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In the Name of God

Dear Readers,

I, on behalf of the editorial board, am proud to present this issue of the *International Journal of Applied Arts Studies (IJAPAS)* under the sponsorship of the Islamic Azad University, Yazd Branch. We were driven to found the *IJAPAS* by a noticeable lack of journals, in the Islamic Republic of Iran in particular, devoted to architecture, urban design, urban planning, architectural conservation and restoration, painting, art history, graphic, digital arts, fashion design, performing art, industrial design, aesthetics and semantics. Although the academic world is increasingly driven by cross-disciplinary visions and models, we seek multi-disciplinary views, an attempt to inform researchers, graduate students, and professionals about the trends, ideas and innovations being put forward in applied arts. To this end, in addition to standard articles, in every volume of the *IJAPAS* we hope to provide a special issue related to a respective field with innovation.

We are also sending out a call for papers related to *Applied Arts* to appear in the next issue of *IJAPAS* in Nov – Dec 2022.

Finally, I should mention that we are committed to a speedy refereeing process for every article submitted to us. We effort to reply to all papers submitted within five weeks' time with a response about acceptance or rejection. We also do not require formatting for submissions in our style until *after* the paper has been accepted by us for publication.

I would like to thank our Editorial Board for their work so far in helping to establish the *IJAPAS*. And, finally, I would like to extend my deepest gratitude to Dr. Ali Boloor, the assistant editor of the *IJAPAS*, for all of his hard work to ensure the timely completion of the issue.

I am delighted to invite you to visit us at www.ijapas.org.

Sincerely,

Dr. Abolfazl Davodi Roknabadi
Editor-in-Chief
International Journal of Applied Arts Studies (IJAPAS)
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Nature Inspired Strategies as a Sustainable Problem-Solving Methodology in Architecture Design Process

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Research Article

Abstract

Utilizing natural tactics has a huge impact on the design of developing environments that are environmentally friendly. The review of relevant scientific research, the intricacy of biological issues, and their application to the architectural field are all challenging and time-consuming tasks that also need knowledge in the biological sector. The use of nature's strategies in architectural design is hampered by a lack of adequate information and the right comprehension, which also results in improper application and the appearance of impediments. To use the strategies derived from nature in the field of architecture, the right attitude, method, and tools should be identified to translate the strategies into architectural solutions. This is because the main objective of the current research is to extract the missing link bridging the biological and architectural domains. By discovering, the method of creating a connection and link between the biological domain and architecture through mixed methods Research. The research was carried out utilizing various

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This article is adapted from Shermin Olia's Ph.D. thesis entitled "Explaining the Conceptual Model of the Architectural Process Method Inspired by Nature" supervised by Prof. Farah Habib and advised by Dr. Azadeh Shahcheraghi in Science and Research Branch, Islamic Azad University.

The authors appreciate the students of the course "Human Nature Architecture" for the Bachelor's Degree in Architecture for the academic year 2019-2021 of the Islamic Azad University Science and Research Branch of Tehran and the Islamic Azad University of Mashhad regarding their participation in the Focus groups research. Furthermore, we would like to extend our sincere gratitude to Dr. Niloufar Zounemat Kermani, a second researcher, for her insightful advice and assistance with data gathering during the development of this research project. Her willingness to that so kindly donated her time has been much appreciated.

quantitative and qualitative methods in three key sections. Step 1: Theoretical analysis to identify and classify the key elements of natural strategies as well as their effects. Step 2: Using logical reasoning and a case study to determine the attitude, method, and tools of data transmission and to develop an architectural solution. Step 3: Focus groups (Participant Observation) to test the defined Process of Creating Architecture Using the Nature Design Strategies Hypothesis. For employing nature design methodologies in the realm of architecture, two problem-solving attitudes the problem-based attitude and the solution-based attitude were identified. Based on these two mindsets, a four-phased process was described for using natural strategies in the design process. Tools and measures that were required for each phase were determined and discussed. Two diagrams were provided at the end.

Keywords: Nature Inspired Strategy; Sustainable; Problem-Solving Methodology; Architecture; Design Process

1. Introduction

Throughout history, many designers have been inspired by nature to design and create new forms and have sought to find advanced technical solutions based on nature design strategies. In the field of sustainable human-made environment development, natural patterns such as trees or bone structures have been a source of inspiration for the development of some architectural materials and elements (Mattheck and Burkhardt 1990; Harman 2013). We can be inspired by how organisms solve problems and their evolved adaptation process. This method can be used in the process of designing and reaching creative ideas (Langrish 2004). Designers and architects can benefit from developing nature's self-made approach and using the resulting knowledge to achieve sustainable societies and systems. According to the findings of the Biomimicry Institute, the more the function of the human-made environment resembles the natural world, the more likely it is to survive, and this is a special concept of sustainability. In the field of practical completion and implementation of sustainability in design and construction, a balance should be established between economic, environmental, and social aspects in production and service provision (Charter and Tischner 2001). The potential role of designers in achieving sustainability and their contribution to creating a sustainable world has long been recognized (Ehrenfeld 2008; Manzini 2009; Margolin 1998; Papanek 1971; Rahimifard and Clegg 2008). Several sources have investigated and studied how design derived from nature can work in line with the well-known concepts of "sustainable development" (Bakker et al. 2009; Brezet and van Hemel 1997; Dewberry 1996; Hallstedt 2008).

