Sustainable Architecture: Utopia or Feasible Reality?

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ABSTRACT

This paper delves into the current issues and limitations that outline the modern day architectural teaching and practice. It reveals the unfortunate flaws that arise from our selective and interpretative adoption of the concept of sustainable architecture. The numerous pitfalls in the theory and application of green architecture are brought to light and invites introspection and challenge. We expose our own inequities and question whether we are truly doing right by our planet. We acknowledge the resistance of the global community to change and aim to put forward feasible suggestions towards cementing and nurturing a symbiotic relationship with our environment. We project a realistic perception of the multiple challenges facing our world and attempt to explore and create possible avenues for constructive change. Our ultimate goal is to foster from now on a harmonious union between Man and nature and to halt and possibly prevent further degradation to our green planet.

Keywords: Adaptive design; Climate change; Modern architecture; Sustainability, Ecology
INTRODUCTION – A FADING IDEOLOGY

As a buoyant and new graduate from high school and relieved to have left the pedantic world of high school behind, the author was brimming with enthusiasm when finally attending university to join the other avid learners of architecture. Architecture is poetry in motion and from any problem, emerged an assemblage of shapes that are discrete entities in themselves and yet intricately linked. The setup of the architectural academic syllabus invites interest and arouses curiosity. It is a skillful blend of the basic scientific principles of the subject and its technicalities, the intrigue behind the history of its evolution as well as exploring other modules such as urban design, structure and other such relevant ones. One particular lecture that was imparted in our history class is vividly imprinted on my mind. In that class, we were taught the when and how of the various contributions of architecture to our society in the past century. Much emphasis was placed on how all those additions to the world of design by the famous Bauhaus school, directly or indirectly set in motion numerous changes that ultimately provided a better lifestyle. Thus was born the tenet that architecture had power to change the world and from there on, we considered and prided ourselves on being enlightened.

However, despite our knowledge, when we are asked to produce forth a design, we generally tend to belie those very principles to which we were first introduced. There is a tendency to forget that architecture, in its very essence, has the simple task of providing the solution to a number of problems while not only taking into account the penultimate objectives of the projects but also in analyzing its effects on society. Instead, the goal of our focus and our approach similarly changed to follow a trend that originated in the 19th century which advocates our aim as addressing the issues of our current century. That trend is undoubtedly admirable and suits the needs of the people but due to its rigid timeframe, overlooks the simple fact that society is progress in motion. As our world changes, so do our needs. Architecture, in itself, being an advocate promoting innovation and creativity should reflect that model of change and provide not only for the present but prepare for the future. The words of Juhani (1994, 74) embody the current permeating lack of foresight: “The view of the world and the mission of architecture that had appeared unquestionably grounded in concepts of truth and ethics, as well as in a social vision and commitment, have shattered, and the sense of purpose and order has faded away.”

Should we adapt a more flexible frame of vision and widen our scope from the aesthetics aspect that comes with the job to encompass society and the problems that our world is facing on a global scale, we would be aware of the many challenges that are being experienced but that we have yet to concretely address. For an architect, the environment can be an ally or an obstacle to a project. Our relationship is symbiotic and is central to the very foundation of our job. And yet, we have failed to take good notice of the changes affecting our environment. Most places are experiencing extreme climatic changes, sea levels are rising, weather patterns are fluctuating, ecosystems are being stressed, just to mention a few. This phenomenon is the direct effect of global warming. (Impacts of global warming, 2011) & (Maria n.d.) Unfortunately, despite the continuous efforts of scientists and politicians to raise awareness on the matter, people are still either in blissful ignorance or frankly skeptical. But as Barack Obama so rightly said, “Not only is it real, it's here, and its effects are giving rise to a frighteningly new global phenomenon: the man-made natural disaster.” (Energy independence and safety of our planet 2006) However, the tragedy of the matter is that this is not a once-off phenomenon. It is a progressive and slow destruction that can culminate in disaster. NASA
released a statement delineating that “Scientists have high confidence that global temperatures will continue to rise for decades to come, largely due to greenhouse gasses produced by human activities.”, (Climate change: Effects n.d.). As architects, we can shoulder a burden of responsibility in attempting to improve the situation through means that take into account potential future changes.

