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Metaphors, an Approach in Creation and Recreation of an Architectural Work
(Objective Evidence: Behshahr Industrial Group)

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Abstract
Recreation (creativity) is undoubtedly one of the important designing bases and a durable, matchless and unique factor which determines distinction, excellence, and elegance of a building in comparison with other buildings; and architecture as one of the manifestations of human life in a special time and place can be a reflection of thoughts, ideas and living method and also represent identity in shape of thought and creativity which is known as creator of architecture work from viewpoint of architecture. Firstly reflection of architect's character in architecture work, then cultural concept of the work and its belonging to a specific social and ideological movement and besides talent and creativity of the artist, the cultural and artistic movements affect drastically on the result of architect's act who is creator of the art work in form of an architecture event. Therefore it can be mentioned that variables of the present research are nominal and qualitative; the dependent variables are also of the same type. The effects of economic, political, social and cultural movements can also be mentioned which are expressed in form of concepts such as tangible and intangible strategies. The present paper attempted to analyze metaphors used in the major building of Behsharh Industrial Group, which is an objective evidence of Nader Ardalan's work. The analysis was done in a historical-interpretation method and in qualitative form.

Key words: *metaphor, recreation, Behshahr Industrial Group, Architects' approach, architectural work identity*

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The present paper is taken from PhD thesis of the researcher titled as "An Approach to Architects' Role in Representation and Recreation of Architectural Works of Second Pahlavi era (public buildings from 1942 to 1979). The reader of the thesis is Dr. Ali Akbar Saremi; the advisors are Dr. Hosein Soltanzadeh and Dr. Muhammad Reza NasirSalami. At the present time the thesis is at Architecture and Art Faculty of Islamic Azad University Central Tehran Branch.

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1.Introduction

From one point of view recreation means to propose a problem and then find the best solution to solve it. Despite fine arts, in architecture besides that the problem is created in the mind of artist as an abstract concept, he/she is also faced with other issues and parameters which are completely tangible and external; for instance social and cultural movements, technology, climate, performance, traffic, noise, structure, viewpoint and so on. The response that architect finds as the best solution of these problems can be used as a benchmark in creation and recreation. Because various studies are conducted that investigate creativity factor, in the present study different aspects of creativity are investigated in general and in particular in architecture and one of the creative designs presented by contemporary architects of Iran which expresses such a creative thought, is introduced.

2-Probable Theoretical and Practical Benefits

The architect has several ways ahead in order to explore and ponder continuously and each of which he/she goes through correctly will finally get to the creative work. In this sense creativity can be considered the "the ultimate goal of objective realization-imagination process of an idea, image or building". Igur Strunsky, the composer, has described this in the best possible way as following: "our intention here is not the imagination alone but creative imagination: the talent that helps us to go from imagination step to the realization step." Therefore imagination belongs to the field of reflection and creativity to the field of creation and making.

3- Research Questions

3-1 Do economic, political, social and cultural movements also have a determining and decisive role on formation of architectural works and their creation?

3-2 How is it displayed the role and approach of architects and use of tangible and intangible metaphors in application of elements and properties of Iran's historical architecture in contemporary architecture (assimilation of old and ancient patterns of Iranian architecture in form of a new design presentation) in creation of an architectural work?

4- Research Hypotheses (the relationship between variables being studies)

- The relationship of creativity and imitation and architects' approach in regard of space shaping from aspect of form-spatial structure and conceptual ideas.
- Investigating architects' role in application of elements and properties of Iran's historical architecture in contemporary architecture (assimilation of old and ancient patterns of Iranian architecture in form of a new design presentation).

5-Theoretical Framework (study and criticism of historical sources)

Since the purpose of the present study is to understand the results related to causes, effects

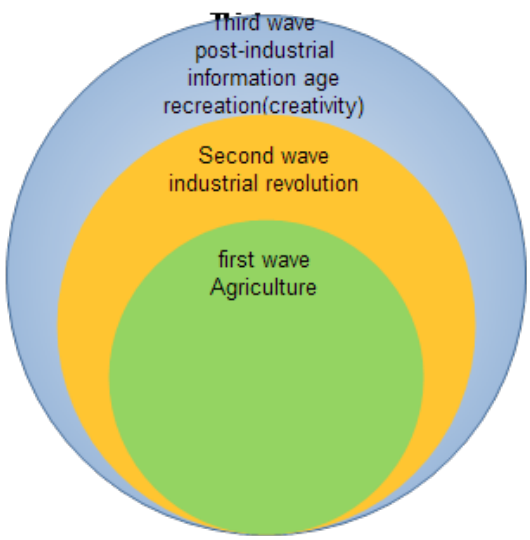

Diagram 1: Different waves of human life from the perspective of Toffler, Source: Researcher

