The Place and Influence of Intuition in the Creativity of the Architecture Designing Process

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ABSTRACT: The work of architecture is believed to depend on the governing thought in the process of architectural designing. This thought can be analyzed, developed, experienced, and interpreted. Creativity is the only domineering force in the idea of designing which is in quest for freeing architecture from the routine methods, and also finding the novel systems to answer the questions in architecture. Therefore, a special fixed and stable place is considered for creativity. However, the background and history of research and clash of ideas in recent years explains for the change in reconsidering the general ideas, and interpretations on creativity in the process of designing. Today, the approach that considers the process of designing an outcome of responding to the demand on creativity in architecture through logical and analytic methods is no longer credited. Instead, the process of designing is considered in a creative and intuitive way which is metaphysical rather than argumentative. This change in attitude and the relevant interpretations have introduced clear evidence; however, there remain many questions involving the identity and quality of the creative occurrences in the process of designing. Therefore, the intuitive approaches and interpretations about creativity have been so over generalized and complicated that have left a lot of obscurities behind. This article is an attempt to respond to some of these questions by identifying the ways the intuitive creativity occurs and also to present a descriptive stream in the emergence of creativity which means creating ideas only happen according to intuition.

Keywords: *architecture designing process, intuition, creativity, argumentation, imagination*

INTRODUCTION

Architecture today seeks its credit in creativity which as a kind of thinking and idiosyncrasy plays a dominant role in the designing process in the contemporary architecture. Such creativity enjoys a well-established and stabilized status as well. However, different architectural approaches in the recent years have discredited the classical modes of creativity and have introduced such terms as spontaneous and improvised creativity in the process of designing instead. This, in turn, identifies creativity an end product of intuition which is not to be systematized or organized. This approach has made creativity in design be proportionate, complicated, and enigmatic, which requires an analysis of the features it holds.

On the one hand, the history of the approaches of the last century in the role of creativity in designing has been contradictory. The modern architecture approach to the process of designing was to present hierarchical and logical models which pursued the elucidation and componential analysis of the design. The modern era looked through the technocratic outcome based on the scientific methods of creativity. But the post-modern era, avoiding the details, considered creativity and design process intuitively, leaving behind a lot of questions unanswered. The present article is an attempt to clarify such ambiguity and describe an appropriate model that shows the way creative intuition activities occurred in the process of designing of architecture.

MATERIALS AND METHODS

Considering the article as a theoretical work, the adopted methodology has been a comparative analysis and based on library research. First, through comparing intuition as a form of knowledge with argumentative understanding, the features of the intuitive thinking were studied. Then the reasons for proving the role of intuition in the process of designing were presented. After that, through analysis the place and role of creativity in intuitive process of designing the influential elements in creativity and the production of ideas were identified. Finally, the status of intuition and how it occurs in the creation of the main idea production in the process of designing has been

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described in form of a pattern.

Intuition as a mode of knowlage

Facing the problems in the design, designers may react in two possible ways: the verbal or logical method and/or the non-verbal and intuitive one. Such dubious reaction has resulted in a general classification of knowledge and problem solving methods. In general, sensible knowledge or the intuition is the method that the tendency towards them ends in the differentiation of art and science, based on a distinction in approaches and creative modes. By comparing these two methods, the differences, the tendencies, and the way of thinking may well be revealed. See Figure 1.

Ideological and philosophical classifications stress on such a division and tend to either of them. As Heidegger believes, 'Intuitive thinking is interpreted as " Gelassenheit", and there is no logic in discovery and evidence. But thinking gradually becomes more materialized and more detailed so it causes mechanisms and the products of man-made logics to happen and there the dominance of logic and scientific principles emerge. This phenomenon conceals the truth. Therefore, the only way to approach the truth is "Gelassenheit"' (Eslami, 2005, 6-7). In eastern culture, the general assumption is that scientists do their researches and collect data and discover new things patiently while artists create their artifacts out of their logical deductions and the sparks of intuition. They make their works though a discovery that is followed by a series of spiritual moments. Therefore, intuition is more than an understanding and is defined with a spirituality which is much better than logic and reasoning.

Intuition in designing

As many believe, the process of designing is so complicated, mysterious, and enigmatic that is beyond man's understanding. Architects often explain what happens in the process of designing as they imagine it and the failure that mastery in designing is defined as a mysterious magic force is still there. The truth is that the ability to design is the architect's ability in the way he views and his inner feelings. And here lies the point that expressing it in words sounds more difficult. Eventually, the designer has to refer to the work to explain the process in designing it. In other words, he chooses the information transfer by exposing what has really happened. Many designers express the attempt to determine the process of designing as a struggle to recognize an inner sense whose result is not generally defined or recommended. Ken Ying explains, 'I trust my inner sense. A project is not easily determined by intuition or intuitive sense but you can sense it is all right, i.e. nine times out of ten truly real and really true' (Lawson, 2005, p.247).