There are more compelling reasons advocating present action as opposed to inaction where global warming is concerned. As Al Gore so rightly says,” The warnings about global warming have been extremely clear for a long time. We are facing a global climate crisis. It is deepening. We are entering a period of consequences.” Such consequences would directly impact on our ecosystem but do not define the sole imperative to act now. If we, as architects, do not fulfill a self-obligation to take immediate action to redefine our contribution towards environmental preservation, we will be placing ourselves in a position where it will be too late to find adequate solutions to current problems. More importantly, we will not be able to prevent the advent of larger and more catastrophic changes. We will find ourselves dragged down in a landslide of ecological disasters that will be in part, of our own making. The importance of this issue cannot be emphasized enough. That architects, as much as environmentalists and engineers, have shared responsibility towards sustainable ecology as well “As the construction sector is responsible for an estimated figure of 30-40% of a large part of the total global emissions of climate gases either relating to operational emissions or those related to production, maintenance and demolition.” (Berge 2009, 32). Our focus should be directed towards redefining the concept of building as a whole to encompass every minute detail of the construction process. The erection of the building façade or the energy consumed should not be our sole targets for improvement and change since “Impacts related to the production of materials correspond closely to the embodied energy in the materials though chemical emissions from the products can also play a role.” (Berge 2009, 32).

In the face of the dramatic and pervasive consequences of global warming around the world and the flagrant role factored in by the construction industry in the process, one should re-evaluate our ethos as architects. We, as designers of a better future, should adhere to a moral obligation to constantly change and improve our design principles and philosophies. Our aim should be to not only address architecture towards the proper audience but also align it to the present and future ecology of our planet.

**SUSTAINABILITY IN DESIGN**

With that ideology in mind, the most effective way to pave for the future lies in the concept of sustainability. Sustainability enforces a more eco-friendly way of life and transcends the barriers of time. At its core, it delineates a quality and way of life which allows the current generation to meet its own needs without splurging the resources available for the future generation and their potential needs. The underlying belief is that we can have a symbiotic relationship with the environment and work to ensure our lifestyle and actions are not of harm to our ecosystem. “Essentially, it means ensuring that we leave our environment no worse than we found it (and if possible, better)”, (Ecomii n.d.). This notion of protecting the environment should therefore be set as a benchmark by professionals in various spheres of work in order to ensure our own survival as well as that of our descendants. It has to become a concrete reality instead of an ephemeral vision. As such, the first step is to delve to the cause
The regular meeting of scientists around the world to review the latest scientific findings has enabled them to locate the greenhouse gases responsible for global warming and the one on top of the list is Carbon Dioxide (CO2)”, (National Geographic n.d.). This being acknowledged, we can concentrate on identifying and isolating the various sources of carbon dioxide in the systems we once designed. This would then expand to figuring out means to reduce or avoid those emissions altogether. While it would be too ambitious to attempt to totally eradicate those emissions presently, we should nevertheless aim for a noticeable reduction while we figure out a way to recycle those noxious gases into fresh air through the preservation of our ecosystems. Sustainability, from an architectural perspective, refers to environmental sustainability. However, the issue of social sustainability should not be neglected since it encompasses and affects public health and promotes a fairer distribution of physical resources and physical risks (Hagan 2001,3). When serious such concern imposes itself in a discipline, a call for new concepts, strategies or themes usually tend to arise. Hence, our perception of architecture has been redefined and now “The concept of good architecture has shifted to encompass the notion of a building that is sensitive to its environment- one that will adequately protect the environment from the potential pollution and degradation caused by human habitation.” (Williamson, Radford, and Bennetts 2004, 1).

Viewed from this perspective, the notion of a ‘green’, ‘ecological’ or ‘environmental’ building is one that takes into account the fundamental relationships between the design of buildings and its surrounding environment. The overall aim is a creation that works in harmony with the environment. However, there are four noticeable points where the concept of ‘green’ architecture might be of an abstract or blurred understanding.