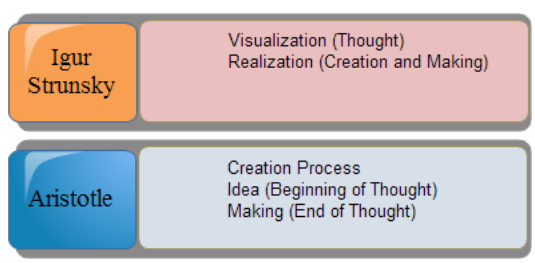

Diagram 2: Views of Stravinsky and Aristotle about imagination and creation, Source: Researcher

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and procedure of past events which can help to clarify the present events and predict events coming in the future, therefore a historical research needs to be utilized.

To achieve this purpose, important designs and buildings of Iran in time period of being affected by modern architecture and after that will be investigated. In other words time period will be from 1942 to the end of 1979. The buildings that in this research are designed and constructed with Iranian architecture properties will be determined, classified and their features will be expressed. In fact historical-interpretation method helps to interpret every problem in its correct position on known works. The present paper is the only strategy that suggests shaping past events. From among 200 important public buildings of this period conforming the architectural properties (strategies and tangible and intangible metaphors), at first 25 famous buildings were chosen and then according to research data, designs and constructed buildings from 1942 to 1979 in Iran and also considering the opinions of designers and theorists in the field of contemporary architecture of Iran and factors affecting their design and also availability of existing documents, the number of buildings to be investigated reduced to 10. Data are collected using field studies, library studies and if required the interview method. For this purpose it is possible to investigate observable aspects of a phenomenon which can be measured in a quantitative way (analysis of buildings) and on the other hand attend hidden aspects of a phenomenon (ideas shaping design) in a qualitative way. Therefore in first step quantitative data are collected and then in the second step qualitative data are collected. In this way by quantitative collection and analysis and analysis of qualitative evidences it is possible to investigate the problem of study by using mix method (quantitative and qualitative). The purpose of this research is to disclose metaphors used in recreation and representation of Behshahr Industrial Group, constructed by Nader Ardalan.

6- Research Methodology

Research method of the present study is a combination of logical reasoning method and case strategy (or in other words multi-case). Besides that research paradigm is mixed

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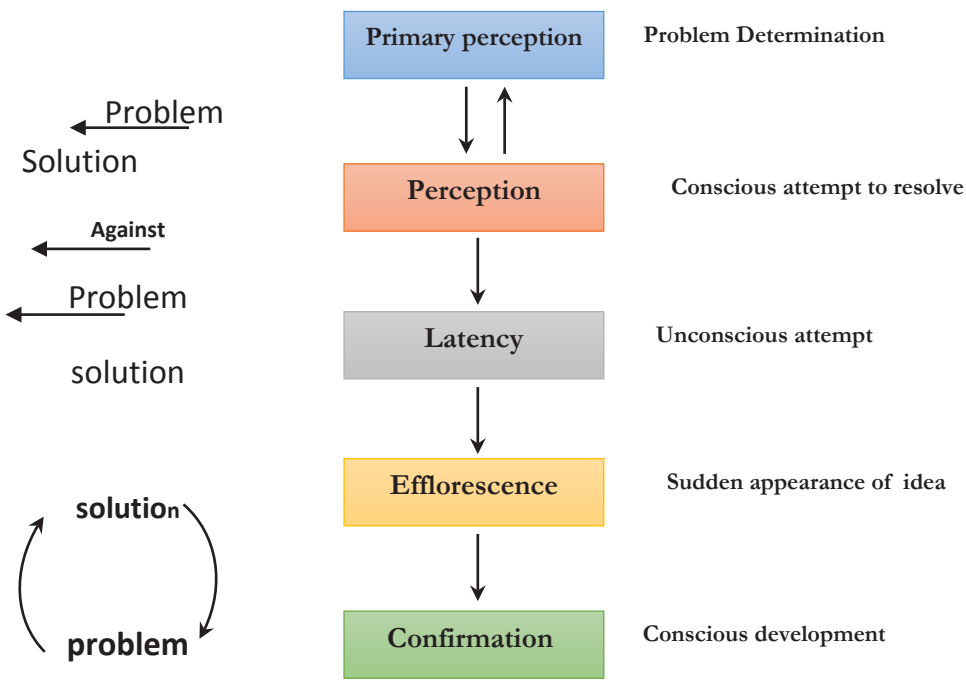