Doubtless, architecture has an artistic nature. It relies on the architect's creative talents and imaginations.''The mother of arts" is the best kind of metaphor for it. The characteristics of art works can be seen in architectural frameworks, therefore, anything controlling the creation of the art crafts can be generalized regarding the requirements, needs, limitations, and the means of incarnation. As Samuel Taylor Coleridge the Romantic poet expresses, art is the "willing suspension of disbelief". In other words, it means entering a world of possibilities with no limits. To Coleridge, art is a conscious creation of an object which does not exist and it is like a

Fig. 1: The comparison of different modes of knowledge

METHODS OF KNOWLEDGE	
REASON	INTUITION
FOCUSING ON ONE OBJECT(IVE)	FOCUSING
ON DIFFERENT OBJECTS	
CALCULATIVE*	DEDUCTIVE*
SECONDARY	PRIMARY
ABSTRACT	OBJECTIVE/REAL
MONITORED	FREE
SUGGESTIVE	IMAGINITIVE
ANALYTIC	RELATIVE
SERIAL	NON-SERIAL
ORDINAL*	NON-ORDINAL*
ANALYTIC	GENERAL
OBJECTIVE	SUBJECTIVE
CONTINUOUS	SYNCHRONIC

journey into one's unconsciousness that is an 'individuation' and intuitive experience. Architecture can also be counted for as a symbol or a sign of the mind of the architect or a society which welcomes it or exploits it.' Art is symbolism per se. But the symbolism in art should be considered as self-reliant irrespective of its elevated sense. To make imaginations come true is to work out incarnation which is a different mode from obtaining imaginations in the physical world—and that is called "artistic intuition". Art objectifies the highest moments of the superficial phenomena and explains reality not true logical deduction but by way of intuition and discovery. John Ruskin defines the artistic creation as an inner action of intuition and imagination and says,' in art, realities can be beneficial only when they lead to phenomena. The language of nature is symbolic and the artist is just translating it and produces works which are the reflections of the nature and this could not happen but for intuition' (Wolek, 1996, 195). This way, the theory of those architects believing in the design as a result of intuitive process and metaphysical nature of their design could be confirmed.

Psychological theorists try in different ways to define or explain the nature of the designing process based on intuition and the way it happens. 'Behaviorists, for instance, believe that natural powers in determining the end product function as motivating patterns that drive one's behavior. And there comes intuition as a result. And some psychoanalytic theories associate the intuition based creative actions in designing with the brain and nervous system functions, relating it to the right sphere of the brain. Information processing theories- which have developed along with the cybernetics in recent progresses- focus on the idea that the mind programs software are based on the nervous system that functions as hardware, a mixture that forms the controlling structure of the mind processes. The Gestalt theory in designing considers the brain revelations are comprehensive and universal. These phenomena are synchronic and are influenced by social environment' (Lang, 2004, 42). However, such ideas have never been able to clear out doubts and obscurities on designing and give a clear explanation.

In order to know what practically happens in the process of design based on intuition, it might be helpful to employ some of the metaphors and comparisons that Thomas Gladwin presents. Gladwin, an anthropologist, contrasts two navigation systems as examples. He says, 'the Europeans before the sea voyage start their navigation using a map first, estimating the time needed to sail between different points at sea. The sailor tries to take every step very carefully one after another and arrive at the certain place timely. He takes the advantage of every possible instrument in the process such as the compass, sextant, map etc. to explain how and when exactly he arrives at the certain point. But native Truckee sailors start their voyage by just imagining the status and position of the destination as compared to the neighboring islands. The native sailor while sailing adjusts his position to the present status he is in exploiting his own knowledge of the surrounding. He makes his decisions as the

reviewing the status he is in by the minute the wind direction changes, the position s the sun, and other signs impromptu. This process is so complicated and floating that if asked how he could ever do it without using any navigation instruments or even a map, no verbal answer can be imagined'(Edwards,1999, p.56). Intuitive designing is compared to that navigation system of the Truckee, which is the floating and impromptu decision according to chronic occasions in the process of designing. The results can be effective, smart, and beautiful as evaluated through "Gelassenheit" standards. 'Beauty does not lie in form but it happens in speech' (Capon, 1999, 163).