**DESIGNING FOR THE COMMUNITY**

The concept of community is multi-layered and has to be respected for sustainable development to be a truly successful endeavor. As a ‘green’ architect, community sensitivity has to be reflected through the use of land, the layout and design of each construction and building operations. Green development seeks to achieve community mindfulness on every level, complementing and connecting to it where possible. Such developments make appropriate use of land, both in terms of scale and function and plan for pedestrians as well as cars. They also facilitate access to the existing infrastructure incorporating the use of services, schools, work and shopping and they offer and maximize the range of public and quasi-public spaces such as squares and courtyards for gatherings. Also, “Just as important, green developments address community in the way they are operated, including educational components in which concepts of sustainability are conveyed to occupants or users.” (Wilson et al. 1998, 8).

While keeping the concept of green development in mind, one should not overlook the fact that the main purpose lies in the aesthetic architectural façade of the building, both to the inhabitants and onlookers as well as to satisfy the requirements for a fulfilling living experience in the said building. While green buildings are usually born from the architect’s creativity and design philosophies and the engineer’s concept of construction complexity, one can still challenge the outcome of those combined set of skills. One should keep an open mind and retain a broader focus as opposed to giving sole priority to design. Building construction is a massive industry and as such, warrants extra attention. One should promote understanding
of the intricacies of the teamwork involved and attempt to give due attention to each discrete component of the building process so as to create the best possible outcome in terms of cost-effectiveness, employment opportunities and aim to be as green as possible.

From the Davis Langton study of over 221 buildings (Davis Langton 2007), we cannot help but notice that the cost of a sustainable building is comparatively higher depending on the desired green outcome. Cost is inevitably a driving factor in any purchase and as such, should we manage to reduce the pricing of green buildings, we would ultimately appeal to a wider audience. This would be a decisive force in the community acquisition of green architecture. One possible means of achieving this would be to resort to the use of alternative materials in the construction of green buildings.

Alternative materials would represent a more sensible choice over conventional construction techniques as “material consumption by the construction industry is even higher than its energy use.” (Elizabeth and Cassandra 2005, 11). Choosing alternative materials would considerably help to reduce our resource consumption by providing materials with less embodied energy and thus ultimately attenuating our ecological footprint. Most such materials are found onsite or in the surroundings and therefore constitute a cheaper alternative whereby almost no transportation costs would be involved in the erection of a residential building. Not only would it provide a cheaper alternative to traditional construction methods but it is also a portal to the provision of local employment.

Therefore one should not forget that a green “Community involves many things, including quality and quantity of human interaction, safety and a sense of involvement and neighborliness.” (Wilson et al. 1998, 8).

THE COHABITATION PRINCIPLE

The world’s environment has a rich history that dates back some four and a half billion years ago and that history is entrenched in every individual piece of land. Each parcel of that history has had its ups and downs. Study the marks of time in the rocks and one will see periods of relative stability which encompasses the cyclical wheel of bloom and decay, of dormancy, and that of birth, death and rebirth. Some of those periods are long and some short, but none are everlasting. Interspersed among those stable periods, one can find occasional upheavals of sudden change. Since the development of agriculture over a span of the last twelve thousand years, and especially during the two centuries since the birth of the industrial period, human beings have been the main driving forces behind the upheavals. Lyle (1999, 1) highlights that “Our relentless passion for change, in combination with our technical prowess, has contributed to alter much of the world’s landscape.”

We tend to forget the fact that undeniably, the best approach to survive this global warming is to find a way to co-exist with nature with harmony rather than to dominate it. The undeniable fact remains that ultimately we are the ones who depend on nature. Since the advent of industrialization and the era of globalization, we have developed and adopted the idea of fast conception while unfortunately overlooking the fact that if we do not treat nature with respect, we would be the ones most harmed by it. One main issue in architecture would be the process of waste management. One’s sole focus should not be only on the erection of the building but
also include the concept of waste management. This would cause not only a considerable reduction in the total embodied energy but also in the cost of construction.