Diagram 1 Creativity Process and Design Process, Bryan Lawson (Rezai:2014:41)

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Aristotle	**Creativity**	Ability to create an original and suitable work
		Creativity synonym with meaning of "prime matter"[1]
Poincare (1908)		Prove by logic
		Explore by evidences
Professor Polanyi (1958)		Enlightenment and awareness
Bruner (1958)		As effective wonder
Chumy		Extra ordinary and unexpected events and shock
	Creativity	Permanent presence of creativity in all activity fields of human, such as science, art and culture
		Contribution of all elements of culture-language, myth, art
Gotz (1978) in writings of Whitehead about ideas of Gotz (1978)		Art, science, history and religion in creativity evolution
Gadar (1978)	**Creativity**	Design practice
		Design training
		Attend to social issues' perception
Conclusion	**Semantics Research**	Pragmatics' approaches
		Cognitive approach
		Psychometrics and psychodynamics
		Creativity: having theoretical and practical dimensions
		Dorling (1996)

Table 1 Various Aspects of Creativity from Viewpoint of Researchers; Source: Researcher

(quantitative and qualitative). In such a way that research hypotheses and statements at first part are logically related to each other and determine and guide string of research ideas. A review of contemporary architectural works indicates that social and cultural movements have determining and decisive role in formation of architectural works. Policy as a determining factor of social movements has also had a direct effect on architecture.

7- Review of the Related Literature

7-1 Creativity

In past some believed that giving a comprehensive definition of creativity is impossible because various aspects of creativity are in fact more specialized that what seems to be. This viewpoint stated by Whitehead may be among the reasons based on which architects believed creativity can't be learned.

7-2 The Relationship between Creativity and Architecture

Some training philosophers may argue that creativity is an innate matter and therefore can't be taught. Whereas it may be correct that talent, tendency, intention and determination can help to perceive creativity in childhood

1.Prime matter: traditionally means a substance which is not clearly described positive qualities by itself but has the potentiality of these qualities (a substance with potential positive qualities). Prime matter as stated by Aristotle is something which is stable and does not change while being changed from an Aristotle element (like water) to another element (like whether). (www.xrefer.com,21/04/2001).

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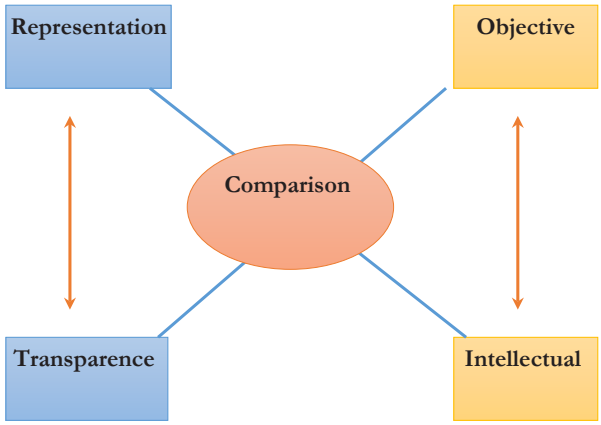

Diagram 1-4-2 scaling of Comparison from Objectivity to Intellectuality and from Representation to Transparency (Rezai:2014:48)

and by effective training methods everyone be sensitive to various types of external effects, knowledge and creativity in adulthood (Bruner, 1963, 35; Illich, 1970, 56).

Medawar supposes that creativity is a quick intuitive comparison which is indebted its power to weakness of enlightenment reasoning power or a kind of awareness and nevertheless is a practical action in discovery of architecture that elevate incomplete image of the possible world. Creativity is beyond romantic illusion analysis that we have left behind, it may not be learned but it can surely be developed and encouraged (Medawar, 1969, 6, 57).

7-3 Process of Creativity

Without perception of dependencies between concepts of "real" and "unreal", "visualization" and "imagination", it is impossible to have a correct understanding of necessary prerequisites of creativity or developing and educating them (visualization and imagination). According to experts, the two necessary prerequisites of architectural creativity, can be developed and upgraded by strong determination, effort and perseverance of the architect even more than architect's innate talent.

7-4 Imagination, Visualization and Reality

Imagination is the factor that quickens visualization whereas visualization is a kind of filter that imagination needs to pass it in order to connect to the reality. When an individual has to first visualize something that can't be observed or perceived, or that thing is not among his/her knowledge of "tangible reality", the person on the has to imagine something from "imaginary world", then visualization acts in exponential level.

