A Critical Approach Towards the Idea(L) of Sustainable Architecture

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ABSTRACT: Sustainable architecture currently appears in the mainstream of architectural theory and practice today. Being aware of the environmental devastation in which architectural practice is also participating, sustainability is considered to be an ethical approach, a social responsible act. Therefore looking from an environmental perspective, it is obvious that our profession finds a legitimate ground in the debates on sustainability. However the extraordinary amounts of projects, buildings, research and publications that sustainable architecture has provided to this profession seem to have resulted in a lot more hypocrisy than environmental devotion, knowing that architecture’s participation in environmental healing is minor compared with other fields. Thus it is this article’s intent to make a critical analysis of the ideal perception of sustainable architecture which offers a grand compromise on the contradictory concepts. It is written to prove the rethinking of sustainable architectural practice and theory considering the underlying motives and consequences.

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INTRODUCTION

Sustainability is currently the major issue among all levels of society, from the governmental degrees to the professionals and the public. Parallel to this, it is also the main concern of architecture. Over the last forty years, the profession of architecture has been dealing with environmental matters. And it is evident that over the last twenty years architectural practice as well as architectural research has been dominated by the issues of sustainability [1]. Considering the fact that environmental destruction in the context of the world’s decreasing natural resources, global warming, increasing pollution, decreasing energy supplies, and dying species... is speeding up day by day, and these changes have relevant social, economic and political results, architecture’s [2] deal with sustainability seems to be a social responsibility. However, I suspect, exactly this point of view requires a careful investigation.

2. SUSTAINABILITY: AN IDEA(L) OF SOCIAL RESPONSIBILITY AND PROFESSIONAL LEGITIMACY - MOTIVES AND CONSEQUENCES

2.1 Motives

Architects can make a difference. We can learn to solve problems and visualize solutions in a new way. The fundamental principles of an ecologically sustainable architecture must be the basis for all architectural decision-making, theory, and practice. For architects to regain the stature we once had as a profession, we must seize the opportunity to be outspoken advocates for change in the way we plan, build, and preserve our built environment. [3]

The quotation above belongs to former AIA (American Institute of Architects) president Susan Maxman. In her article published in 1993, she, as a voice of the American Architects, expresses the generally shared desire of the profession: the search for a legitimate architectural ground. Maxman, like others, is aware of the fact that, if architecture constitutes a relationship with sustainability which is situated in the mainstream of current debates, it might have the chance to regain the stature in Maxman’s words, but moreover be a legitimate profession.

Undoubtedly, modern architecture is in a legitimacy crisis. Legitimacy represents the situation to be suited to the norms that receive general approval in any field, therefore a situation of being approved [4]. When we examine the history of our discipline as a profession, due to its natural structure, we can see that until recently, architecture’s engagement in norms did not create a stimulating discussion. However, the results of environmental research in architecture which depend more on standards, regulations and norms, seems to be filling this gap, enabling it to take a step forward to legitimacy.

On the other hand, another reason for architecture's engaging in sustainability can be found in the recent past. The generally shared opinion on recent practice is that it has come to a crisis on all levels. Many circumstances share the impression that professional interests of architecture have been unproductive after modernism and its deal with philosophy was not able to start a satisfactory theoretical debate. Moreover the idea that much architecture rarely deals with more than style and
momentary preoccupations [5] and architecture’s engagement with form, turning into an “haute couture” fashion media factory, was starting to raise too many questions. Many people thought that creativity became an egocentric individual expression. Therefore to re-establish a moral functionalist basis of the profession against stylistic architecture was vital. This constituted a unique milieu where a new idea of responsible architecture could emerge.

Looking from the academic perspective, the accelerating increase of the researches on sustainability can be seen as the revival of the scientific side of the discipline. The profession’s engagement with form in the past, has naturally lead to morphological researches. Therefore similar to the critics on stylistic architecture, there were also critics on their research. Within the new field that environmental architecture opened, the academe had the opportunity to conduct experimental, measurable, therefore scientific studies. Architecture, supported by empirical studies, resulted in an enormous literature depending on guidebooks on how to be green, ecologic or sustainable.

It is obvious that the motives addressed above, along with the indications of the environmental devastation and architects’ desire to serve a higher purpose, constituted a new dimension (environmental dimension) of social responsibility for the architectural profession. Looking from this point of view it is not surprising to see that this responsible attitude, which the latter regarded as an ethical approach, is seen as a survivor from the crisis which is said to affect the cities as well as the people. These can explain why sustainability became a buzz word in the architectural field. This resulted in an extraordinary amount of research, publications and products.