Designers tend to generalize the intuitiveness of the designing process to creativity. In other words, they see creativity not in the book of law but in a process based on intuition which can be traced only after an incarnation that occurs in the work alone. Paradoxical quest and metaphysical meditation in elemental constituents are a practical and intuitive approach to creativity in architecture and lead the architect to the inspiring spirituality. 'The aim of metaphysics, either by way of philosophical methods or through other modes and methodologies, is to understand and explain the unknown. In metaphysics there is no place to trust reasoning and certainty is never absolute or free from suspicion for there is no chance to grasp what is really going to happen in the future. The proper subject of metaphysics in architecture is meditating in the atmosphere of architecture and its qualities' (Antoniades, 2002, 97-98). The secret of creativity in works produced according to intuition is their emergence as exemplified in the metaphysical world. And the creator of the work is in fact the finder and explorer of the meanings and things he has understood through the unconscious. Creativity, to those believing in intuition, is 'the ability bestowed to the artist or architect by God, to authorize him as a narrator of reality. Thus, the beauty of a work of art owes its perfection much to its status as an artistic product. It, then, is not perfect for its mere beauty' (Ansari, 2005, 50). Nevertheless, it should not be ignored that the system which makes an artist an architect is essentially based on logic in which a principle is a proven fact and things are done in an accepted manner. To construct a monumental structure, requires a systematic common sense and reasoning in a righteous function cannot be an obstacle for the creativity of the product. Organizing a metaphysical mind passing through the physical reasoning in the process of changing a subject into an object can be considered as a process based on creativity and intuition.

Creativity and making suggestions in intuitive architecture designing

In architecture whose objective is to organize the mental phenomena, science and art supplement one another. 'It is assumed that the process of designing is a combination of analytic and deductive process, which combines and evaluates, where the designer is nothing but a "black box" capable of changing the collected data into an acceptable result in a quite

mysterious way'(Lawson, 2005). Since architecture cannot be considered to be dependent on absolute art or science, the architectural design is the outcome of a mixture of a pure artistic creation and the technical innovation of objectifying and science-oriented mentalities of the architect. Hence, the overall creativity in architecture is the result of the synchronic interaction of multiple compounds including many artistic and scientific tangible and intangible variables and the intuitive and logical ones. Where the theorist finally makes his point, designing includes an intuitive creativity and when a mental idea tends to be a real work of art an experience of the logical innovation occurs. Accordingly, the writer considers two general areas for the process in designing: subjective design process and objective design process.

The subjective process of designing is comprised of the steps of creative recognition of the problem and recommendation while the objective process of designing embodies all the processes of objectifying and shaping ideas which the final assessment of the design makes sense in this area. It should also be considered that this classification does not necessarily mean that the two areas are separate or contrasting one another or do not overlap each other. Focusing on the two areas to be Fuzzy, in the subjective process of designing the symbolic and psychological principles is more dominant whereas in the objective process the meaningful knowledge and logical principles have more dominance on the process of designing and this area of designing is apt to be more in a linear systematization and serial classification.

Producing ideas is the basic part of subjective designing. An idea is the product of the mental process of a suggestion maker that is formed after a series of imaginations, visualizations, understandings, and thinking that occur unconsciously. And once it is formed, the conscious mind identifies it, completes it and introduces it. Ideas are on the one hand, depend on confining factors such as social, cultural, political and geographical which influence the designing for a while. On the other hand, they are influenced by the designer's personality traits that have been formed over years. Discovery and the creation of the idea behind an artistic work is after the inner creative thinking based on some features as flexibility in form of intuitive thinking, chance occurrences, and imagination following a change in existing patterns and creative sparks transgressing previous experiences and solutions.

The general details of the architectural design are divided into three steps and patterns. 'The first one is the content-related pattern including experience, recognition and the environmental conditions. The second pattern is the middle pattern including an analysis far beyond the circumstances influenced by imagination and the latest methods. The last is the visual pattern including the techniques in performance' (Majidi, 2005, 18). In the middle pattern, the design which is considered by intuitive methods, imagination is the means to the emergence of the intuition. And only the intuition is the basis of producing ideas.

The designer gathers information and then through an intuitive understanding of the problem, starts breaking the limits blocking the process of designing and also the confinements emerged while obtaining the knowledge during designing. This is merely done through imagination. 'Imagination6 is the product of human mind. The origin of imagination, feelings, hopes, and fears of human is the mind and thinking' (Abbasi, 2005, 1-2) Imagination also accelerates visualization whereas it should pass through visualization before it comes true. This is why the ability to discover and intuition is the product of imagination and visualization. Therefore, these two are the priorities for creativity and intuition in architectural designing.