Moreover, an in-depth context study should be initiated in order to be able to reveal the most intelligent ways to pioneer green design in the true sense of the word. Presently, the whole process of environmental management is geared towards the establishing control over nature as well as predicting and accommodating growth rather than working in a linear fashion with natural processes. Further, the environmental management sector still has a narrow perspective in the way they treat environmental management issues. For example, they segregate workers assigned to either wilderness protection or industrial pollution into academic and professional sectors. “Due in part to linear-reductionist thinking, they have largely overlooked the demands created by the urban and built environment upon both wilderness and industry.” (Birkeland 2002, 3).

THE FORGOTTEN MAJORITY

While scientists, environmentalists and architects are focused in their pursuit of perfection of ecological designs and immerse themselves in the achievement of a new goal, the sad reality is that they are simultaneously neglecting and ignoring the current properties that are already erected. Although progress towards the adoption of ecological design practices is making solid ground, the green movement has nevertheless restrained their primary focus to the transformation of building practices for new developments only. This is inevitably beneficial for emerging economies like China and India, which, collectively, are responsible for the construction and expansion of urban sites to house accommodation for more than thirty million people annually. However, until now, sustainable development practices are still not laying enough emphasis on the importance of ecological retrofits of existing buildings across the globe. The mentality of those involved in the development of ‘sustainable’ architecture is defined by the precept that ‘sustainable’ is merely a temporary distinction since in the future, all architecture will be environmentally sustainable. However, according to Hagan (2001,3), the prevailing question that arises is “will existing-architectures-made-more-sustainable, modernist and post-modernist, be able to remain as they are, or will they inevitably be re-formed by the exigencies of environmental design.”

This statement is backed by a study of the statistics on the matter. Existing buildings inevitable comprise the majority of current building stock. Indeed, in most developed countries, they represent 98% of the stock. By contrast, new construction account for 1 to 1.5 percent of properties at any one time. However, this percentage may be less in dense urban areas. Statistics imparted by the New York City Office of Sustainability reveal that of the 950,000 buildings that currently make up the city, 85 percent will still be standing in 2030. Such figures clearly delineate the importance of old buildings in our ecosystem. New construction, no matter how sustainable or environmentally sensitive cannot, on its own, contribute a significant change towards the environmental impact of the built environment. (Urban land institute 2009, 3).

Thus, a collective awareness should be encouraged with regards to how existing buildings can be adapted with green retrofits. Efforts should be made so that this is performed in a cost-effective manner so as to attract the attention of the mass and incite others to adopt a similar
attitude. Those retrofit designs that are successfully implemented should be documented and logged into a collective database so that designers can easily refer to one another’s portfolio and marshal their resources for the common good.

**CONCERTING IDEAS TOWARDS INCREMENTING PRODUCTIVE OUTPUTS**

The architect has a clearly defined role and usually takes on the mantle of project leader and manager in most construction projects. However, since the same architect is responsible for the design phase, he will, by intention or not, be biased about his design. In such a case, should he have overlooked crucial components, he would nevertheless give the go ahead for the project since he possesses the power of being the manager as well. Nowadays, in an era of change, contemporary practice should call for drastic changes. Since projects are considered as temporary organizations by most project managers, it is a must that the project manager toils for the overall best interest of the organization while providing a forum for a fair exchange of ideas from all stakeholders. (Cleland and Gareis 2006, 2-2). This would be a justifiable approach since the concept of integrated design is one of the guiding principles in construction. This essentially means that, at the inception of a project, architects and engineers engage in a constructive dialogue. (Smith 2005, 128).

