Using Organic Forms in Designing Elements and Urban Furniture to Develop Tourism

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Abstract. Organic and adopted forms from nature have been studied in designing urban elements. The effects of nature esthetic can be studied from different aspects and due to specified aims, form attractiveness of natural framings and its relevant characterizations have been considered in this research. Recognition of formability bases of these forms in human civilizations is a sign of interest and positive effects of this tendency on human beings. They showed that inspiration of nature in creating artifacts due to motivating deep emotions among users will bring amiability of interaction and utilization. Studying the period of men’s interruption of nature due to modernism thoughts and human struggle for returning and renovating this relation was known as other reason for propagating this procedure in designing today’s urban constituents. In following this study and optimal applying from this designing style, with doing a case study about Boukan city, it was tried that suitable method of performing organic designing projects of urban elements and the rate of increasing tourists is studied. The results showed high acceptability and interest of citizens and tourists to pursue this procedure in designing urban elements and it was specified that due to space deficiencies of our cities, this procedure can significantly effect on adopting deep interaction among urban space citizens and increasing the rate of tourism.

Keywords: Organic, Element, Urban Furniture, Tourism, Boukan

1. INTRODUCTION

City is a great artwork that has creator as vast as the final purpose of a city and the number of its population and making a creative environment for people who live in it. Such environment with many varieties gives people the freedom of choice and creativity and has much relation with people and around. So the most important duty of urban managers and programmers is organization, propitiation and codification of space and equipments towards urban management. Nature is permanent and unavoidable shelter of human and none aspects of human beings is researchable without considering it. Man has been present in life cycle as a component of nature for thousand years and feels dependency on this ancient mother in his own entity and after each period of detachment, he has been searching to establish relation and attachment. We can see the repetition if this narrative in our lives and urbanism period in different forms. This research is an operational research that studies organic forms and inspired of nature in designing urban elements that is one of manifestations of human needs to maintain friendship with nature in designing urban constituents and obtain appliance method of this tendency in the form of adopting design instructions. For doing this, research problems and questions should be highlighted so that one can perform planning of project phases. Qualitative studies is much considered in this project and research tools including internet and library studies to extract done and relevant studies and questionnaire and field researches to receive society information will be performed as they are needed.

Modern systems of creating products and constituents of environment need attention for making the most level of motivating emotion in user. This manner and looking at human interests has caused much closeness of these procedures to nature and inspiration from its forms and structures for designing artifacts that has been accepted heavily and its enormous effects in architecture fields, urban and industrial designing are considerable. Also this procedure in urban planning of Iran has been documented but in planning and designing of urban constituents that can cause positive effects has less been considered. Due to high tensions of our urban environment and present mental pressures, because this kind of sight has space rarefaction and strong emotion motivating, it exhibits considerable and
effective methods in forming urban elements and making our cities viable. There are three reasons for doing this research as follow: Non-applicability and non-suitability of present urban furniture in relation to various and multidimensional needs in urban society.

Need to move towards designing lusher and more emotional cities along with urban development in world and try to increasing citizenship and social actions. Probability of non-expertise and observation application of this procedure in developing urban furniture and making probable losses.

Forming inspiration from nature has been hitherto in designing consumable products and cars and after that with formability interdisciplinary co-operations and effects of organic procedure in architecture and making cities as well as understanding more various dimensions of effects of urban elements on space and citizens, this tendency has been considered as one of designing styles of urban components in developed countries and has been helpful in designing emotional urban furniture in recent decades. With this background, it is assumed in this study that organic forms and inspired from nature cause increasing space quality and effect of positive environmental factors on human and if they are applied in designing urban elements of our city, they have the same positive effect on citizens and cause increasing positive public emotions in users. For studying this assumption and accessing how to apply this procedure in designing urban elements, there are steps and discussions in following sections:

Studying bases of organic designing and inspired from nature and human interaction with it. Recognizing the place of this procedure in designing urban elements.

1.1. Definitions and conceptions

2.1.1. Urban furniture

Urban furniture is needed in space among buildings and constructions, supplementary tools and attachments so that it furnishes urban life, equipment that such as home furniture, provide life among stone, concrete and glass. These constituents adjust flow, silence, recreation and anxiety in city. Urban equipment and furniture are common terms of these equipments that are known as Street Furniture in English and as Public Furniture or Outdoor Furniture in America (Mortazaze, 2002). Street in America are a set of means and elements that are applied in street and other urban spaces for creating safety, convenience, protecting, beauty, guidance, easiness, cleanness, hygiene and etc. street in America can be divided into three groups: operational equipment, safety equipment and beautification equipment (Ghanbarie, 2003).