Imagination can be classified into three general categories:
1. Demonstrative imagination
2. Active imagination
3. Creative imagination

'1. In the demonstrative and inspirational imagination, the artist reproduces the images he has received. For this reason, imagination is passive and brings out no creativity.' (Bert, 2000). Inspirational and demonstrative imagination can be examined in two classes of inspiration and imitation. The imitative imagination considers art as imitation. But the inspirational imagination takes its roots in myths and images which are typically passive and under some special circumstances are the recipients of inspirations.

'2. Active imagination can be analyzed in three ways: the combining, the searching, and the intuitive imagination. The combining imagination works only on the newly produced images out of the older ones. The searching imagination makes the choices in the limited and closed environment of the active imagination. Intuitive imagination holds onto the intuition in a real new world and adds newer information to human knowledge.

'3. In creative imagination, creativity and intuition are the key figures. It combines with innovation. Creative imagination is discussed under two categories: psychoanalytic creativity and formative creativity – which involves pictorial imagination. Psychoanalytic creativity deals with mental imaginations whereas the formative creativity deals with ontological aspect of imagination' (Naamvar Motlagh, 2005, pp3-22).

The question is this: on what kind of imagination does the creative suggestion depend?

In making suggestions, the application of imagination occurs in two ways: the creative imagination and the inspirational or demonstrative imagination. The creative imagination is organized through the architect's intuitions and intuitive perceptions. The demonstrative imagination would be combining of the acquired knowledge in an unlimited way totally related to the problem. These combinations, however, are generally in form of illusions and passive imagination that are due to the mistakes made in the unconscious reasoning.

The intuitive imagination in making suggestions is in a form that through the creative imagination, the designer makes

images that are not related to the outer material world and do not include the formative aspects. The result of this imagination is the creation and discovering the new mental pictures that may help the assessing of the relation it has with the subject of the design. It should be notified that in creative intuitive imagination the mental pictures are not the direct product of the memory but the result of the recognition of the images and symbols that are put together in an indivisible form and are constantly mixing and processing through the fluctuation of the intuitive thinking.

In the idea producing process based on intuition, the creative imagination ends in freedom from the traditional structures and the previously formed mentality towards the problem and will bring forth the new perceptions of the relations between data and preparing the appropriate circumstances for the idea to be made. Then, the mind processes the valuable creative mental pictures with the abstract imagination. The mental pictures in this processing, are again put together in a way completely appropriate for the subject of the design. The mental images are then generalized into a subject that is not related to the design or previous traditional methods of problem solving. In accordance with this (process), the pictorial imagination tries to produce pictures that are formed under some confusing and obscure circumstances of the mind of the designer, and unconsciously requires imagination a half-logical to form the main ideas.

This is not the only way to produce ideas. The mind in quite different situations, functions in a way that the gathered information at the design recognition step are influenced by the questing and combining imagination. Meanwhile, the mental images existing in the unconscious of the designer are selected by the searching imagination. These are mostly focusing on the intuitive library data and the designer's experiences and then the mental pictures produced by the combined ole images are generated through the combining mind. The mind organizes and systematizes the new pictures according to verbal and logical standards to create a logical relation and pattern between them. After the formation of the primary structures, the intuitive and creative rearrangements and reorganizations result in new combinations and patterns that satisfy the requirements of the mental pictures adjusting them with the subject. At this time, the mixing and processing of the gathered data make the imagination for the conscious mind easier and this way the designer forms his primary and generating designs. Figure2.

It should be notified that the above-mentioned steps are not considered in the Aristotelian logic or chain series