“Integrated design”, also known as “design charrettes” can be a significant and positive adjustment in the design process since it calls for multidisciplinary ideas. Therein lie the true possibility of sifting through the best ideas to emerge with the best possible outcome while satisfying all the project objectives. This, in whole, would be a more intelligent approach to the management process. As highlighted by Nikos Salingaros (2007, 44) “An intelligent system is able to solve problems. It finds different relationships that lead to a solution, each solution being a network of connections.” Moreover, the power dynamics in such a process is a more positive one. Human beings generally deliver more when they share a common view to work for the greater good for an organization and have a common goal. The aim is to offer a platform for genuine dialogue which promotes the exchange of ideas and allows a cross influence of mutual attitudes and opinions. This allows the development of a shared set of norms and values and provides everyone involved with a common language to understand events. As highlighted by Boonstra and Gravenhorst (1998, 110), “Understanding each other's perspectives, interests, and convictions is a prerequisite for developing a common image of a desirable future.”

**PRACTICE & ECOLOGICAL ETHICS**

The irony of the situation is that, while most people spend their time in buildings, relatively little attention is being paid to the built environment. Our designing principles have been put in place to address the need for shelter while also incorporating the creature comforts of living. In doing so, we have flagrantly ignored a critical component of design and that is the interaction of our designs with nature and its impact on it. While various developments contribute to the destruction of vast and diverse ecosystem and bionic communities, we, unknowingly, often attribute the “green label” to those buildings in that area, merely due to the fact that they are located in greener surroundings as opposed to cities.
Human beings, as individuals, marshal for autonomy and embody a spirit of competition. In a society, which is, more a collection of individuals than a whole, it is thus of no surprise that people relate to each other in terms of ‘rights’ or power. Hence, in a liberal society, the ethics of decision making structures and processes is inevitably ‘Rights based’. The pitfall in such a system is that those who have more power possess more rights. Moreover, the concept of equal rights only cannot be the sole factor in the fight that is the preservation of ecosystems and wilderness areas. After all, components of our flora and fauna cannot exert those rights. In practice, the purpose of a rights based ethics is to achieve a balance of interests. An approach which illustrates the principle of interest balance is the example of construction in indigenous areas. One can periodically allow the allocation of portions of native forests for development purposes when the demand arises. However, preservation of those forests is maintained at other times with the government not being able to indiscriminately build over native green land. “Thus we have rights-based, utilitarian decision-making tools and processes that are designed to make trade-offs.” (Birkeland 2002, 21).

The problem with trade-offs lies in the fact that ultimately one side will lose out over time. This is in conflict with the relational view that stresses on the individual being an integral part of society. That view stems from a feeling of care as opposed to being rights based and promotes equity which in its essence advocates fairness rather than equality. In trade-offs, people of lower social classes and nature inevitably lose out, which defies the principle of fairness. Hence, systems should be designed to make provision for our basic needs and foster cultural and natural diversity. The design discipline should prioritize the equitable distribution of environmental benefits and burdens as well as cater for society’s basic needs such as the shortage of housing, sanitation and clean water. This means that we should not only take care of nature and monetarily compensate for the impacts of our behavior, but we should also give something back. As the environment bestows generously on us, so should we on her. Creative design thinking can thus avoid trade-offs between those on different levels of the social ladder as well as between man and nature. Dr. Janis Birkeland (2002, 22) claims that “The relational view would therefore foster proactive ‘systems design thinking’ and problem solving methods geared toward restoring the health of human and natural systems.”

Mankind has a rich history in its wake. That history paints periods of tyranny alternating with peace, periods of suffering and collapse and periods of democracy. Through all those disparate periods in time, one cannot fail but notice that, the passion fuelling those men who waged a war for the greater cause was the fact that they shared common philosophies and goals. They were dreaming of a better future for the world and for the generations to come. Now that we have concrete proof that the world is on the brink of a major climate shift, we should purge from that same passion. Our philosophies and actions should coalesce into a common goal. By attempting to remediate the unraveling of our planet and by advocating social and environmental concerns, one would not only strengthen their commitment to the community but to the survival of mankind as a whole.

