THE ESSENCE OF ARCHITECTURE AS A TERRITORIAL ENTITY

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ABSTRACT

Architectural education is quite challenging in the sense of creative design process. What do we teach to become creative? We find appropriate solutions (correct material, correct structure, correct form etc.) for unique design problems. There are several technical lessons being thought in architectural education for this process. Unfortunately they are thought separately and independently. There is a lack of discipline which has to fulfil this necessity: we have to teach the students the essence of architecture as a whole, since we use all these technical lessons together in the creative design process which are indeed interdependent. This lesson shall take place especially in the first year of architectural education.
In architecture nature has been the guide for creative design. Architectural designs are shaped by climate, topography and natural forces. We have observed that building shape and energy use are directly related with each other. There is a significant connection between environmental design and architectural form. As structures and building forms act together they must be considered without neglecting the climate in design process. We have tried to give several major examples to support this idea.
Traditional design grew out of countless experiments and accidental events and the experience of generations of builders who continued to use what worked and rejected what did not. Local architecture is the territorial entity. This study puts forth the concept of implementing the idea of organic architecture in architectural education. Certain key concepts are determined and we have tried to attempt to grasp the importance of blending the organic architecture with modern education design basics.
We have observed that there is no global integrity in the architectural language. Sometimes it is materials, a joint or maybe the forms are the starting points for creative design. There are of course many different ways of implementing creative thinking to design. But materials, structures, local building techniques and forms have more possibilities for designers.

Therefore architects shall try to use the materials, structures and environmental selective building forms as a medium for creative thinking in the design process.
Use of material, appropriate structure choice and adapting the building to its environment are studied within this context. With the global and local notions education proposal, the junior students would become more conscious in their nature-oriented designs.

Key Words: Territorial Entity, Materials, Structures, Environmental Design, Organic Architecture

Introduction

"The 'design process' is not just a matter of shaping the appearance of things around us but also of shaping the way we live" [1].
Green, P.

In architectural education there are several technical lessons which teach architectural discipline. These are Materials, Structures, Project Studio, Construction, Design Geometry and Environmental Physics that are being thought individually. In the first year, the architectural student is quite confused about what architecture is. Little emphasis has been placed on the essence of architecture. There is no lesson linking these disciplines. We have observed a necessity of a new lesson which prepares the junior student for the senior years. All these technical lessons could be united as a whole and benefited acting as a foundation of architectural design since we use all these technical lessons together in the creative design process which are indeed interdependent. In order to realise the design education in architecture the link of multi disciplines has to be formed at the beginning. The student acquires an architectural point of view and experiences the meaning of architecture. Otherwise these technical lessons would be indifferent and could not be used in any theoretical basis. Hence, this lesson shall take place especially in the first year of architectural education.
In this context the first year student would adapt to senior lessons faster and he/she would be more conscious. This multi disciplinary interaction ends up with design education; the creative thinking takes place, blends with the context and forms an entity. This introductory lesson has to have items referring the principles of building design in harmony with environment in its curriculum.
Architecture provides us controlled environments. The first aim is to obtain a shelter against the effects of nature with its form, materials and elements. Human beings want to create an ideal environmental condition in which they function best.
The solution of environmental problems in architecture lies beneath the decision of the architect's choice; to design an environment rejecting or environment friendly buildings. The

[1] Green, P (1974), Design Education Problem Solving and Visual Experience, BT Batsford Limited, London.

form, the orientation of the site, the nature of the materials used, the nature of components used in harmony with context responds the comfort needs of the users.
"At the beginning of man's existence –when primitive- man was close to nature. Whatever he attempted to achieve was instinctively genuine and in full accord with the laws of nature. Such was continuously the case even when man had gradually progressed to a higher level of development during the great Civilizations. Man still sensed intuitively the laws of nature, and his form was indigenous and expressive. Thus was the situation as long as man was creative. Later on, when man lost his spiritual communication with nature, he lost also much of that guidance nature could offer" (Saarinen, 1985).