Nature has created complex mechanisms and methods for survival. By knowing and learning from nature in solving design and architecture problems, we can achieve new technologies in different fields to solve them. It should be noted that life and nature are not separate from each other and man is also a part of it, as a result, the obstacles and components that separate man and nature should be identified, and by examining and understanding their function in Nature should use them as a tool to solve human problems (Baumeister 2011). As an architect, one can be inspired by nature and learn how organisms adapt to nature to implement their strategies in architectural processes (Weinstock 2008). Architecture and nature have common features because both have the same logic of growth and adaptation. However, most designers translate the form found in nature with building materials into geometric shapes only, without understanding the structure and logic behind the materials and components (Oxman 2010). As a result, there is a gap between finding formal and physical methods related to nature that most designers have extracted from nature.

While they should have learned from nature with a correct understanding of biological systems. The relationship between materials and their formation processes, which is important in form production, should not be ignored. To fill the gap between the relationships of materials, the material processes formation, and its effect on form, new technologies change the way of designing in architecture. This is achieved by using the behavior of living organisms in the process and studying the laws and logic of nature (El-Mahdy and Gabr, 2017).

The evaluation of current scientific publications in this sector, as well as the transfer of biological issues to the architectural domain, is a challenging and time-consuming operation that frequently necessitates the competence of the biological area. The employment of nature's design strategies in the domain of architectural creation is hampered by a lack of enough information and the right comprehension, which also results in improper application and the appearance of impediments. What are the attitudes, tools, and procedures for translating nature-inspired design strategies to the architectural domain and using them in architectural creation? Is the issue this paper aims to address? It has also been discovered that nature effectively inspires design methodology in the creation of architecture. The following are the research's objectives in this regard:1. Investigating how nature's strategies affect and apply to the field of architecture (tools and methods); 2. Examining the type of attitude and method designers take when applying nature's strategies to the architectural domain (transferring the strategies of nature to architecture). A Mixed Methods study using Theoretical Analysis, Logical Argumentation, Case Study, and Focus Groups (Participant Observation) has been utilized to discover how methods and tools connect the biological domain and architecture area. The major aims of this research are to describe the process of architectural design influenced by natural design strategies and to find the missing link between the biological domain and the architectural domain.

2. Material and Methodology

2.1. Research Methodology

The nature design strategies have different dimensions and levels. The most indispensable dimensions parameters of the nature strategies are the characteristic of the organism, social relations of the organism, and Ecological relations of the organism, which are examined at different organism levels, which include form, materials, structure, process, and function (Zari et al. 2007).

To use nature-inspired design strategies in the architectural field, the right attitude, method, and tools must be identified. This will allow the strategies to be converted into architectural solutions. The primary objective of the research is to identify the missing link between the biological field and the architectural field. Extensive theoretical analysis was first carried out to determine the attitude, approach, and tools of utilizing nature's tactics in building (Fig 1).