However, one barrier to the pursuit of that noble goal lies in the fact that the world is segregated into cultures and social groups that hold dear unique beliefs and values that could be at odd with each other. The principle of ethical relativism clearly delineates the matter. Ethical relativism describes the relativity of morality. Morality follows a linear trend with the particular rules and norms of each culture and hence, what is perceived to be morally right in one culture may be morally unacceptable in another. Some even argue that the beliefs of a
culture are only valid for the people belonging to that culture. From that point of view, it would be impossible to reconcile people from different cultures and persuade them to adopt universal moral standards that would benefit everybody. Although some credit should be given to ethical relativism, the issue of global warming is too important for us to give up on the matter. Hence, “universal ethical standards should be applied in fundamental issues such as human rights or the environment where we have common bonds of humanity and the commons.” (Krahnke and Wanasika 2011).

Hence a call for a change of goals and values must be made at individual, national and international levels. This would lay the foundation for enabling planned measures to take place with the view of reaching a rational and planned equilibrium in our social and natural environment. We have to transcend cross cultural barriers to act in the common good and preemptively avert catastrophe to befall our planet.

Ultimately, as architects, we are the sole definers of our own morality and ethics. We can be engaged or cynical in our approach to the very real problem affecting our planet. It is our civic responsibility to respond adequately in the face of the choice being presented to us. As Stephanos Polyzoides (2007, 185) states: “It will define you as it will define the long-term prospects of Architecture in this society.”

THE CONTRIVANCE OF VISUAL ILLUSIONS

Architecture is still shrouded in mystery and most people still find it an abstract concept. This lack of an intelligent and understanding relationship between people and architecture has been present for far too long and unfortunately makes up the terrain on which architects maneuver. In an era where rational thought was inexisten, this would have been an acceptable premise. However, in this modern day and age, when the human mind has transcended all limits, it is illogical that architecture continues to be perceived in a semi-mystical fashion. (Saligaros and Masden II 2007, 46).

This permeating lack of understanding leads to the design of building envelopes of all kinds, which, sadly, are interpreted as being of artistic or creative nature. Once that label is ingrained to particular buildings, it inevitably influences the design of others and starts a chain reaction that gives people the wrong perception of architecture. While the growing awareness about global warming issues is thought to incite changes in human decisions and activities, architecture, on the other hand, continues to mislead. The aesthetics of a building remains more appealing than the elusive concept of a green building. This trend also uses, to wrong intent and purpose, the green label as a marketing tool. Designs promoting that label, cater to fame rather than society since most “green buildings” which boast good aesthetic features still use materials that carry a rich history of production and manufacturing. All for less goes against the very essence of the ‘green’ tags attached those buildings.

One of the reasons why environmentalists are still reluctant to give credence to architectural expressions of sustainability is that while they acknowledge that this represents a new favorable contract between nature and architecture, it does not necessarily mean that architects will adhere to it. While the buildings promoted as being “green” proclaim a new
regard for nature, they still operate in an entirely conventional way, namely by using fossil fuels. (Hagan 2001,5). This, thus renders the whole concept of green as being superfluous.

TEACHING FOR PRACTICE

In pioneering for change of any kind, one has to start at the bottom of the ladder. We have to impart a ‘green’ conscience to those who are still in the student phase of their architectural journey. Historically, higher education has been a vehicle to promote holistic student development. The ideology of providing consistent educational schemes works successfully in educational fields such as law, accounting or economics, which consist mostly of static principles that do not evolve much through the decades. Architecture, on the other hand, is ever-changing and cannot be properly imparted through a rigid educational mould. Designers usually create from a sense of purpose or simply follow principles of construction that have been taught to them. While our planet has evolved through change, by comparison, architectural education has not similarly evolved to match its needs. Granted that a few environmental courses to raise awareness have been implemented but there still lacks the appropriate stress on the development of new concepts and ideologies to tackle the problem. Ideally, our design education has the role of shaping fresh minds to strive for logic and sustainability in their own design perspective. Hence, such an education should encourage students to engage themselves and produce designs that incorporate cohabitation with nature rather than to simple inhabit it. The aim is to work towards making architects and landscape architecture inseparable. (Polyzoides 2007, 186) The ultimate design ideal in this day and age would be to have typical urban development adjacent to areas of inviolate nature. Considering the fact that the first ten percent of building determines whether a place is urban or rural, the establishment of a proper construction pattern is fundamental to our survival in nature. Hence, if we help current and upcoming architects to revitalize the art of designing buildings as well as green areas, we would be taking a massive step towards the preservation of our environment.