2.1.2. Tourism

Tourism is a French word that is composed of two parts, tour means travel, trip and journey and ism is a suffix that indicates political, religious, literary and philosophical thought or academy so tourism means any academy that its mental base is journey and trip (Kazemi, 2006). This word has been used in a magazine named Sportang Magazine for the first time in 1811. This word was used for traveling in order to visiting historical antiques and seeing scenes for enjoy (Mahalati, 2001). Tourism began to grow since 1980 and was converted to main factor of growth and development in many countries. 21st century is period of using valuable trading opportunities in service section especially tourism. Today, tourism activity is one of the most important and dynamic activities in world. It has been considered by government planners and private institutes in all areas including universal, national and regional level. Many countries have found this fact that they should be initiative for improving economical status and find new ways.

1.2. Forming adopted from nature

Organic word in English has many meanings from indicating to nature to structure and harmonic coordination and Moaien dictionary translate it as member. Eliot Fette Noyes, American designer and architect, defines organic designing: a designing is organic that there is a harmonic discipline in constituents for formation a single frame according to aims, structure and materials. Lovegrove that called him as organic captain defines organic designing as renovation whole visual and sensational feeling from beauty and nature logic for responding to human needs and without damaging nature. He has his own metaphor with title of DNA (design, nature, art) that he introduces composition of designing, nature and art with simple logic “frugally and intellectual development of form in coordinating with your needs and no object else” for reaching to it. Inspiration from nature is known in scientific researches area with different words such as bionic, biome tic, biomorphism that all of them deal to general concept of “adopting from nature for creating artifacts or systems operation manners”. Before being a design style, organic designing is a procedure and ideology that its ideals are as follow:

Creating in nature has a direct relation with animate needs and environmental forces, these conditions lead to forming constituents for responding to needs that are also expected in organic designing.
The path of components move is towards shaping and associating a single body. The final result is homogeneous with natural forms and renews such guess or image in mind of addressee. A complete organic designing meets all senses of user and uses all facilities for transferring favorite sense to user. Avoiding extravagance and concentrating on completing form based on real needs of user. Organic designing has direct relation with understanding user and his elegances in designing product that is the most important factor for directing designing. In general, the relation between human and nature is divided into three steps: the first step starts with emerging human in universe; the human relation with nature is religious and uranology in this time, nature is dominant on human and human has less importance. In the second step, there is symbiosis and human and nature interact with each other. In the third step, human is complementary, creator, and destructor of nature. Despite of permanent relation between human and nature, a serious interruption is created in this relation; the most struggle for emitting human thoughts was started with adopting renaissance and under mechanical thoughts; Rymond Williams recognizes the human relation with nature permanent and attributes the created interruption in architecture attention to nature to 20th century second half that occur with propagating modern thought. In this time, romantic theories are formed against these thoughts and provide bases for returning to different sciences to organic views. In architecture, after passing from first half of 20th century and modern architecture thoughts, attention to psychology and interdisciplinary sciences lead to shaping struggles for removing deficiencies with referring to nature. It seems that today’s human is in a situation that is searching to renew coordinated relation with nature that has destroyed it himself and tendency to organic designing is also the result of these struggles in renewing human relation and nature.

Another reason for referring to organic designing is emphasis on motivating user feeling in current world. Donald Norman, great theorist of emotionalism designing that design three layers of emotionalism designing defines with stating this subject that we can’t separate emotion from product that as human is growing, his needs and considerations is also changing, human look at product not only as a means but also as an animate element and products have concepts for him and motivate feelings. This theory is interpretable based on Mazlu pyramid and level variations of human. Mental effects of natural forms on human are doubtless. Human enjoy closeness with nature and understanding it because of his character and innate. This instinctive interest has led to present organ-like forms in his art and tendency to imitate from nature is started as effective solutions. One can see this interest in human primary manufactures, emerging organ-like forms has occurred in some works with such a delicacy that has created permanent attractiveness in them.