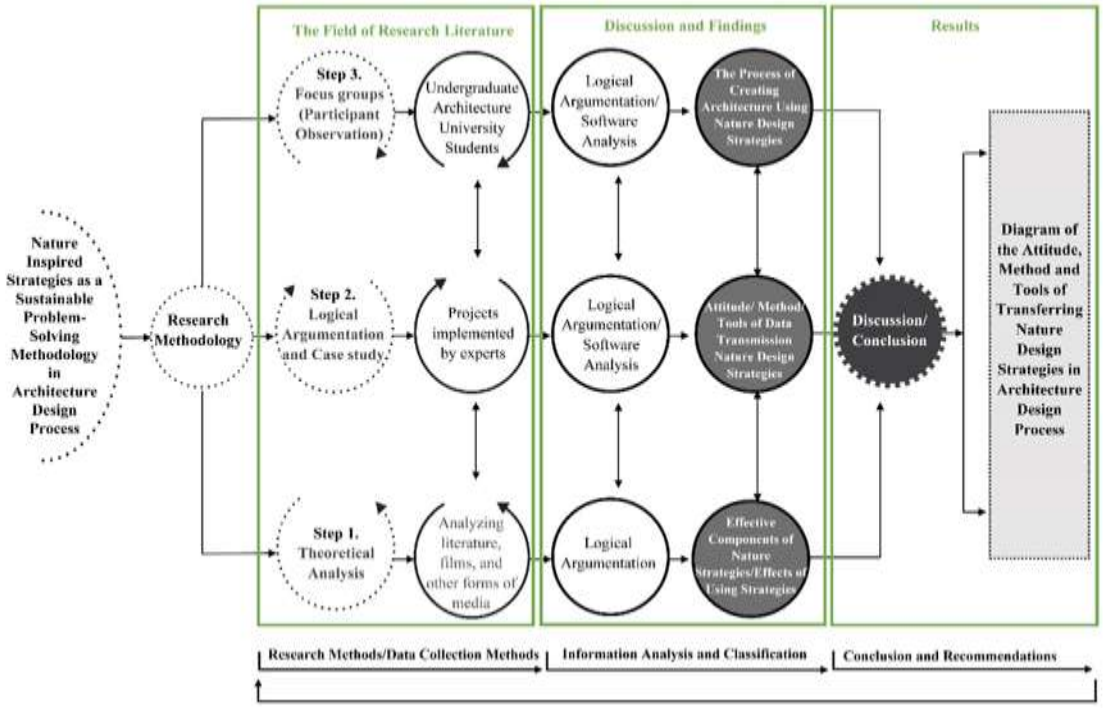


Fig 1 Research Methodology diagram

At this point, the methods already in use in the field of design with the intention of sustainability were categorized. Then, three design approaches were chosen by specifying three filters (as indicated in Section 3.1). The control strategy was also determined to be the canvas design approach. Eco-design is a more well-known method than the other two, cradle-to-cradle and Hanover principles, which is why it was selected as the control strategy. The bases and guiding concepts of the four approaches were then extracted, categorized, and described, along with the design methodology. The design process was thereafter identified and classified by specialists in the field through the use of documentary studies in the following stage. The design process and the default test of the outlined design process were achieved in the following through Logical Argumentation and Case study. In this sense, the projects of the specialists in each approach were chosen, and the attitude, method, and tools employed by the project architects and their design team were determined by reviewing the documentation that was already in place as well as the visual reports of the projects. The model that was presented as the research's final finding was then explained. To test this model, focus groups (participant observation) were held among the statistical population of the "Human Nature Architecture" course students at Islamic Azad University's Mashhad Branch and Science and Research Branch (Table 1). In three successive academic semesters, 132 students were included in the statistical population. A pre-test has been carried out to guarantee the reliability and validity of the tests created by the researcher. The second researcher was requested to work together with the first to enhance the effectiveness of focus groups (participant observation).

It is possible to acknowledge the following when describing the rationale behind selecting the course "Human Nature Architecture" for this study: the course "Human Nature Architecture" is presented in the third semester, and at this time, the architectural character and general principles of the student's design have not yet been formed. By passing the "Architectural Design Preliminaries

1" course, which is a prerequisite for the "Human Nature of Architecture" course, students have gained knowledge of the fundamental concepts and basics of design.

Table 1 Focus groups (Participant Observation) on 132 students in two stages of pre-test/ test in 2019-2021

Gathering information of the architecture creating process inspired by nature			
Final project: Designing the smallest residential unit for an architecture student with a certain approach.	**Focus groups (Participant Observation)**		
	Pre-test	**Test**	
Approach	Second semester Islamic Azad University of Mashhad 9 groups	First semester Islamic Azad University of Mashhad 24 groups	Second semester Islamic Azad University Science and Research Branch 24 groups
The Hannover Principle (HP)	3 groups (n= 4)	6 groups (n= 2)	6 groups (n= 2)
Biomimicry (Bio)	3 groups (n= 4)	6 groups (n= 2)	6 groups (n= 2)
Eco-design (Eco)	3 groups (n= 4)	6 groups (n= 2)	6 groups (n= 2)
Cradle to Cradle	-	6 groups (n= 2)	6 groups (n= 2)

The nature design methodologies have been organized, contrasted, and examined in the designed tests in the form of workshops and student design projects. The amount of knowledge and implementation of the strategies, the kind of selection, the quality of results, and the students' emphasis on topics are all taken into consideration when comparing different selection strategies. The statistical population of this study was chosen based on the evolutional sampling method in nine groups of four students for the pre-test of the course "Human Nature Architecture" for the bachelor's degree in architecture for the academic year 2019–2020 of the Islamic Azad University of Mashhad branch. Students from the Islamic Azad University science and research branch and the branch in Mashhad that offers the bachelor's degree in architecture for the academic year 2020–2021 participated in the test by studying the course "Human Nature Architecture" (Table 2 and 3). The student's final project, which they completed and presented in groups of two, was evaluated and graded as a poster that included a thorough explanation of the design. Two visiting professors and a second researcher who was completely knowledgeable about the topic and the work method attended the final meeting and student project evaluation. Additionally, the researchers assessed and dissected the full report of the student's work and design that was provided in book form (design work report book). The design work report book contains studies, etudes, a description of the concept, and instructions for how to complete the project. The student explained each area. What motivated him and how did he arrive at the project's concept based on the nature-inspired design strategy selected approaches?