Global Consciousness for Local Architecture

We have observed that in modern architecture there is a lack of local entity. For example a hotel chain uses the same form of architectural design in every country regardless of their culture, climate and topography. Architectural education from the first year till graduation shall impose developments for local architecture. We should obtain a unity of local design disciplines freed from individual acts. We have to extend this motto to global understanding.
We believe that stressing the local architecture principles in first year architectural lessons would improve specialized professionals through environmentally conscious design. In the following years this understanding shall be dispersed to several branched lessons. This approach has the same structure in nature, itself. Nature is a whole but it has local climates and different topography all over the world. This caused distinctive regions.
As Green, the author of Design Education Problem Solving and Visual Experience book, mentioned "Design is a human activity in which everyone is involved; it is a process of identifying problems and needs and establishing critical priorities. It requires research, data collection, organisation of resources and rational analysis and measurement. And as a solution evolves, by rational synthesis or practical trial and error, it takes on a form and has to be tested and evaluated" (Green, 1974). The function of the design doesn't mean just organizing the spaces: we have to adapt our building, envelope, structures and materials to the climate and topography. Visual appearance is an artistic feature but for local architecture this speciality gains a local identity. Hence in the wholeness of architectural studies, the local architecture development brings forth the national identity in architecture. In this context the primary notion in architectural education has to impose especially organic, local blended with contemporary designs.

Vernacular Architecture

"...each building should be of the earth, not perched on it"[2].
F.L.Wright

Living in harmony with natural environment belongs to ancient times. In the past life with nature was more unified than it is at the present. The guilds of the past knew how to use the conditions of nature efficiently and developed spaces accordingly. In Vernacular architecture the natural forces shape the built environment without restraints of style and fashion. Green quoted that "We need to look in new and critical ways at the changing world and become aware, not only of its visual appearance, but more important, the forces at work behind it which shape the man-made environment" (Green, 1974).

[2] Lind, C (1998), *The Wright Style*, Thames and Hudson, London, p.114, 115.

Bruno Zevi has impied that "Young architects have learned from Wright is essential: to interior space as reality, the freedom of plan, and the continuity of rooms, the exterior as a result of the interior arrangements, the projection of the house into the garden, a reliance on nature, the use of warm, natural and frequently of local materials…" (Zevi,1950).
As, a Turkish designer, Kucukerman puts forth this phenomenon, we see a response to climatic conditions in vernacular Turkish Houses like implementing the long over-hanging eaves, and narrow vertical windows. "As for the climate, the rooms in the Turkish house are arranged in harmony with the prevailing weather conditions" (Kucukerman, 1985).
According to Wright, vernacular builder has generated methods instinctively. They seized the problems created by the forces of nature and replied with the correct choice of materials and construction techniques. He was influenced by Turkish vernacular architecture. (Figure 1)

Figure1. Vernacular and Organic Architecture. Wingspread by F.L. Wright and Harran House From Turkey (Sonmez, 2006)

Organic Architecture and Frank Lloyd Wright

"…form and function should be one as it is in nature."[3]

F.L.Wright

Organic architecture is the derivation of vernacular architecture. It is architecture designed to harmonize with its environment and the needs of the people living in it. This is to say that one

[3] Sönmez, F (2006), *Organic Architecture and Frank Lloyd Wright in Turkey within the Framework of House Design*, METU Masters Thesis, Ankara, p.33.