2. METHODOLOGY

Boukan is one of the cities of West Azerbaijan with Kurdish custom. Boukan city is located in a moderate and mountainous region that has neighborhood with Miyandoab from North side, Saqeq from South side, Shahinej from East side and Mohbad from West side. This city center is Boukan. Boukan is located in 36° and 31 min North width and 46° and 12 min East length towards Greenwich meridian and its height from sea level is 1370 m. Based on census at 2010, Boukan’s population has been 224,628 people (Iran statistic center 2010) that 488102 were men and 820101 were women. (Figure 1a,b) After Orumiyeh, Khoy and Miyandoab, Boukan city is the fourth city of West Azerbaijan province and 76th populated city in Iran that has been shown in figures (Figure 1c).

This city was the capital of Manaiean under title of Ezerto about 3000 years ago. The antiques of this ingenious civilization are considerable and some of devastated antiques are seen in world museum such as Tokyo and Orumiyeh museum. This civilization inhabited in Western north of Iran. Their famous art has been manufacturing glace bricks. Bricks with colorful designs that their design has remained lucid after 3000 years.

This subject due to so many tourists has importance. In order to guarantee convenience and physical and mental comfortableness of citizens and tourists, improve the quality of urban spaces, adopt beautiful view in this city, at first we deal to studying current status of Boukan, its problems, strength points, history of culture and urbanization, research and training centers in city, geography and natural and suitable conditions and communication system through study and field investigations and interview with citizens and tourists and after analyzing, the most important weak points in area of furniture planning in city level has been selected that are as follow:

1. Nonuse of tourism forces; 2. Urban weakness and ineffective management; 3. Traffic problems
4. Unsuitable Positioning and imbalanced space distribution of urban elements and furniture in city level; 5. No responsibility to users’ needs; 6. Inobservance of suitable distance between kinds of furniture.

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3. DISCUSSIONS

3.1. How interaction of users and organic forms

After primary investigations and presented definitions, what is important is recognizing impressive differences in relation of organic forms with user in comparing with non-organic forms. The purpose of this section is reciting characterizations that exist in organic forms and improve the interaction of users and products and cause higher level of satisfactory. Emotionalism was referred in previous discussions; today in defining above product, we can say that a product will be more successful that involve and comprehend user emotions and cause more excitement in him whether this product is a car, food or a park bench. Therefore we can find the high importance of attention to user emotion or sense as dominant factor in today’s designing. For pursuing this discussion, using Donald Norman can be useful in grouping products based on their emotional effect rate on user.

Donald Norman in his book named emotionalism designing points to three levels of user recognition process from product i.e. potential level, behavioral level and reflective level; and the deep of emotional relation that is produced in each level between user and product. The simplest and the most primary user recognition of product in configured in potential level. Recognition in this level is created through quinary senses so it is common among most people. In this level, emotion is motivated with looking, touching, hearing or tasting. As a result this level of emotion is related to appearance, form and material that are comprehended with quinary senses. Emotional positive or negative effects are considered in behavior level that is produced from function kind, product efficiency rate and its understandability by user. Because this level has more relation with experience, training and education, it causes various emotional effects in comparing with previous level. Although there is emotional impressionability and effectiveness in both levels, this effectiveness is accompanied with factors such as awareness, interpretation and understanding only in third level i.e. reflective level and it becomes deeper. In this level, people’s cultural differences, believes and opinions of a country have meaning in the form of products and cause to motivate positive and deep emotions in users. Based on this attitude, with deepereffect on user emotion, more satisfactory and deeper interaction in user will be
obtained. Now there is a question in what level of emotional relation with user, organic forms are located?

Norman’s emotionalism designing model has been adopted from his views about Afferdens; Afferdens or abilities theory was presented by Gibson, ecologist psychological theorist in 60 decade. Afferdens believes that understanding is done directly and without any analysis in brain. Gibson states that meaning has stuck to ambient- organism system and is directly adopted by humans. Gibson defines Afferdens as special composition of material characterization and levels that acquired with comparing to an animal. For example, if an object has wide, strong and smooth surface and its height cones to one’s knee. This object offers sitting. From view of Jims Gibson, environment capabilities are what environment offers to an animate. Abilities or capabilities theory unlike other theories of environmental understanding in psychology such as form understanding theory in Gestalt psychology that assigns originality to form understanding, emphases on understanding the operation of an object instead of form. At first what people understand is events and actions that form and environment frame pattern present and then is characterizations that attend to shape characterizations, levels and forms and understand them. Potential capabilities exist in different levels of environment in incredible rate and using these capabilities depends on mental and physical characterizations of individuals and users of these capabilities. These capabilities are comprehended by individual and cause various emotions as a respond to him.