3. Theory

3.1. Nature-Inspired Design Strategies Selection

To achieve sustainable solutions, nature can be used as a mentor and reference. Therefore, we define the term "Nature inspired design strategies" as a general term or definition: "Nature-inspired design strategies" are strategies that are based on "learning from nature" and consider nature as a sustainable paradigm. The current research started with the analysis of specific strategies of sustainable design to achieve the attitude, method, and tools of using "Nature design strategies" in the process of creating architecture, which offers opportunities to design differently and sustainably. They have a significant impact on the design and intellectual apparatus of designers. Because of the inspiring results of using these strategies, some refer to this period as the "third

green wave" (AIGA 2010; Bakker et al. 2009; de Pauw 2015). In analyzing these strategies, we found the common feature of "learning from nature". To determine which strategies should be selected for the research project, we analyzed a comprehensive list of sustainable design strategies provided by AIGA. This list of thirty sustainable design strategies includes "main sustainability visions, manifestos, frameworks and tools that have been used over the past fifty years" (Brink, Destandau, and Hamlett 2009; de Pauw et al. 2010).

Our main goal was to select those that can be introduced as "Nature inspired design strategies in architecture creation", in this regard, based on the objectives of the research, we defined three criteria that were applied as a filter for selecting strategies, and based on that, strategies was investigated and defined. Filters have been applied to select strategies as follows: Filter one: Makes Reference to Nature. The question raised in this filter is: Does the strategy explicitly refer to nature? Filter two: Inspiring by Nature in the Design Process. The question raised in filter two is: Which of the selected strategies in filter one has used nature in the design process? This means that after identifying the traces of the use of nature in filter one, in which of the strategies has nature been used as a source of design inspiration, design principles, tools or design goals, or design methods? Filter three: Use Nature in the Creation of Architecture. The question raised in filter three is: In which of the strategies has nature been used as a source of inspiration in creating a form/process or system in the process of creating architecture? (Fig 2)

- ***The results of Filter 1:*** Among the thirty strategies classified by the AIGA Research Institute, six strategies "Makes Reference to Nature" which are: The Hanover principles, IDSA Eco-Design Principles and Practices, The Natural Step, Biomimicry, Natural Capitalism and Cradle to cradle.

- ***The results of Filter 2:*** According to how "nature" is used in the six strategies selected from filter one, two different methods were identified: a) strategies that model nature directly in the design process and b) strategies that use nature to They have modeled indirectly in the design process. Four of the six Hanover Principles, Biomimicry and Cradle to cradle use nature directly as a source of inspiration, principles, tools, goals, and methods for design. In the book "Biomimicry: Innovation Inspired by Nature", Janine Benyus (2002) suggests using nature as a mentor and source of inspiration by changing the way of thinking about innovation. The Cradle to Cradle strategy has defined the concept of environmental effectiveness. Nature works based on a system of metabolism and food. There is no such thing as waste, and the ability of materials to revive and live again is used, which means that the waste of one system becomes food for another system. In the design process, it means that: the design is done in such a way that the components can be separated so that they can be easily decomposed in nature, or those components can be used in making another product (McDonough and Braungart 2002). On the other hand, the other two strategies have the principles and methods of concern for protection and interaction with nature.

IDSA Eco-Design Principles and Practices express two principles by indirectly using nature, they are: 1. The continuation of the life of humanity and the planet are dependent on each other; 2. The planet can survive without the presence of humans, but the continuation of human life depends on the health of the planet. In The Natural Step strategy, nature is used to determine "system conditions" and "sustainability principles". This strategy focuses on factors that should not be done in nature to achieve sustainability.

- ***The results of the third filter:*** the last filter in the selection of strategies is based on their application in the creation of architecture. After the studies based on the defined filters Hanover principles, Biomimicry, and Cradle to cradle are strategies that have used nature as a source of inspiration in the creation of architecture.

In short, Hanover principles, Biomimicry, and Cradle cradle have been chosen for a current research project. To obtain and extract the features of distinction and similarity of the use of these approaches, a comparative study was conducted, in which the effects of using the three strategies were compared to Eco-design, which is a well-known strategy in the process of designing sustainable architecture. Analysis was done. Eco-design strategy is a strategy that is known as "the integration of environmental considerations in design" and therefore it can be considered the basic strategy related to environmental sustainability in the design process with a history of 40 years (Stevels, 2001; van Hemel and Cramer 2002). To describe its use as a basic strategy in design, a more precise definition was provided, which is: "Eco-design is a strategy in which the complete life cycle of a product is considered and environmental aspects are taken into account at all stages of the design process. Moreover, create the least environmental impact during the life cycle of the product.