building designed by an architect using the philosophies of Organic Architecture may be unique when compared to another building designed by another architect in another region.
"Unlike Sullivan, Frank Lloyd Wright, who introduced the term organic into his own architecture in around the 1900s, used this word on new architectural grounds, while its common usage refers to something that has the characteristics of animals or plants. He modified Sullivan's slogan with his motto form and function should be one, using nature as the best tool of inspiration but not of imitation. One of the other features of Sullivan's architecture was his view on ornamentation. Sullivan's ornamentation was based on natural forms, especially plants. This led to a new approach in architecture. Wright was impressed by Sullivan's concept of ornamentation. However, he interpreted this idea in terms of geometric order instead of direct imitation. Thus, he developed this idea, which should be integral to the building itself and helped him adapt an anti-classical and anti-European approach, in his organic architecture" (Sonmez, 2006).
Frank Lloyd Wright developed his idea called *organic architecture* based on the existence of the rules of nature. And he has manifested nine principles of architecture that reflected the development of his organic philosophy. "The principles addressed ideas about the relations of the human scale to the landscape, the use of new materials like glass and steel to achieve more spatial architecture, and the development of a building's architectural character, which was his answer to the notion of style" (Wright, 1939). Wright makes a list of important design principles to be achieved in a project: unity, simplicity, harmony, continuity, plasticity, integrity, order, and tenuity.
Wright was deeply influenced by Japanese Architecture. As he claimed, "Japanese domestic architecture was truly *organic architecture*" (Naden, 1968). He was also deeply influenced by Aztec and Turkish architecture. Both cultures respected the environment of utmost importance. Their architecture is in harmony with nature of their site. "The functional paradigms of nature in architecture as referred to by Wright can be investigated within the context of unity, simplicity, and harmony. These principles became the main factors to maintain the forms in nature. The fundamental laws of nature are also taken into consideration in architecture since they became the key to designing of a good building" (Sonmez, 2006). Like Vernacular guilds did Wright attempted to adhere to the laws of nature, unity, simplicity, and harmony. (Figures 2 and 3)

Figures 2 and 3. The Use of Material, Structure, Form in the Sense of Organic Architecture by F.L.Wright. Taliesin West, 1937 (http://en.wikipedia.org/wiki/Taliesin_West)

"**Unity** in organic architecture refers to the relationship of parts in a whole. Every part should display its own identity, but at the same time it should be amalgamated within the whole. In Wright's architecture, this idea also equates to the unity of site, structure, form, construction, furnishing, decoration and planting. It is possible to achieve unity in architecture as in the case of nature where the series of elements are organized so as to for a single entity" (Sonmez, 2006).

In nature, every living organism evolves in the laws of **simplicity**. Following this concept Wright tried to implement the use of materials and construction techniques accordingly.

"The essence of the concept of simplicity according to Wright is constitutional order" (Kaufmann, 1955). For a part to arrive a state of simplicity, it should be the harmonious with the whole.

In nature living creatures are in **harmony** with the surroundings. They interact with each other. And they are perceived as a whole. "Harmony refers to the integration between the parts. In organic idea, no part is greater than the other constituents. They are integrated within the harmonious whole" (Sonmez, 2006).

In nature there is no enclosed space. We see this phenomenon in Japanese Architecture. "**Continuity** in Wright's architecture means that space enables moving inside and outside. Continuity means the freedom of space" (Sonmez, 2006). An organic building should be free and flexible. He freed the corners so as to maintain a sense of flow of space.

"Plasticity became one element in the principle of continuity. He called it the flesh that covered the skeleton. Instead of old method, the post and beam construction system, Wright formed a continuous structure…**Integrity** means the quality of being honest and strong in what you believe to be right in an individual. Wright's understanding of integrity in a building gives a sense of life. The expression of the identity of the building shows its respect and sensitiveness towards itself, its environment, and the life in itself, its environment, and the life in itself" (Sonmez, 2006). Wright's architecture reveals an astounding geometric **order**. He designed his buildings upon a unit system. He has developed his designs through a grid system.

"**Tenuity** is synonymous with thin and slender in dictionary. On the other hand, Wright employed this term as liberation of architecture" (Sonmez, 2006). Nature itself has quite thin and slender objects.

The character of a building for Wright is of utmost importance. He uses this principle to achieve a harmony with the building, its site its form and aim. The use of materials and appropriate construction methods are kept in unity with the whole building. Climatic conditions, geography, available material and panorama have always been the significant issues in giving character to the built environment. As a Turkish architect Morta• quoted "It can be understood that we cannot deny the characteristics that differ from country to country

according to the changing climatic conditions, traditions, life styles and conception of humanity. Therefore it is wrong and meaningless to locate any beautiful villa that we saw in a book in the middle of our land" (Mortas, 1936). All these principles developed by Wright could be lectured in the first year architectural education under the light of imposing the essence of architecture as a fundamental discourse.