2.2. Consequences

If we believe all we read in the architectural press, it will soon be difficult to find a building that is not green, sustainable or low-energy [6]. While the intention of the architects was to heal the environment, society, and therefore the planet, it developed in a way so that we saw the concept itself turning into an “haute couture” fashion media factory. Surprisingly the environmental concept which is expected to be a criticism of the spending society faced one of its most important merits: rapid consumption.

In the last five years or so the word Sustainability has come into vogue as a way to put disparate realities into a single rubric. The most immediate reason for the success of the term is that it has allowed advocates to avoid the stigma of left-wing environmental politics. To fill in the gap, various interpretations of the notion of Sustainability have come forward, each with its own implication for the discipline of architecture. [7]

Similar to Jarzombek’s comment above, it can be said that while on one hand sustainable architecture gives products on both the practical and the theoretical side of the discipline, the concept is interpreted more and more flexibly so that today it is possible to cover every attitude in its constitution. It is obvious that all the actors of the building sector (in the context of advertisements on green materials, construction and building) including the business market, has caused the widespread usage of sustainability and benefited from it more than architects.

Connections between Sustainability and architecture have also been forged in the world of advanced capital. There, however, Sustainability is mainly discussed as a question of how to develop ‘environmentally responsible’, thermal-control technologies. Increasingly aware of the impact that large buildings, and entire cities, have on the environment – but also, and often more importantly, on building cost and public relations – corporations have begun to think along the lines of their larger ‘global’ responsibility. The result has been the emergence of a billion-dollar industry in green-equipment and green-technology. But, just as there has been much advancement, there has also been a lot of hypocrisy. Is it real change or business-as-usual when cost-efficiency and public relations are re-defined as ‘Sustainability’? [8].

Societies do not want to change their consumption patterns [9]; instead they tend to be seen as they do so by adapting a contradictory concept like green consumerism. On the other hand sustainable development as it was defined in the Brundland Report of 1987 was already seen as an “virtuose conversion” a “masterpiece of business pragmatism” which would only intensify unsustainability being still depended on the traditional ways we produce and consume and pointing out that growth and development is still possible if it is green [10]. For this reason building on Jarzombek’s quotation above, it is not surprising to see that cost-efficiency and public relations re-definition as sustainability.

3. CONTRADICTIONS OF SUSTAINABLE ARCHITECTURE

3.1. Can Architecture be an Environmental Act?

Environmental sustainable architecture can only reduce the possible negative effects of the building. It is obvious that constructing buildings can never be an environmental act. If only we can widen the debate towards restoration, reuse, renewal of buildings and cities it will be a step towards an environmental act. On the other hand let us consider the fact that buildings contribute to the social and cultural formation of the environment as much as they contribute to the destruction of the environment.

What is happening to the environment is another issue. While on the one hand environmentalists insisted that all the resources would be finished by 2000, on the other hand the economists indicate that radically cutting carbon-dioxide emissions will be far more expensive than adapting to higher temperatures [11]. Actually, let us consider that life occurs at a point of balance between the forces of order and the forces of disorder, at the edge of chaos. Life is not an equilibrium condition, but a state of continuous adaptive activity, resisting the equally destructive alternatives of locking into a rigid order or descending into the turbulence of chaos [12].
3.2. Is Sustainability a New Concept?

When we evaluate the applications of environmental sustainability in detail, it seems to be obvious that they do not differ from the applications of the past century. Looking around, the skeptic might observe that most buildings are little different from those of the early 1990s, despite all the green hype some people spin. And are the best buildings of today any greener than those of a decade ago? For instance, in the 1960s all the buildings had windows that opened and air conditioning was not an issue [13]. Also it is interesting to see that what Doxiades [14] published in 1968 can be considered as an important publication dealing with the issues of what we might call sustainability today.

When we investigate the research made on sustainable, ecologic, green or environmental architecture, we can easily conclude that the principles of these approaches do not differ from the basic principles of architecture. For instance, belonging to a place, dealing with topography, climate, local (low energy) building materials... were the concerns that human beings dealt with from the early architectural settlements till today. What differs today can be explained within the modernity. Undoubtedly, the tension between concepts of local and universal experienced after modernity can be explained with the differentiation of knowledge. In this period we can talk about the belief that also affects architecture as follows: If an experience is specific to a place or person, in other words if it is different from others and authentic, it can not be universally "Right"; however if its rightness is scientifically proved, it is no longer specific to a place or person. Therefore we can say that today ecologic architecture appears as an approach that mostly takes the traditional architecture's attitude towards topography and climate scientific, therefore universal [15].