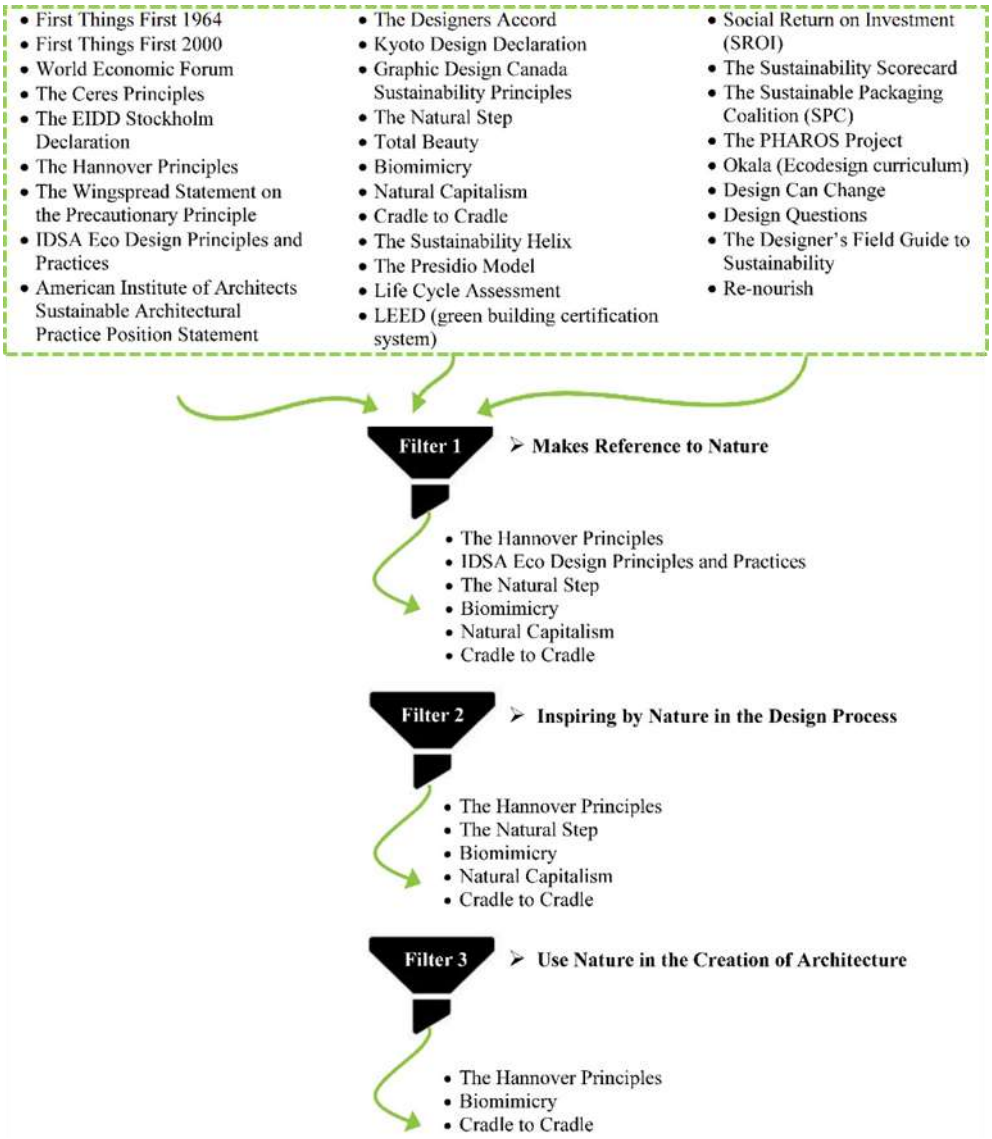


Fig 2 Sustainable design strategies and their classification based on the use of nature strategies in the creation of architecture (Based on Brink; Destandau and Hamlett 2009; de Pauw 2015)

3.2. Problem Solving Approaches

Approaches to nature-inspired strategies as a design process can be followed into two categories as Problem-based approach (Top-Down Approach) and Solution-based approach (Bottom-Up Approach). Although Top-Down (Problem-based) approach has different naming, all refer to the same meaning. Such as the "Top-Down Approach" (Kinppers, 2009); "Problem –Driven Biologically Inspired design" Michael Helms Swaroop and his colleagues at Georgia Institute of Technology defined the Top-Down approach within six nonlinear and dynamic levels, each output influences previous phases and provides refinement loops (Helms, Vattam and Goel, 2009) (Fig 3a).