and the occurrence of one step does not depend on the previous step. And the Fuzzy logic rules over and controls the two-directional paths with the unlimited unclear borders between the steps. Therefore, this pattern bears a single interpretation that can cause an unlimited rearrangement. Only the steady
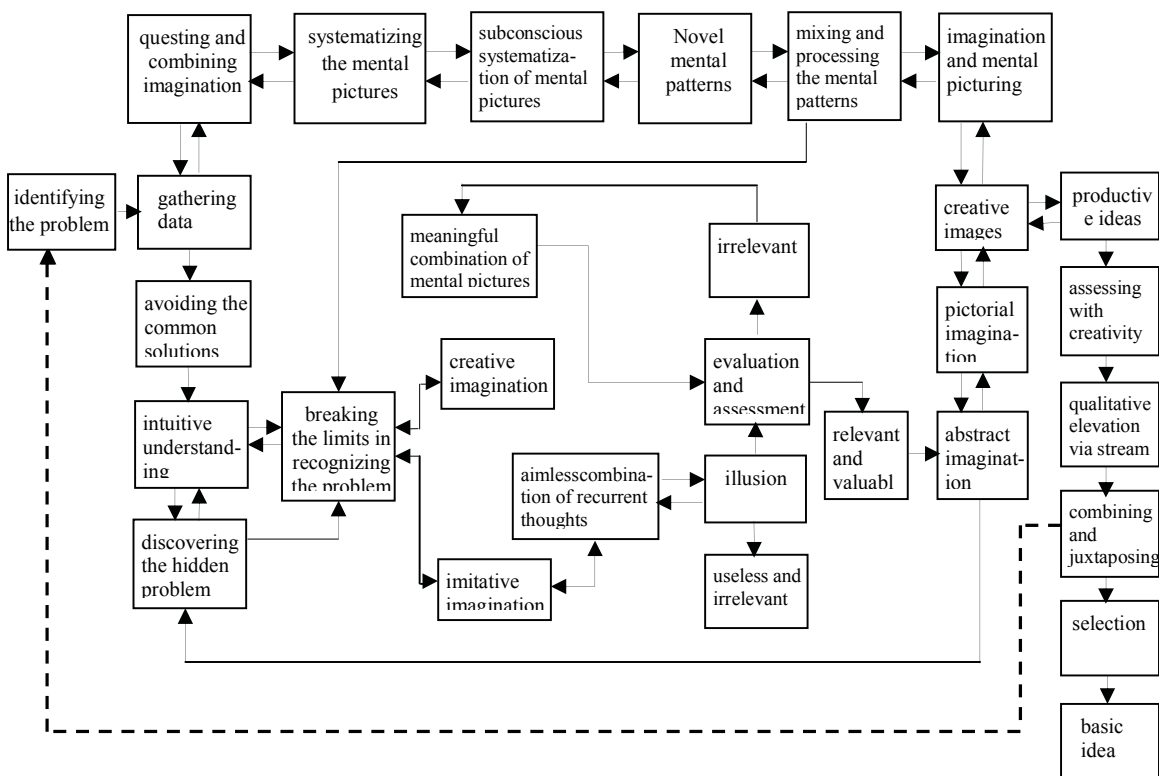
Fig. 2: Creative pattern in subjective design process

elements continue to exist in this process but not the relations among them. However, the intuitive processes should be expressed in a verbal manner so the author has introduced only one out of unlimited geometries to arrange the above elements which have the most transparent structures. This spectrum is not an absolute model which does not even enjoy a steady system and at any stage of the designing process may be changed, rearranged or replaced.

CONCLUSION

Designing is an unsteady and pending field confronting momentary choices and selections. The process of architectural designing deals with solving the design matters which cannot be merely identified through reasoning and syllogism. The intuitive thinking leads to the unknown abilities and power of the mind/brain. Intuitive understandings stream momentarily in the process of designing as the decisions are changed impromptu and with no prediction. This is against the decisions which are regular, meaningful, certain, and predictable. The creative process of architectural designing is a way in which the aim of producing ideas is to generate creativity and to understand qualities not the quantities. Thus, it is independent from the bland sensory logic; but, instead, depends on the intuitive methods. The application of imagination by the designer which follows the creation of innovative and mental pictures, which exclusively belongs to the researcher, is required in intuition.

Although the application of some methods in producing ideas and classification of imagination is not absolute, the reasonable process of designing can tend to use more demonstrative, combining, and questing imagination, and make the intuitive designing more interested in the implementing of the exploring imagination, creative and intuitive imagination. The intuitive process in designing is experiencing a kind of inner and free thinking rather than a series of ruling of the mind. Designers after this kind of understanding, can concentrate on the appropriate imaginative methods related to the design process and make creativity in the intuitive designing possible.

It is believed that the future architecture is developing the logical reasoning along with the intuitive recognitions. In fact, a kind of complicated architecture is emerging that is varying and seeking pluralism. The future architecture is a combination of limits with corrugated borders and bearing tonality which will introduce a novel form of understanding for the architectural concepts. In other words, an architecture based on the unusual intuitive ideas as compared to what has already been observed will come to existence. Therefore, the role and the importance of intuition in the process of designing are always dynamic and seek newer interpretations.

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