecture should also consider the problems of pollution and outdoor intramural. There are materials and pollutants that should be avoided or treated in a special way. In other words, the architecture should be designed spaces designed to meet the comprehensive and harmonious action of environmental factors of the place. Although there is some polarization between high-tech and all natural or vernacular, perhaps the future should take the positive from both positions. The architecture should make use of available resources to meet its goals of providing welfare and comfort.

5. Value

Object of interest by an individual or a social group, affect, from the attribution-behavior and attitudes toward the object. Value is the result of the interpretation that the subject of utility, desire, importance, interest and beauty of the object. That is, the value of the object is to some extent, attributed by the subject, according to their own criteria and interpretation, a product of learning, an experience.

Values are observable in human behavior, pragmatism, a value is the product of a human evaluation, is a bio-cultural act of preferring and choosing certain states of affairs to others, preferences and choices associated with all practices. A positive evaluation has two meanings: a) how little appreciation or current estimate of what you own or possess, enjoy this thing, b) and the appreciation potential of a given state of things would be worth the effort implied in the update action, observable only in practice intentionally aimed at carrying the state of things valued.

In the practice of architecture, we appreciate the beautiful and functional, sometimes it can be cheap, but it is

also admirable execution of an architectural project of harmony to the environment, which is the value we hold dear? What is the intrinsic value of sustainable architecture project? Going directly to the heart of the issue is respect, honesty, loyalty, fairness, solidarity, tolerance, life itself, the human self, the vegetal, animal and all that in context encompasses and resources you need to be preserved the existence of an ideal, and even the notion of a natural order that transcends the architect throughout the workplace.

This position is not properly architects, has always existed, but with changes in technology, mass production, extending our time to use more electricity, consume finite natural resources, and selfishness of man simply to transcend, to accumulate wealth and property destroyed ecosystems, which are at a critical point, and have been meeting by experts in the subject, but not until he had had transpired in the political interest, showing that in the 70's begins search of entropy-man nature of dualism.

Arises what is sustainable, then arises the concept of sustainable architecture, but with the intervention of perverted and investors as the first target for monetary exchange, coaxing the first to leave a criticism LEED is the example, who needs to buy a certification ?, why sell the concept of sustainable architecture?. When architecture is considered should be sustainable in nature as it is for man, man is nature and life. A plausible example in Mexico is the work of the Mexican institute of green building, which seeks to adhere to all the sustainable approach and much effort is looking to make standards to become mandatory in law and state building regulations, no need to register and pay an outside agency, to say the building is green, I am sustainable. Another example wrong to sell books with the title of sustainable architecture, when it is obvious they are only well resolved architectural projects, but there is nothing sustainable strut a door made to order especially copper, to say that the house has solar panels, when what is observed is a collector, or bring materials from outside the region, and criticizing their own publishing houses is to sell a title like that although the book is made of laminated sheets, embedded in toxic ink to look better for great pictures. That kind of mirage, of no value to nature, nor should they sell it as catalogs or sustainable architecture.

To know whether we are talking about the same sustainable architecture, define the adjective of the word sustainable. Note: Do not be confused with sustainable, bioclimatic architecture, green architecture, eco design, etc, because everyone has a degree of intervention in sustainable architecture.

6. Conclusion

We are biophilic by nature, are alive, we belong to nature which should be protected with architecture intervention, the architecture is much more than just a space contained by walls, is able to sensitize the man who inhabits it, the architect must be appropriately technical knowledge to be intertwined because the environmental, social and economic, to participate in the quality of life for individuals requiring our services, removing unnecessary constraints to the user. Reaching a systemic efficiency, the ratio eventually must exist between man and nature, to establish the architectural culture, individual and collective human, habit-forming sustainable architecture and non-violent nature for fashionable products. Creating living spaces that fulfill a functional purpose, expressive, they are physically and psychologically appropriate, that promote integral human development and activities, through a logical, common sense, through clear architectural concepts to consider climatic and environmental variables in relation to man.

7. References

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