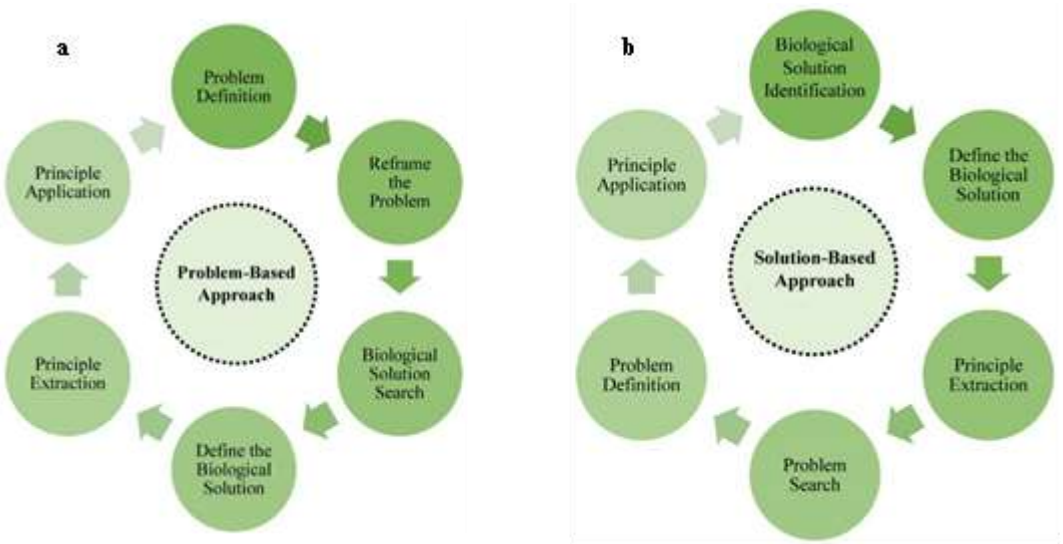


Fig 3 a Levels of the Top-Down (Problem-Based approach) approach, **b** Levels of Bottom-Up (Solution-based) approach

Zari named it "Design looking to biology"; Nature is full of solutions for human problems that designers can identify and learn from, and with help of biologists, designers can apply and match their problems with organisms, which salved the same issues (Zari, 2007). In the Bottom-Up (Solution-based) Approach, biology influences design in the sense that the source of inspiration and natural strategy is first identified and fully explored at different biological levels; In such a way that it can be properly used as the foundation of the design. In this approach, the design depends more on biological and ecological knowledge than on human problems (Vincent, Bogatyreva, and Bowyer, 2005) Michael Helms Swaroop and his colleagues at Georgia Institute of Technology defined the Bottom-Up approach within seven levels (Fig 3b) (Helms, Vattam and Goel, 2009).

4. Exploring the Application of Selected Strategies

The study design books of the students' design groups were examined to analyze the use degree of nature-inspired design strategies in each group according to their attitude toward solving the design problem, methods, and tools, were analyzed and explained. This was done to achieve the research's objectives (Fig 4).

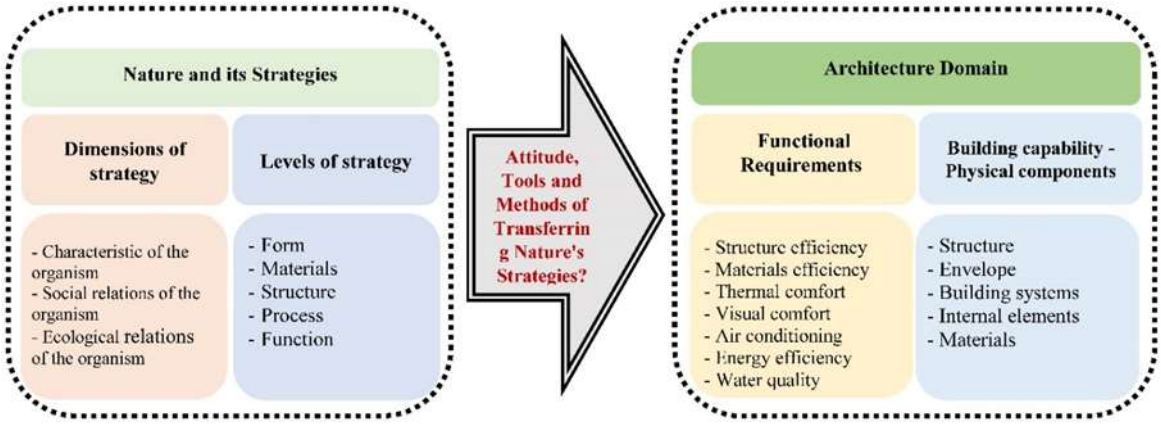


Fig 4 Transferring nature design strategies to the architectural domain

In this manner, a table with the dimensions and levels of the nature strategies and the assessment of the degree to which students successfully used and converted the natural strategies into architectural solutions was created. While the students were presenting their work, this table was prepared with the researcher's active participation and with the second researcher's invitation. Documents and design books belonging to the students were also examined.

