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Short Paper

A Reflection on the Sustainable Architecture Project

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Abstract

Environment, ecosystem, harmful emissions, citizens' health, energy consumption, sustainable development. It is a non-exhaustive list of terms that are part of our daily life and that show how much responsibility the human imprint has today on the state of health of the planet. Despite the fact that they have been deadlines for some decades, at the head of all the programmatic statements on development, issued by international bodies and governments, the situation does not seem to improve. We are, indeed, called to change our lifestyle and our well-being patterns which are causing an exaggerated and ever-increasing waste of energy and resources, just as the overall impact of the human species on natural systems continues to grow (De Capua, 2008). In recent years everything that has to do with architectural design, from the choices of materials to the technologies used, has had to deal with the term sustainability, whose meaning, despite trying to place it in a unique defining apparatus, always takes on nuances and different meanings. In spite of this it has universally generated, in the society of the last decades, the awareness that the lifestyle assumed will have a dramatic impact on the generations to come.

Keywords

environment, citizens' health, energy consumption, sustainable architecture, indoor air quality

1. Introduction

In the last half century humanity has found itself faced with the possibility of self-destruction and the unprecedented condition of being aware of it. The unavoidable consequences of the environmental disaster and the activities that derived from it, followed a path from valley to mountain: from the treatment of pollution to the intervention on the productive processes that generate this pollution, to the redesigning of the products and/or services that make these processes necessary (Meadows D. H.,

Meadows D. L., & Randers, 2004). Finally, the awareness of the environmental problem has led to the discussion and reorientation of social behaviors, that is, of the demands of products and services that, in the last resort, motivate the existence of such processes and such products. Promoting sustainable consumption and behavior may require new products but may also lead to directing choices towards new systems of products and services, which in order to be accepted, require change in users' culture and behavior.

In recent years everything that has to do with architectural design, from material selection to the technologies used, has had to deal with the term sustainability, whose meaning, despite trying to place it in a unique defining apparatus, always takes on nuances and different meanings. In spite of this however, it has universally generated, in the society of the last decades, the awareness that the lifestyle assumed will have a dramatic impact on the generations to come (Stiglitz, 2007).

Why did the continuous alarms not reach a turning point? Studies, conferences, debates have helped to understand the emergency to the point of establishing an exact diagnosis: we perfectly know the damages produced by our society up to now, which are really so evident, but we are not able to find the therapy yet, or rather, we do not sense the true intent to heal. Contemporary culture, more and more conditioned by the greater technical and economic availability and by the greater independence from natural resources, has carried out and carries out destructive actions of transformation for the environment without succeeding in satisfying the needs of urban quality and well-being for the inhabitants. The consequences of the transformations have not produced, except in isolated cases, new ways of being, new development perspectives and new fields of activity on which to apply creativity and social entrepreneurship. Long-term strategies that involve large investments, despite their importance, present great difficulties because they clash with the culture of the immediate, that characterizes contemporary society and precisely for this reason is often disregarded (Sinopoli & Tatano, 2002).

To add to the seriousness of the situation, there is also the biophysical stress towards which we are going, linked to the reduced availability of resources that induce social and political tensions that can only lead to conflicts, the critical data at the moment is that the number of people living in vulnerable areas continues to increase instead of shrinking. A synergy of factors of geopolitical and socio-economic instability that acts as a detonator for new conflicts, within or outside national conflicts.

To make matters worse the report "*A new climate for peace*" (Note 1) encourages us to recognize that climate change will be one of the threats to the stability of states and society in the decades to come with the conviction that environmental catastrophe is inevitable and can no longer be stopped and that therefore we must take into consideration epochal disasters. Without timely and effective adjustments, the ecological change towards a new sustainable balance would be dictated by such disasters. A sustainable policy will have to undergo the fatigue of the interweaving of social, economic, legislative, administrative, scientific and environmental aspects (De Capua, 2002).

2. Method

Unfortunately, the magic formula of sustainable development, the Brundtland Report, which contains the awareness of how best to focus on balance rather than wild growth and the meager results of the Rio Conference do nothing but confirm how far we are, however, from a change in direction.

The concepts related to sustainability, have forcefully entered in all kinds of debates concerning development models which our society should strive towards, instead these concepts are stigmatized by everyone and now on the brink of the abyss. A debate that separates the good from the bad, judging individual behavior in the case of people or of political strategies, in the case of nations or of important corporate groups.

A continuous media blitz of the possible risks to the health of the planet and of us "ungrateful users" which we are subject to everyday, is as tiring and nerve-racking as the dramatic consequences we are inevitably going to face.

Surely, we cannot be indifferent to what is happening, nor to the fact that these results have been caused by incorrect development models undertaken for more than half a century. In fact, the increase in the signs of climate chaos is impressive, as is the increasingly evident effect of extreme phenomena which, due to wild human presence, multiply the disasters which we hear about on the news far too often (Brown, 2002).

Yet, reducing pollution is a social issue, it means contributing to people's quality of life and health. Furthermore, studies show the connection between increased pollution and catastrophic events, as well as leading to financial loss.