7-5 Techniques of Creativity in Creating Form

Physical form is considered as separate from structure and logic (in its general meaning).

1- Value presentation, 2- creating ambiguity, 3- creating tension, 4- variability of form and deconstructionism 5- using tangible and intangible metaphors, 6- using paradox and metaphysics (Kamran Afshar Naderi, 2010:4).

7-6 Process of Creativity in Individuals

Experts of creativity science agree in answering

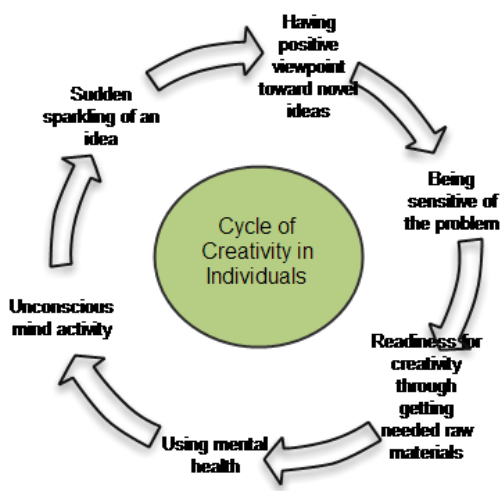

Diagram 3. Cycle of Creativity Process, Source: Researcher

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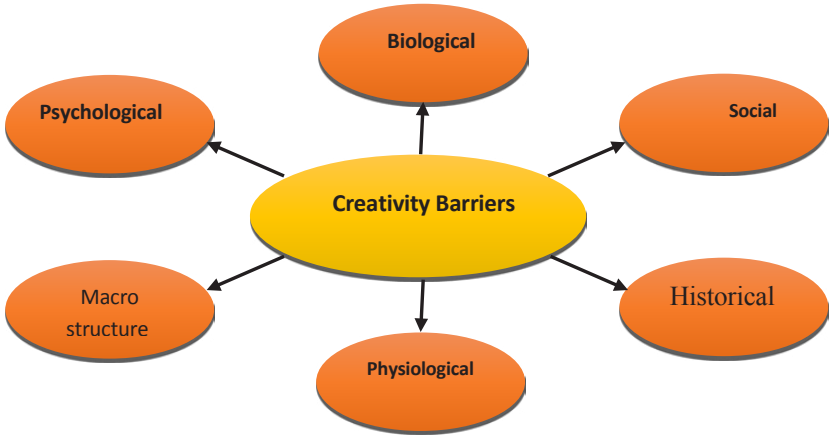

Diagram 4. Sextet Barriers of Creativity, Source: Researcher

this question: "How do individuals demonstrate creativity from themselves?"

7-7 Different Types of Creativity Barriers

Doris J. (1993) believes that major barriers of creativity in people are as following (Agayi Fishani, 1999):

7-8 Reflection of Creativity in Creating Architectural Form

Looking at a problem in a different way and achieving a solution is the same thing that is generally known as creativity. In fact creativity is a process that happens in the mind of creative person.

7-9 Process of Modernity and Artistic Creativity

According to Bohm, "artistic spirit" which is the effort to understand and achieve proportionality and beauty, is both a need of human being and an ability that can be revived and strengthened in every person. Among creative artists and scientists there have been ones that beyond barriers and intellectual, cultural and social restrictions and by passing stabilized mental habits in environment, have been able to open new horizons of creation and modernity.

7-10 Technology, Creativity, Environment a Filed for Competition in Architecture

Since human being has felt the need of having a suitable shelter for security and comfort in life and word tried to create such an atmosphere. A review of history may reveal eras and different styles of architecture to compare their strong points and weaknesses. One of the basic factors of buildings' growth and development is construction technology and scientific progress of human being in the era related to it.

7-11 Nature of Beauty and Structural Form Combination

7-12 Relationship and Interaction between Process of Architectural Work Creation and Creativity

The condition to start discussion of architectural work creation is cognition and awareness of the situation and time setting in which we are present. The setting that is precise in our position in life and our outlook toward it and by creating a comprehensive understanding of changing process of history, has defined the present time in it and determined the type of human being relation with different periods and eras.

7-13 Role of Perception in Creativity

An architect differs with others is his/her ability to have different outlooks and perceive

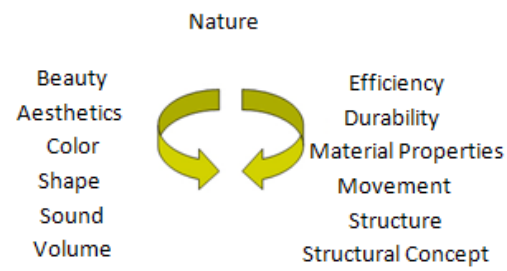

Diagram5. Nature of Beauty and Structural Form Combination; Source: Researcher

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various facilities to provide creative solutions or cognition of existing fields in order to remove real needs of human. Architecture of the present time is creating the atmosphere that can't be observed but has the maximum effect.