“Intelligent architecture is responsive to human needs and sensibilities through adaptation to existing buildings and nature. This is a new way of viewing the world a way of connecting to it, and to ourselves.” (Saligaros and Masden II 2007, 40).

Another issue lies in the fact that all too often, architectural education tends to be restricted within faculty walls. The way forward is to promote intelligent design in the form of integrated design and simultaneously reduce the thinking gaps between architects and engineers. A well-known misconception pervades those two specialties. Engineers consider architects to be too focused on design as their sole objective whereas architects bemoan the lack of creativity that they feel is predominant among engineers. Surprisingly, this tension and mutual put down is more or less encouraged in academic circles. It is no wonder that some tension is therefore present in every interaction bringing together the design team and engineering department on any particular project. This issue could be tackled by the implementation of interdisciplinary projects, coordinated by different faculties, as a prerequisite for university students. These projects could be designed to incorporate disciplines such as accounting, economics, architecture, engineering and marketing, and framed in such a way so as to simulate real life scenarios. In doing so, students get a taste of the very real...
tension that exists in such interactions but also get familiarized with the importance of proper
design at its most basic level.

The very foundation of our biological relationship with nature is in need of repair.
Henceforth, projects should be fully aligned to their surroundings, in terms of their physical
and chemical properties. Every piece of work should be a testimony against the mindless
consumption of nature. Every design concept should implement means to produce energy, to
recycle water and sewage, to contribute to clean air and to re-use materials. “The view of
Architecture as the ephemeral consumption of superficial images and irreplaceable resources
must reverse. The pursuit of permanent form and environmental replenishment is your next

INFORMATION & TECHNOLOGICAL AVAILABILITY

The advent of this era of technology and information has opened the portals of information
wide open to our society on a daily basis. Breakthroughs in telecommunication have ensured
that there is easy accessibility to information nowadays. Such a development has contributed
towards reducing the cost of computer hardware and thus creates an affordable market for
consumers. The introduction of the internet, on its own, can be considered to be the brainchild
of technology, catering to the needs of an information-starved society. It has provided us with
unimaginable resources at our fingertips since, in the space of seconds, one can obtain any
information desired. It has opened the gateway to accessing research publications more easily
as well as they are now offered freely by open access journals online.

Architecture should take advantage of such breakthroughs to pave the way for the future but
instead, displays a desolating lack of creativity in furthering its own progress in accordance
with the new trend. While the field of sciences and social sciences has been enriched with
knowledge accumulated in double blind peer reviews and authored books to promote the
validity of the respective subjects, architecture faculties have been placid by comparison. The
lack of architectural publications is astounding, even more so since one expects some
consistency in high-cost research. Instead of striving to produce papers that help establish
solid reference and knowledge about key, fundamental problems, they tend to create design
work, edited collections, commentaries and “research with broadly humanistic bent—all good
things”. (Forsyth 2007, 179). The scholarly production of each of those disparate components
is not linked and therefore exists independently of each other instead of providing academic
value to one another.

Architecture has to impose on itself an obligation to adapt and profit from the technological
advantage at its hands. Technological capability is of critical importance to any new venture
in establishing a lead role in domestic and international marketplaces. It is undeniably a
crucial strategic resource that enables new projects not only to gain advantage on the market
but also to attempt to establish a competitive advantage through the constant process of self-
innovation. (Zou, Lui and Ghauri 2010, 100).
RESISTANCE TO INNOVATION