This should lead us to thoroughly rethink the issue of development, which for some decades has been the undisputed main goal of all the different policies that are affirmed on the planet "for the benefit of humanity". For years, some people have suggested alternative solutions to reverse course: Serge Latouche (Latouche, 2012) says, in fact, that our society is chasing/following wrong directions and the "demon of development" has settled in our models. The concept of downturn, to which it refers to, thanks to the endless economic crisis and ecological conversion (which today would seem to be more of a keyword), has forcefully entered into all the discussions, promoting strategies to be undertaken in sharp contrast with the paradigms that characterize today's society: capitalism, technicality and globalization.

A growth society that has based its assumptions on the production-consumption cycle, with the complicity of technology, develops a large global market all over the planet. In fact, progress producing innovation creates new means to increase wealth and because modern man considers technique his environment, he is continually led to adapt to it, generating needs and desires to be satisfied and influencing the production cycle, determining the offer and increasing consumption. The most critical analyses, and the ones that are most aware of the limits of development discussed over the last decade, do nothing but align with the common feeling of not interrupting the inevitable process of progress,

hoping, however, for mitigation in the name of eco-compatibility and perhaps accepting the consequence of the loss of the quality of life of the communities despite the continuous race.

Important progress has been made in all priority sectors: the energy efficiency incentives for buildings; measures to make transport systems greener; the improvement of the energy efficiency of buildings, the revisions of the directives on eco-compatible design and eco-label, as well as progress in research and financing. However, negative trends persist in various sectors, including the growing demand for natural resources, the enormous amount of waste that the construction sector produces or the dependence on foreign countries for their energy needs: Italy is importing well beyond 80% of the energy we need. Yet this particular twist does not seem to bother us. We are lagging behind in regasification plants, we are behind in renewable sources compared to many other European countries. We phased out of nuclear power but after proclaiming the intention to return, we are now late in that too.

Personally, I consider the environment a resource that has been exploited and neglected for too long, but I am also convinced that the excessive (ab)use of some terms, such as the concept of sustainability, has weakened its propulsive and innovative force. Moreover it is also normal for a term (ab) used for at least thirty years. There is no doubt that the thematic areas linked to environmental quality control and sustainable development dominate the cultural and socio-economic scenario within which planning and territorial planning are articulated, but the current risk is a dangerous flattening on environmental issues only for propaganda or worse for market purposes.

3. Result

It is necessary to define from the start, which is the complex system of principles that animate sustainable architecture today. If it concerns those exclusively aimed at greater attention and protection of the health of users and of the environment or whether it concerns social and economic issues when it is proposed as a cultural, social, ecological and economic change necessary to safeguard future generations (AA.VV., 2000). Often, instead, behind the sustainable project there is little of this, if not the adoption of an eco-gadget or market advantages. In fact, if the policy continues to have an uncertain step, the market instead runs: in the last five years private investments in renewable sources and energy efficiency have multiplied by ten. But there still is an abyss between the spontaneous commitment of the market and that of governments.

Today the new needs that contemporary living requires from architecture and cities means that the project becomes an interpreter of the places and needs of the inhabitants through appropriate technological solutions. Whether we are talking about interventions in urban suburbs, in smaller towns, in the slats of public housing or in abandoned industrial areas, action is required that guarantees direct and indirect benefits, which interprets the desires of the communities involved and which responds to the new environmental paradigms.

The objective is not to control all the variables involved, but to reflect on the main indicators, from which the achievement of a sustainable quality may depend, within the more traditional realization processes. Therefore, to investigate the new thematic areas, to integrate existing ones with new specific requirements, to relate the new indicators to the areas of application and the different levels of the project. To indicate to the designers the way to improve the performance of environmental efficiency of the building and to promote the use not only of "clean" technologies but also of methodologies to manage them cleanly.

The concept of quality, traditionally understood, has for some years been enriched with features that measure its compliance with environmental requirements both with reference to the internal and external environment and to the physical, material and energy interrelations between construction and the surrounding environment. This integration has changed the very meaning of environmental quality, conventionally understood as the set of conditions that make a space more suitable to be used in relation to certain patterns of use enhancing the need to respect the place and resources. Building activities—from the choice of location to construction, to the demolition of buildings have a significant effect on the environment, health and comfort of citizens. These effects are generally evaluated in studies on indoor air quality, but in parallel, awareness of the responsibilities of the sector is also spreading with respect to the consumption of non-renewable resources. These concepts are the basis for strengthening, in economic and social terms, the actions to improve indoor environmental quality in building renovation projects.

4. Discussion

There are many reasons today that make us affirm that the restoration of the compatibility between transformation and the environment, between artifact and nature, between production needs and global security needs, represent the real challenges for the architecture of the coming decades.

From many sides we are invited to consider a new approach that, rather than make us talk in abstract terms about sustainable materials and technologies, suggests, to propose once more long-disused expressions that refer to appropriate materials and technologies; making this term take on new and more complex values with the recovery of health needs and the concept of "material place" of the project (Bologna, 2002).

Sustainable does not just mean self-sufficient. To embark on a path towards sustainability, a country must improve the health and well-being of the community, reduce environmental impacts, engage in the recycling of materials and use energy efficiently.

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Note

Note 1. The report, commissioned by G7 members, analyzes the complex of risk factors that arise when climate change interacts with social, economic and environmental pressures. See https://factbook.ecc-platform.org