7-13-1 Perception Process

Architecture due to its different identity with other arts is not limited to sensational motivation or challenging rationality alone. Perhaps if it remains in this state, it will change to something which is equal to a monument. I personally believe that if a huge work which is not in effective interaction with human and its environment can't be called an architectural work even of it is very elegant.

7-13-2 Architecture, Creation or Perception

Architectural project is not inventing a structure that a person may claim he/she has invented a structure that its resembling doesn't exist in nature, but is inventing an insight that due to its creation structure is made. From viewpoint of problem solving with creativity and in process of creativity and problem solving, we move toward removal of need.

7-14 Creativity, Design, Architecture Criticism (idea to form design to creation of architectural work)

In architecture having a form is as important as having an idea. Ideas are design materials and forms are crystallization of production, refinement process and assimilation of macro and micro ideas to get to a coherent structure. In architecture, in its specific meaning, making suitable idea and form is more important than constructing buildings. The condition to start discussion of architectural work creation is cognition and awareness of the situation and time setting in which we are present. The setting that is precise in our position in life and our outlook toward it and by creating a comprehensive understanding of changing process of history, has defined the present time in it and determined the type of human being relation with different periods and eras.

7-15 Central Office of Behshahr Industrial Group

Nader Ardalan, the architect of Behshahr Industrial Group building, studies in the U.S and came back to Iran; he is one of the architects who didn't join the existing architectural course and continued his studies for better understanding of past architecture. By analyzing and investigating ancient and historical architecture of Iran, he explored the relations that existed in creation of those works and utilized those principles to create atmospheres of the present day. The works of the recent group of architects may not be physically similar to the works of past architects but expressing their architecture is continuation of past thoughts and along that experiences. There are signs of designer's delicate use of Iran's traditional architecture pattern in a building having a novel function. Existence of courtyard in the middle and orderly and symmetrical ring around it makes the building "introverted". At the same time the building, like all other present buildings, have a lot of windows opening to neighbors and surrounding streets and therefore it has "two faces". Having "two faces", which is not rare in traditional patterns, is a decision that makes the building of Behsharh Industrial Group harmonious with its neighbors (buildings that all of them face street and are constructed on the basis of present time patterns of urbanism).[1] The Building of Behshahr Industrial Group has created an "independent world" by making courtyard in the middle of it, and at the time that is connected to the city but is also independent of it. By opening the many windows to the courtyard, the building is given a value and esteem and changed to an important center. The stories being drawn back from the courtyard is due to designer's willing to disintegrate high altitude of the yard. The first retreat in walls of the first floor has significantly increased the size of the yard; in the next step, second and third level retreats are

1.Criticism of a Number of Works of Iran's Contemporary Architecture, Research of Consultant Engineers, p.88-89

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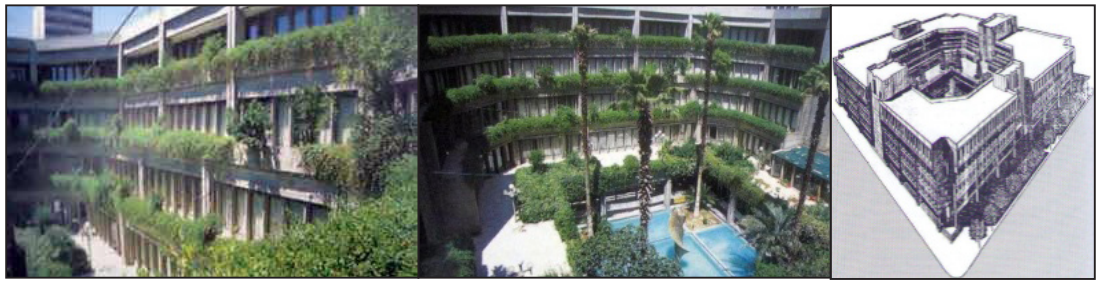

Figure 1: Space Inside Central Yard, Source: Book: Criticism of a Number of Works of Iran's Contemporary Architecture

formed but its amount is much less than the first. The important point about final floor (the fourth) is that although retreat doesn't exist in this floor but a half-open space in front of rooms has made lighting above this high two-floor building which makes a good end for yard floors. The designer represents his sensitivity to create delicate proportions by using these various arrangements. Of course the growth of trees in different floors of the building has hidden many of these intricacies.