From aspect ecologic, one can state that organic forms are full of capabilities that Afferdens points to them and they can extraordinary cause relevant positive effects in users and reactionism urban furniture. Its reason is quite clear; these forms are the result of simplifying non geometric and natural forms and therefore they bring many unpredicted, creative and secret capabilities with themselves that there are in natural forms and offer to user. This variety and wonderful expression cause to motivate user’s excitements and propel him to deep emotional reactions. From other aspect, organic forms are full of symbolic elements and entity signs that open another hope in relation between user and organic products. Man gives personality to animals, objects, products, brands and so on and many people explain their relations with product by personality method. Expert cognize success key in designing artifacts in animation and giving personality. Integration of a product with nature involves cultural and empirical background of human in interpreting information; so organic form acts as a sign. In Semiology that follow cognitive psychology, it is stated that a sign indicates a thing except itself and relate observed case to another thing. Semiology is product of studying symbolic values that appears by human manufactures form and in used field and shows that product has meaning via symbolic values and transfers a message.

Due to mentioned points, we can say that natural forms and inspired of it indicate a thing outside themselves and therefore they become meaningful and having identity. What natural forms indicate them are relevant concepts with natural entity in world that due to personal experience and environment, they are comprehended and associate meanings in addressee; these meaning can be from objective concepts such as a natural rock to subjective concepts as sanctity. Organic forms acquire their personality by formic components that make them and under effect of natural form that inspired of it in creating artifacts and they are effective in motivating users’ emotions depend on this pattern and being understand proportional with capabilities of renderer. Based on potentials of this designing procedure, it seemed that these forms can create the deepest emotions in users in emotionalism designing level and cause deep and enjoyable interactions with consumers.

3.2. Organic designing process

Structural inspiration of nature under title of bionic and biomemtic was planned in 60 decade. Newman recognize bionic as a scientific field that is responsible for systemic transferring of fundamental structure, method and evolution of live systems to industrial applications. In organic designing, the source of primary study and what should be cleared and studied should be discussed from two aspects: 1- user needs and what is considered about relation with designed product and 2- nature. Many organic designing methods are divided to two different methods from this point; some methods deal to study discussed structure, they detect a similar structure in nature world and perform product designing based on this structure and inspiration of it. Some other methods define the source of their own inspiration in nature, simplify its characterization and factors and reach to final designing. Establishing relation between these two methods and accessing to a method is to some extent difficult and discussed among researchers.

There are six steps for inspiriting of a natural structure in order to solve a functional need: 1) problem definition and its limits, 2) reaching for finding solutions sample of nature, 3) choice for accessing to solutions fundamental based on structure and function in investigated universe, 4) specifying and separating solutions, 5) translating and transferring solutions to structures and industrial
materials and 6) producing and evaluating in laboratory scale and presenting final optimal production. There is another theory that says it is necessary for transferring main ideas from an environment to another environment (nature to technology) to simplify it to lower levels and then develop it in new route again; this level of physics rules that is common between all animates and non-animates have meaning and suitable tools are used for this.

For form inspiration of nature, some cases should be understood and used: a) studying behavior and function of natural systems, b) analyzing how to perform biochemical and physical activities in natural systems, c) presenting designer observation in two dimensional designs, d) extracting geometric branches including two and three dimensional models, a composition of graphic designing and engineering designing and e) constructing an objective sample and developing it. For doing this, its P.D or designing method inspired of nature has been planned that pursue formic designing project needs inspired of nature with coordinated relation among components and creating a strong linkage.