Unfortunately, along with innovation comes a strong sense of resistance. Psychological resistance is a broad notion that refers to various situations. Knowles and Linn (2004, 4) suggest that it encompasses the instinctive non-compliance that arises when a directive is imposed on one; it embodies the automatic desire to resist someone else’s attempt to limit our choices; it refers to peoples’ avoidance of unpleasant thoughts but also, and particularly relevant to us, it symbolizes the ambivalence that people have towards change. Hence, resistance to innovation is predictable and a very present reality. Customers invariably feel safer with their habitual choices and therefore view new situations or products with skepticism. Their lack of knowledge about said product or situation makes the notion of potential investment in them very risky. As we start addressing sustainable issues, change is an inevitable by-product of our new design trends. Designers should be able to showcase to customers the numerous advantages offered by those innovative products and demonstrate that their investment in such an enterprise is worthwhile, not only from the perspective of personal gain but also in the wider scheme of things. We have to remember that “Change and resistance go hand in hand: change implies resistance and resistance means that change is taking place.” (Gravenhorst 2003, 3).

The initial resistance is not only an active mechanism but occurs passively as well. This is largely the consequence of habit whereby a customer becomes entrenched in the safety of routine and is singly, the most powerful determinant in creating resistance. Human psychology epitomizes that tendency as our cognitive mechanisms work towards the preservation of habit since “the typical human tendency is to strive for consistency and status quo rather than to continuously search for, and embrace new behaviors” (Bagozzi and Lee 1999, 220).

Awareness about sustainability should be aimed towards, not only customers but also towards organizations involved in real estate. External and internal developments such as the current pressing issue of global warming are powerful incentives for organizations to change in order to adapt (Gravenhorst 2003, 3). However, one major barrier to such a change lies in the fact that organizations are made up of people who are inherently resistant to the concept of change. Thus, educating those parties is to be considered the primary objective of any organization. A change embraced by a big corporation or organization is more likely to influence others to act in a similar fashion and will more likely create confidence in customers. An example set by big numbers in big companies is an effective advocate for change.

CONCLUSION – A COLLABORATIVE CALL FOR CHANGE

The sheer importance of striving towards sustainability cannot be emphasized enough. Our planet has suffered and wept and yet we continue to turn a deaf ear to its pleas. We willingly blind ourselves to the fact that day by day, our climate continues to be subject to upheavals, our carbon dioxide emission is skyrocketing, our glaciers are retreating and our sea levels are rising, Little daily changes that over time accumulate to hasten global warming. Our planet threatens to self-combust and we are watching passively. It is important to realize and acknowledge our responsibility in this process. As architects, we can be advocates for change.
The essence for an ethically oriented architecture should encompass various factors, all with the same goal in mind: striving for an ecological future.

Architecture, unlike philosophy, cannot complain of a logical deficiency. Instead, it is ever dynamic and epitomizes poiesis, which is the making of things, either material or virtual. Whether it is at a conceptual level or firmly grounded in reality, architectural projects interfere with society and with our planet, thus contributing to the transformation of the world. Such transformation should be closely monitored and effectively channeled. Architects should be sensible and ethical in their endeavors and strive towards creating shelters that cohabit with nature.

As it stands, the future of architecture looks bleak. After modeling the principles of modernist ideology for almost 80 years, architecture has been deconstructed by different human generations to be shaped to the image of evolving cultures and societies. Such professional relativism has had a negative impact on the status of architecture worldwide. For instead of representing an authoritative single language, it has undergone division and judgment. It has reduced the natural and urban environment to a state of unprecedented barbarism and degradation.

Architects are environmental guardians and have a duty to not only encourage but to adopt sustainable approaches to construction. It is high time for us to become personal and professional advocates of a new kind of Architecture. Our work more than ever, should be clear in purpose, focused on the usage of appropriate materials, intent on pursuing not only urban construction but also regeneration of nature and dedicated equally to the service of status and wealth as it is to social equity. We have to prove ourselves worthy of our infallible human spirit and heed the cries for help of our planet. Passivity is as condemnable as ignorance and hence we should all rise to the situation and fight for the survival of our planet, the mother and sustenance of our future generations.

REFERENCES