The intimate space created by these arrangements is changed by two heavy and awkward bulks of north-south axis. The mentioned bulks that include bathrooms are the huge sculptures of the yard. It seems that these two concrete bulks are borrowed from the modern building- the mega structure which is made from strong cores and free decks. And in this intimate architecture of yard, they seem to be alien and lonely. The outside view of the building is a symmetrical view that is repeated identically in all four sides and it is only changed a bit in eastern view (entrance).

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Figure 2: Interior and Exterior Views and Plans of Behshahr Industrial Group

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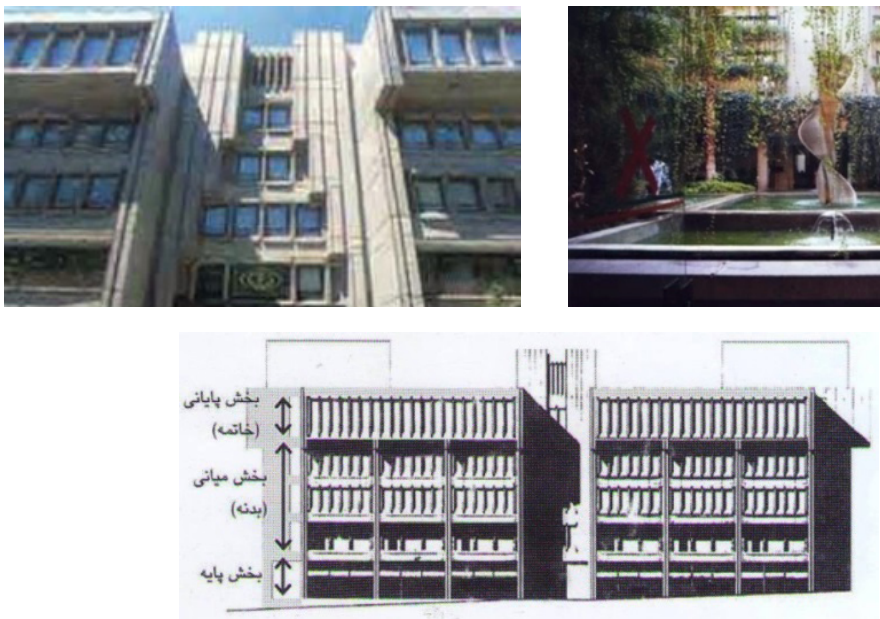

Figure 3. Partitions Forming Building View, Design of Interior Yard Fountain by: Karl Schlamminger, Source: Researcher Archive

The exterior view has various partitions on the basis of two huge parts in the sides and a smaller part in the middle. This quality can be observed well specially in entrance view. Each one of the huge side parts are divided into smaller partitions based on building's structural geometry. And in the heart of these frames there are also other partitions made by concrete blades between windows. The design of main entrance view is significant. It seems as if on top of entrance, the Mogharnas arch is simplified and coarseness is put by using flat and orthogonal shapes. The entrance bulk completely retreats as compared to side partitions and by this arrangement a frontage is formed in entrance. But because the lower part of the view (the entrance door) has completely gone deep and separated itself from upper levels, it is not like a "porch" existing in traditional works. The exterior view of the building is designed based on a classic order in which there are one base floor, one upper floor and three middle floors as partitions of this order.

8-Conclusion

In a general look, metaphoric strategy can be useful and beneficial for every creative person. Metaphor creates opportunities for seeing again a thinkable work and induces the creative person to consider a new set of questions and achieve new interpretations and finally guides the mind to the world of unknowns. Therefore there is no limitation in using this strategy for everyone, but it doesn't mean that using it is easy and beneficial. Among present day architects using metaphor as a strategy toward architecture creativity is considered with significance. Metaphor as a basic strategy is more useful for the creator than for users or critics. It's even possible to say that the best metaphors are the ones that users or critics are unable to decode and understand them. In these cases, metaphors are considered as "small secrets" of creators. Metaphors are used in the following cases:

a) When it is tried to divert references from a mental or objective topic to another topic.

b) When it is tried to "observe" a mental or objective topic as if it was another topic.

c) When the focus is diverted from another filed (being hopeful that by expanding the subject and using this method to clarify the considered topic).