3.3. What Can Architects Do?

No doubt every attempt towards using low energy, healthy materials, passive design solutions... will contribute to a more healthy future. When we look at the situation on an energy consumption basis, the contribution of our profession seems to be minor compared with others. For instance when we consider the embodied energy of building materials, the de facto situation gets clearer.

Embodied energy is the energy consumed by all of the processes associated with the production of a building, from the acquisition of natural resources to product delivery, including mining, manufacturing of materials and equipment, transport and administrative functions. According to the research the embodied energy of a building is equal to the sum of its operating energy for 45 years. The same amount of embodied energy is equal to the sum of its operating energy for 30 years if it is operated on a low level. And similarly it is equal to the sum of 25 years if it is operated on a high level [16]. This situation faces us with the simple fact that despite the general opinion, reducing the operational energy of a building does not make a significant difference when we evaluate it on an energy consumption basis; it can only reduce the damage. As embodied energy is much more related with the industrial processes of the production of materials, architects can only contribute to the process on a material selection level.

Clients are another aspect of the architect's accomplishment on sustainable architecture. Ultimately, green buildings happen when clients want them to happen, and the stronger their commitment, the greener they become. The design team can be a valuable ambassador for the green cause and educate the client about the possible benefits, but it is only the clients who can put value on having a green building. Sometimes the gain may be financial, such as reduced energy bills and lower maintenance. But sometimes the benefits will be less tangible, such as the promotion of a green image [17].

Surely the generally shown intensive interest in the project of sustainability is not specific to architecture. Today, as the great majority of the world is dealing with the issue, it is not particularly interesting to see that our profession does the same. But what is surprising is to see the ignorance of the very fact that the effects of the results of the practices are minor compared with other disciplines.

4. DILEMMAS OF SUSTAINABLE ARCHITECTURE

Sustainability is a concept of compromises consisting of a hybrid nature constituted of dilemmas. It presents a grand reconciliation and moreover a hypocrisy between conflicting concepts, such as East and West, traditional and contemporary, nature and technology... Moreover it tries to match the contradictory concepts, such as localization, regionalism, natural materials and community development with globalization, techno-centrism and economic rationalism. According to Jarzombek "even where Sustainability has shown itself successful, it still often holds to the rhetoric of some grand compromise [18]".

Architecture has been directly related with the problematic of sustainability for at least 30 years. In this field there is no general technical manner and morphological approach. If on one side there is a "return to nature" effort directed to generate architectural product with simplest technological processes, on the other side there is technologism directed to equipping the building with the most fully developed equipment in order to design it giving the most effective and harmless reactions to the natural conditions. On one hand there is a defender of naturalness, on the other re-functioning the technology in order to contribute to sustainability. In the first one we can talk about the fear of technology, in the latter one we can talk about the belief that technology can also cure natural destruction. While the ones on the first approach construct building from straw bales, the second ones produce intelligent buildings, ecologist high techs [19].

Similar to the idea cited above, we can say that sustainable architecture evolves on two different paths: low-cost populist architecture on the one hand, and high-cost, heavily researched technical architecture on the other hand [20]. What is
interesting is that the two paths seem to be quite apart from each other. For instance it is not surprising to see that the discussions in the first axis lead to primitive societies:

*Sustainable development is not a term one hears in such settlement (Latin America, Africa, Asia...), but in reality, these are places from which the rest of the humanity could usefully draw lessons rather than seeking to ‘improve’ them.* [21]

Similar to du Plessis and Edwards quoted above, Burges, after putting forth the idea that our society is sick and our earth is homesick, he concludes that “with enthusiasm and humility we need to learn from the nature-integrated wisdom of what is left of the world’s indigenous cultures (especially Australian Aborigines) not withstanding the western world’s impressive achievements in science, technology and culture” [22]. On the other hand Slessor emphasizes “the danger of the tendency towards the nostalgic glorification of some isolated, eco-responsive aboriginal society” [23].

Apart from the debate on traditional societies, the fact that technology depends mostly on non-renewable resources means more energy will be needed for the procedure and more pollution will be spread. Moreover most of the systems can be applied once the design phase has finished. The most suitable example for this can be intelligent buildings which are today reduced to only building automation systems. In this respect, if there is no development from high tech to intermediate and environmental technologies, this side of the discipline seems to be apart from environmental concerns.

What is interesting is to see that in the project of sustainability, the two different axes drawn above can coexist. In Jarzombek’s words, “Sustainability thus implies a grand narrative, linking Western-styled technological innovation with third-world cultural politics, the likes of which have not been seen since the days of the International Style” [24].