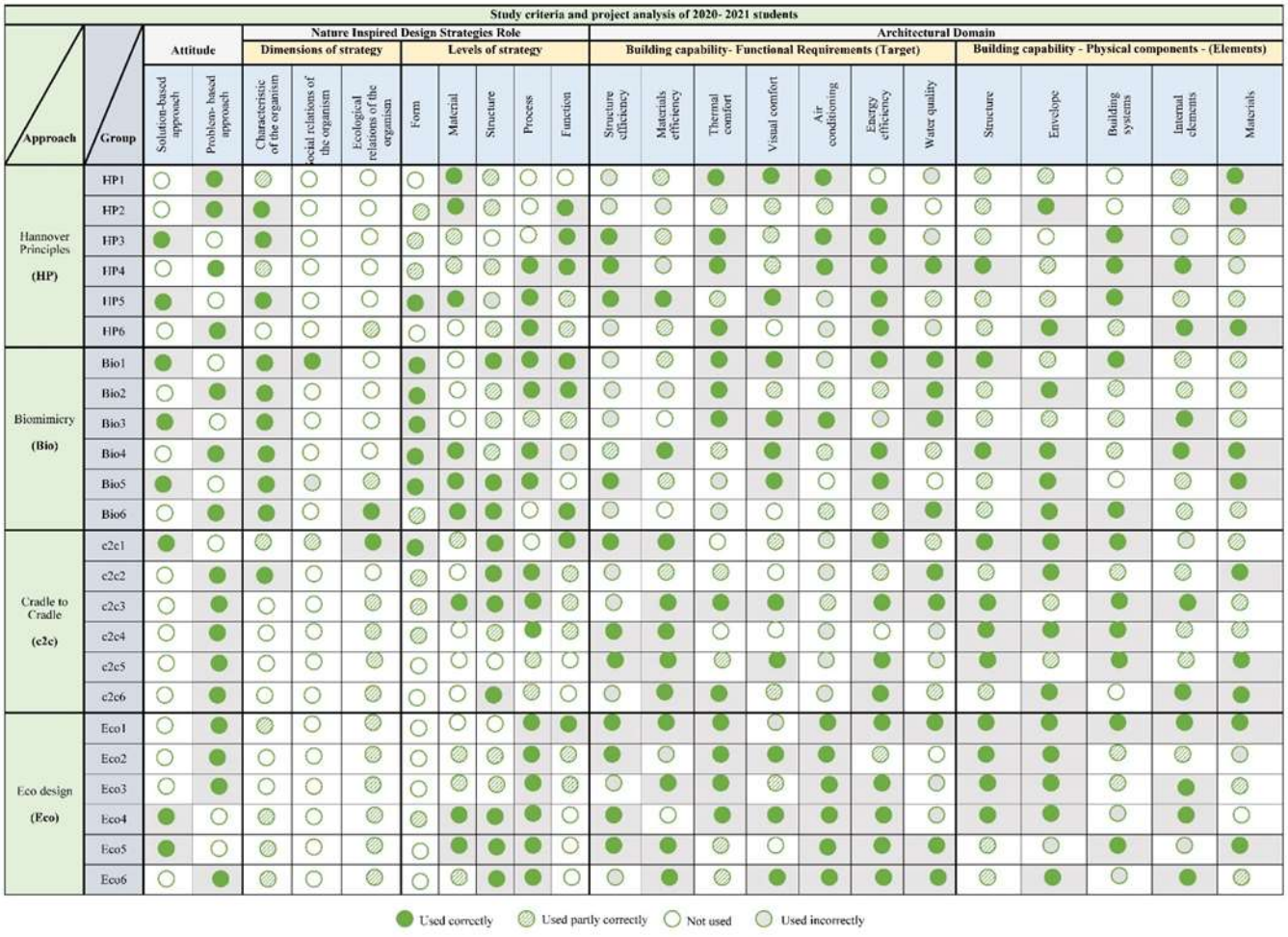
The characteristics of the organism, the social relations of the organism, and the ecological interactions of the organism are the most crucial dimensions parameters, and they are studied at many levels in nature-inspired design methods with various dimensions and levels. These levels are function, form, materials, and structure. Finding and extracting architectural solutions depends on the study of the aforementioned dimensions and levels, employing the appropriate tools to comprehend, extract, and implement these answers, and translating knowledge from the biological world to architecture. To fill in the gap between the biological and architectural fields, it is important to understand the mindset, level of focus, methodology, and tools that go into employing nature design strategies in architecture. To find and extract architectural solutions, it is crucial to study the aforementioned dimensions and levels. It is also crucial to use the right tool for understanding, extracting, and applying these solutions. Finally, it is crucial to transfer knowledge from the biological domain to architecture. Extensive field investigations were conducted in this respect to fill in the gap between the biological field and the architectural domain, to learn the attitude, level of concentration, method, and tools of employing nature design strategies in architecture, and the results are presented in Table 2, and 3.