Metaphors can be classified in the three

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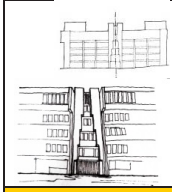
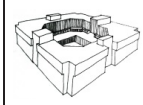
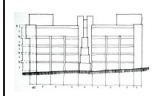
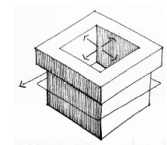
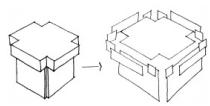
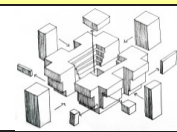
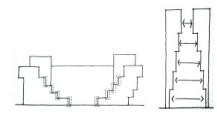
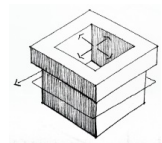
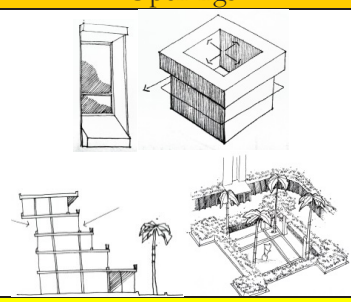
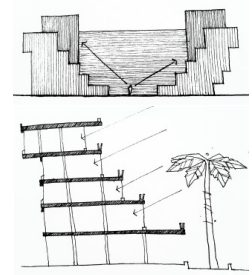
۱-Form						
۱-۱ Visual Characteristics of Form						
Visual Balance	Direction	Place	Texture	Color	Size	Shape
				Concrete-gray		
۱-۲ Designing Shape of the Form						
Separation of Form with Faces				Adhesion and Decrease		Dimensional Changes
						
۲-Space						
Factors Effective on Space Quality						
Light				Shape		Color
						Concrete-Gray
۳- Form and Space						
Openings				Enclosure and Combining Vertical Levels		
						
٤- Form, Space and Performance						
Field and Privacies				Circulation		Spatial Organizing

▲ Table 2. Analysis of Behshahr Industrial Group; Source: Analyzing Ten Works of Fifty Years of Iran's Contemporary Architecture, Codified by: Researcher

following classes:

1- Intangible metaphor: it is created when the first source of creating work is a kind of concept, idea, humanistic mood or a special quality (such as individuality, normality, publicity, tradition or culture).

2- Tangible metaphor: it is created when the first source of creating work are some of visual or materialistic features (a house similar to a castle or a roof similar to a firmament).

3- Combined metaphor: it includes both of the mentioned sources. In this metaphor, visual-materialistic feature is a facility to manifest advantages, qualities and specifications of

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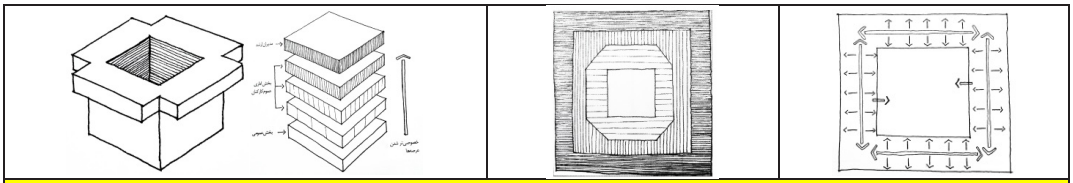
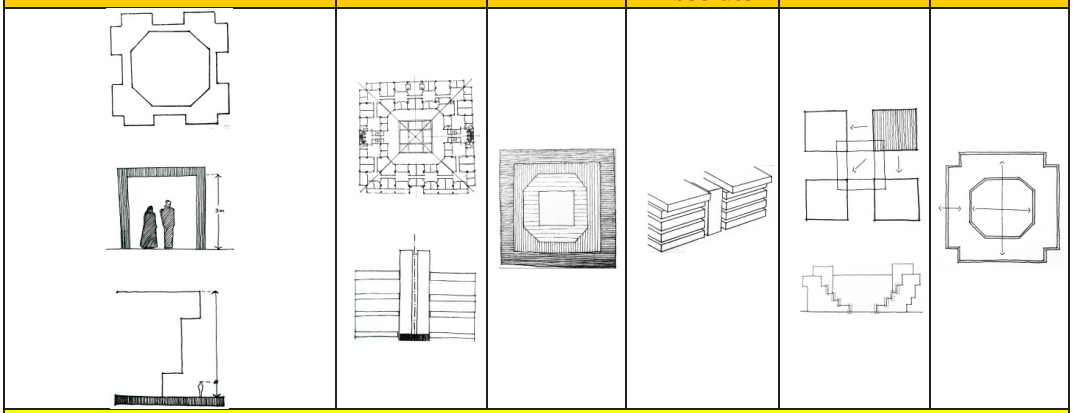