Another fact is that although there are many buildings appearing in architectural publications as green, ecologic or sustainable, many case studies reveal that there is more hypocrisy than environmentalism. For instance, according to a case study searching for the engagement of skyscrapers with environmental issues concludes “The green strategies incorporated in high-profile architecture may serve more of a symbolic role” [25].

Similarly, in research conducted in Britain comparing three buildings (the London Ark by Ralph Erskine, the IBM building in Hampshire and Greenpeace offices in London), on green offices Beaufoy concludes: “The green office can exemplify new trends in office design, with the addition some ‘green’ features, as in the case of the Ark, or it can be used as a symbol of the green policy of an organization, as in the offices for IBM and Greenpeace. It can be argued that the concept of a ‘green office’ is a contradiction of terms, since it is based more on commercial than ecological values. But for that very reason it may be justified by latter-day environmentalists: it is an embodiment of the compromises found within current environmental thinking which have resulted in “green capitalism”. In this respect the green office can stand as a symbol of late twentieth century environmentalism.” [26]

**CONCLUSION**

Looking from an architectural as well as a social perspective, it can be said that environmental concerns saw a shift from environmental, green and ecologic to sustainable architecture. Changes in terminology indicate changes in values and priorities, although they can also disguise continuities [27]. Besides they reveal an underlying shift in social and political attitudes [28]. For instance, already in the early twentieth century the defenders of nature and ecology were often allied with the conservative and reactionary anti-industrialist movements that fed even into the Nazi ideology. Finally today, sustainability, covering all economic, ecologic and social aspects seems to be in a full match with capitalism. According to Jarzombek, sustainability becomes ever more involved in the politics of change; it becomes ever more saturated with the problem of hypocrisy [29].

It is interesting to see that environmental issues evolved during the past years with changing terminology and in every change adapting to the current political choice. It is also interesting to see that the concepts related to environmental issues always show a full agreement with current jargon. For instance the buzz world of today’s world “globalization,” finds a place easily in the idea of sustainability as a “globalization of the concept of equity.” That’s why in this article it is intended to develop the critical side of the discipline, trying to point out the interaction between architecture and sustainability and the underlying causes that lead to general acceptance.

*In the age of image and spin, the look is often more important than the reality, and in ecological matters people want to placate their consciences while continuing with their recklessly consumptive lifestyles. So it is difficult to see, in the often chaotic display of ecological projects, just what will really count and what is mere window dressing.* [30]

In this respect it is possible to address that in last century we have witnessed deconstruction and reconstruction of the concept of sustainability in all the levels of society, (professionals, governments...) according to differing interests (towards our goals). Societies and their habits continue to grow paradoxes. It would be a much more coherent approach if architects would concentrate more on the small achievements accepting the limits of their accomplishments. It is important to rethink the power they embody, search for “new” ways to reevaluate its very existence as a discipline, concentrate more on really innovative solutions that would accelerate change while bearing in mind the critical analysis of social responsibility, legitimacy ground and the hidden links between the concepts and the current political shifts. And for this reason instead of making laws, regulations and standards, it is important to create a
Therefore it is essential to develop the critical side of while contributing to the saving of the world.

What I tried to interrogate in this article is the underlying motives and consequences of the grand compromise that society is in. Reconciliation is often interpreted as a hopefully expected final goal. However I suspect, exactly this point of view requires a careful investigation; for sustainability is an idea, a way of thought instead of the general approval as an ideal situation for architecture to sustain its legitimacy while contributing to the saving of the world. Therefore it is essential to develop the critical side of the discipline, to question more to find more ideas instead of ideal answers...

NOTES AND REFERENCES

[1] Although there is a necessity to write the environmental history of architecture, covering the whole environmental concepts, terms related to architecture and urbanism, it is not the intention of this article to debate on the terminology. Although there is a continuous change in the terminology, for I see the environmental concepts as a part of a continuous debate evolving parallel to social and political issues, I use the most currently used term, sustainability, knowing the very fact that it is a general umbrella term covering the social and economic aspects besides environmental ones. Therefore it is thought to cover environmental, green and ecologic architecture. As environmental changes are in an interaction between political and social aspects, the 80s new environmental term sustainability could not be expected to be separated from the social and political aspects. That is why in this article, sustainability is considered to be an environmentally structured and socially and politically influenced concept.

[2] Although in the environmental literature architecture is mainly reduced to a building scale, in this text, architecture is considered to be covering the urban scale as well.


[9] We are all aware of the fact that some countries are trying to buy quotas from third world countries in order not to reduce their CO² levels. This constitutes another version of colonialism.


[23] C. Slessor, p.32


[28] Ibid., p. 150.