Materials and Structures

"…I follow the building principles
which nature has used in its domain"[4]
F.L.Wright

Materials form the structure and the envelope. They express the form, character, and quality of the buildings. The choice of materials is up to regional characteristics. Each region takes into account climatic tempered precautions. (Figure 4)

[4] *Frank Lloyd Wright Quotations*, www.geocities.com/soho/1469/flwquote.html

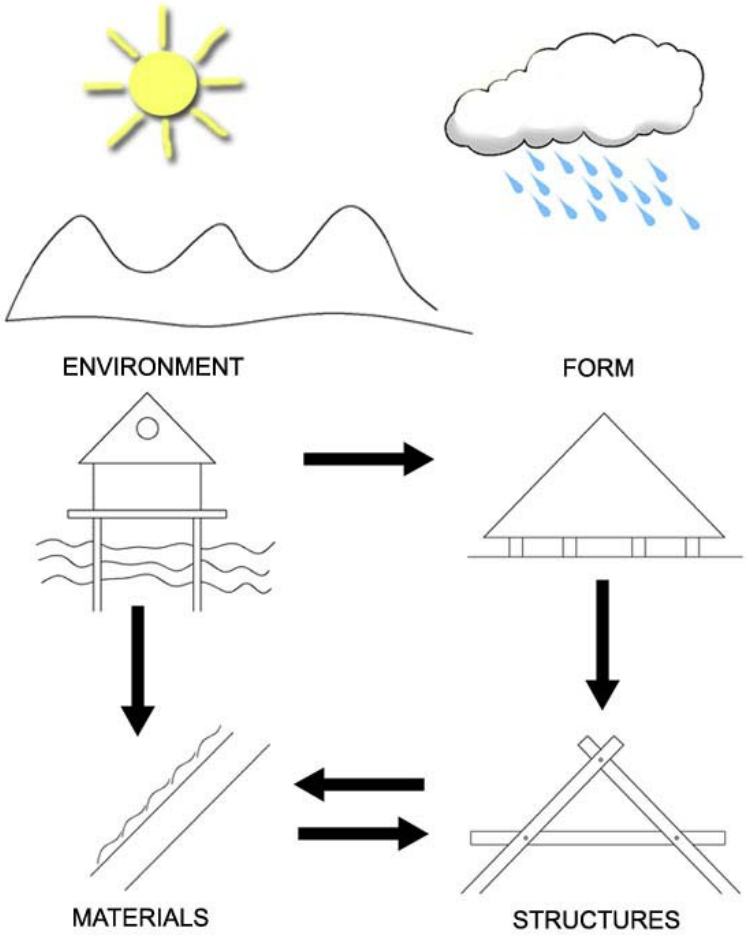

Figure 4. The Evolution of Organic Architecture

As Wright urged, “The form of the building now takes its shape by way of the nature of the materials according to purpose and building forms change as circumstances change” (Pfeiffer, 1993). He preferred to use materials as they are in a genuine way. The materials that are selected shall reflect the spirit of life.

Structures have been defined as assemblage of materials to sustain loads. But they also help to constitute the form of the object. If we keep this in mind we will end up with an assumption that structures may be used as mediums for the creative thinking in the design process.

“Designers have the power to figure out any constraints resulting from any necessity by referring to structures as a major design medium. Sometimes external constraints virtually determine the whole form of design” (Lawson, 2007). Structures may be of great help in providing suitable and favourable conditions for environmental control mechanisms and devices.

Conclusion

Architects have to be the decision maker determining all aspects of the environment. This universal process of problem solving is what design is about. Nature is the origin of all arts and sciences which inspire and leads the way also for architecture.
We have proposed a fundamental lesson which fulfils the need for combining separate technical architectural lessons.
Most of the junior students are unaware of the necessity of harmony between architecture and environment. They intend to bring forth original ideas without thinking the forces of the environment and the texture of the surroundings.
Thus this lesson can be regarded as the first step towards adapting architectural students for senior years.
In looking at our surroundings more perceptively we need to become aware not only of the visual appearances of things but the forces at work behind them.
Until we can see our surroundings in terms of environmental issues we will not be able to make sense of the architectural design.
We have to accept the buildings as a reflection of topography, the flora, the reverberation of other natural forces and entities of local characteristics of the region.

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