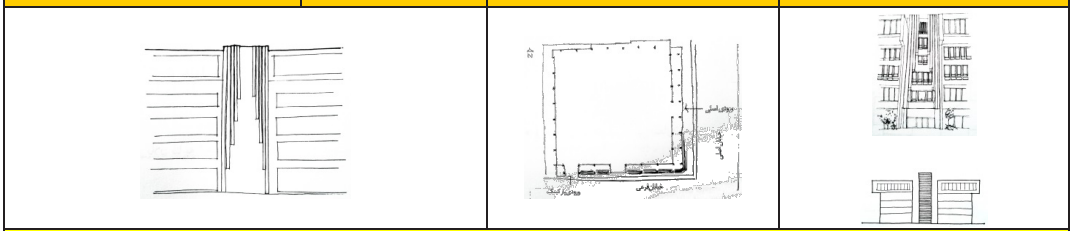
۵- Systemizing Principles

Geometry and Proportions	Balance and Symmetry	Hierarchy	Repetitive and Absolute	Component and Whole	Axis



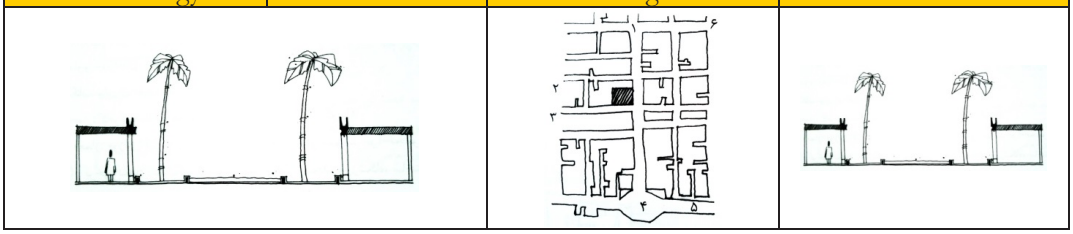
۶- Entrance as Representative of the Building

Entrance Performance	Systemizing Principles of Entrance	Entrance Space	Entrance Form



۷- Factors Affecting Design

Structural Factors and Technology	Cultural Factors	Neighborhood and Passages	Climate and Natural Factors



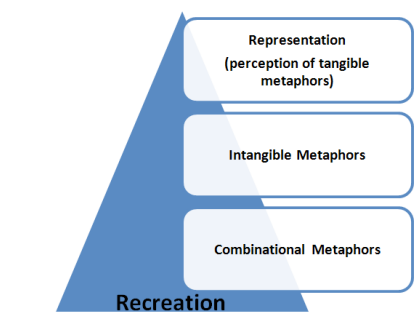


Diagram 8: Conceptual Model of Recreation

special visual frame.

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Ideas Effective on Designing (Central Building of Behshahr Industrial Group)	Modern (Tangible)	Having two faces which is also found in traditional patterns is a decision that harmonizes building of Behshahr Industrial Group with its neighbors-the buildings that all face the street and are constructed on the basis of present urbanism patterns. Concrete structure, based on symmetric and orderly network (base foundation equal to 7×7 and 7×7 meters), making two concrete towers including staircase, elevator and bathroom on the two sides of northern-southern axis on building. Using two concrete bulks of the modern building (mega-structure which is a combination of strong cores and free decks. Having various partitions on the basis of two huge parts in the two sides and a smaller part in the middle of exterior view (exerting smaller subdivisions based on building's structural geometry). Designing concrete blades between windows Designing exterior view on the basis of more serious relations of city and modern world
	Traditional (Intangible)	Signs of designer's delicate use of Iran's traditional architecture pattern in a building having a novel function. Existence of courtyard in the middle and orderly and symmetrical ring around it makes the building "introverted". Making garden pit. Internal spaces are completely symmetrical and their arrangement follows the mentioned axes of symmetry. Different sense of meaning with meaning of "porch" in Iranian architecture. Making a courtyard in the middle with an "independent world" along with having a connection with city. Gradual retreat of floors on walls of yard. Creating delicate and meaningful concrete frames with big and tall windows. Using large surfaces of water and green space. Allocating all area of the garden pit to water and green. Using five square fountains, one in the center and four around it; with four green gardens on corners. Orderly implant of trees in open space designing Creating an intimate space by using two heavy and awkward bulks of north-south axis. Making a corridor in the ground floor. Reducing heaviness of bulk with various arrangements of the view and dividing into smaller units by internal view designer on the basis of emotional relations ("more intimate" and "domestic").

Table 3. Ideas Effective on Designing (Central Building of Behshahr Industrial Group), Source: Researcher

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