3.3. Emergence of organic forms in today’s cities

It is necessary to review methods and applying organic forms in urban constituents that are common in today’s cities. If we want to account samples in city that deal to organic forming procedure, we will reach statuary at first. Statue is perhaps the oldest urban element, an element that has been in ancient Greece cities. Statues based on their functions are a sign of natural forms. Shaping and maintaining urban shrubs and trees in the form of organ- like is another sample of this procedure in city. Attractive art that we observe in our cities and it is called Topiary. Shaping or making shape is one of ancient arts that has root in history of old nations especially Italia and they raise gardens that any plant doesn’t follow its common growth and it has been usual in formal gardens in 16th and 17th century. (Figure 2)

Organic forming in city has been summarized to elements such as lighting and shelter and banquette. It seems that the most important reason in these choices is simple and specific function of these elements that provide applying organic forms. Since forming in these products is not only based on expected technical characterizations but also based on esthetic logic, applying them in complex or multi-functional products is dangerous and can damage to main function of system and perfect use. (Figure 3)

3.4. Effect of urban furniture on quality of tourism spaces

Tourism spaces are mainly spaces that favorite behaviors of people such as talking, walking, discussion, speeches, watching, spending free time and so on are accomplished in it. These spaces often cause creating integration morale and common interests. Urban tourism spaces are the result of specific level of cultural and social creativeness and human blessedness that with formalizing them and special management for designing, positioning, constructing and maintaining their furniture, one can ascertain either enforcement of these spaces and promoting their quality or presence bases of citizens in survival continuation and how to manage and develop these spaces. From view of planners and designers, suitable choice and designing of urban furniture make possible maintain place entity and are effective in promoting the quality of tourism areas. Coordination of urban furniture components is always simpler than coordination of people and public behaviors. We should promote furniture variety in tourism spaces so that people with different preferences and characterizations can use them. Using
variety and flexibility in urban furniture has wonderful effect on quality of tourism spaces. Using furniture with organic designing can make more peacefulness and convenience for tourists in these spaces.

4. CONCLUSION

City is life frame that there are the obstreperous soul of human beings and nature and landscape with beautiful furniture are ornament of this frame. The emergence history of urban furniture is mixed with emerging of first cities. Every civilization and nation emprise to design life spaces and finally constructing them due to culture, religion and costumes. Today’s urban human need to suitable spaces in order to satisfy his own social needs and in order to perform social roles. In contemporary cities, urban public spaces as one of the fundamental components of city have had social and public concept and they are very important in rectifying human social needs. However, in cities of our country, urban public spaces are victims of nonidentity, kerfuffle and unsuitable planning and their equipment and elements including furniture that has more effect of quality of urban spaces, don’t have necessary conditions and characterizations required by users.

In conclusion of this project and at the end of studies, one can state that organic designing of urban elements that is one of the main procedures in designing urban elements in different countries, is a useful method in urban furniture formability that step towards returning to designing values based on nature to human life and shaping new paradigms and increasing human relation with nature and can have considerable and important place in removing emotional deficiencies of modern cities and creating human spaces in habitats. Organic procedure can be used in an effective form in designing urban elements and using it in city will have positive and valuable results. Increasing profitability, attractiveness of urban sites and creating a responsible environment are
advantages that there are in dealing to this modern attitude. Organic formability procedure because of having root in nature and potential motivation and human emotions, can communicate quickly with users. These forms give personality to urban sites and cause to precede esthetics in society and increase visual literacy through acquaintance and create relation with world beings. Due to current deficiencies and tensions in our urban space and what was stated, it seems that organic designing of urban furniture can cause considerable effects on urban space and with decreasing present problems, create hope for city; therefore it is suggested that required planning and needed actions is done for performing and developing this procedure in designing urban elements and emergence ground of this useful method in urban forming is provided as soon as. Comprehensive performing of this procedure in urban designing need study and use of a long-term plan however case study in this project showed that organic designing procedure for Iranian users is understandable and create positive and deep emotion in them that account as important advantages of this tendency with considering social values of urban environment and it has worth to study and invest. Due to importance of furniture in attracting tourist, we present executive suggestions and solutions for optimizing current status, increasing environmental quality and functional output of these elements:

1. Attention to region climate conditions in positioning and material kind of furniture.
2. Using versatile urban elements in order to save in space and prevent effective space.
3. Observe suitable distance between furniture due to users’ utilization rate.
4. Correct positioning with simple accessing.
5. Most guidance signs and guideposts of city are hidden among trees’ leaves and branches. Municipality should provide plans in this area so that drivers and citizens don’t have any problem.
6. In designing and positioning of urban furniture should be intentioned to people role, designing for people, towards people, with people and by people.
7. Supplying required information sets in ground of urban furniture that is included statistics, information and exact maps from location place of each element.

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