Table 2 Project analysis of 2020- 2021 Islamic Azad University of Mashhad students

Study criteria and project analysis of 2020- 2021 students																							
Approach	Group	Attitude		Nature Inspired Design Strategies Role								Architectural Domain											
				Dimensions of strategy			Levels of strategy					Building capability- Functional Requirements (Target)							Building capability - Physical components - (Elements)				
		Solution-based approach	Problem- based approach	Characteristic of the organism	Social relations of the organism	Ecological relations of the organism	Form	Material	Structure	Process	Function	Structure efficiency	Materials efficiency	Thermal comfort	Visual comfort	Air conditioning	Energy efficiency	Water quality	Structure	Envelope	Building systems	Internal elements	Materials
Hannover Principles (HP)	HP1	○	●	◍	○	○	○	●	◍	○	●	○	◍	●	●	●	◍	◍	○	◍	○	◍	●
	HP2	○	●	●	○	○	●	●	◍	○	◍	◍	○	●	◍	●	◍	○	○	●	○	●	●
	HP3	●	○	●	○	○	○	◍	◍	○	◍	●	◍	●	○	●	●	◍	○	○	●	◍	◍
	HP4	○	●	●	○	○	◍	●	○	●	◍	○	○	●	○	●	●	●	●	◍	●	◍	●
	HP5	●	○	●	○	○	●	●	◍	○	◍	●	●	◍	●	◍	◍	○	○	●	●	○	●
	HP6	○	●	◍	○	○	◍	○	◍	◍	●	●	◍	●	○	◍	●	○	○	◍	◍	○	●
Biomimicry (Bio)	Bio1	○	●	●	◍	○	◍	◍	○	◍	●	○	●	○	○	●	◍	●	○	●	○	◍	◍
	Bio2	○	●	●	○	◍	●	○	◍	◍	●	○	○	●	●	●	●	●	◍	●	●	●	◍
	Bio3	●	○	◍	●	○	◍	○	◍	●	●	●	○	◍	○	○	●	○	●	◍	◍	●	○
	Bio4	●	○	○	◍	●	●	○	◍	●	●	●	○	◍	◍	◍	●	●	○	●	●	○	○
	Bio5	○	●	◍	●	○	◍	○	●	●	◍	●	◍	◍	●	○	●	○	●	●	○	◍	○
	Bio6	●	○	○	◍	●	○	○	●	●	●	○	○	●	◍	◍	●	●	●	◍	●	●	○
Cradle to Cradle (c2c)	c2c1	○	●	○	◍	○	◍	○	◍	◍	●	○	◍	●	◍	○	●	●	○	●	○	◍	●
	c2c2	○	●	◍	○	●	◍	●	◍	◍	●	○	●	○	●	●	●	◍	●	◍	●	○	●
	c2c3	●	○	○	●	◍	◍	○	○	○	●	●	●	◍	◍	○	○	◍	◍	◍	●	●	●
	c2c4	○	●	○	●	◍	◍	○	◍	●	●	◍	●	◍	●	◍	○	○	◍	●	○	●	●
	c2c5	●	○	○	○	◍	◍	○	●	◍	●	○	●	◍	●	○	○	◍	○	◍	●	○	●
	c2c6	○	●	◍	○	●	●	○	◍	○	●	○	○	◍	●	●	○	●	◍	●	◍	●	○
Eco design (Eco)	Eco1	○	●	○	○	◍	◍	◍	●	◍	●	●	◍	●	●	◍	○	○	●	◍	●	○	○
	Eco2	○	●	○	○	●	◍	◍	●	◍	●	●	○	●	◍	●	●	○	●	●	◍	●	○
	Eco3	●	○	○	○	◍	◍	◍	○	○	◍	○	●	◍	●	◍	●	●	○	●	○	◍	●
	Eco4	●	○	○	○	◍	○	○	◍	●	●	◍	●	◍	●	◍	○	●	◍	●	●	●	○
	Eco5	○	●	◍	○	●	○	○	◍	●	●	◍	●	●	●	●	●	●	●	●	◍	●	○
	Eco6	○	●	●	○	◍	◍	◍	◍	●	●	○	◍	●	◍	●	○	○	●	●	◍	●	●

● Used correctly ◍ Used partly correctly ○ Not used ◍ Used incorrectly

Table 3 Project analysis of 2020-2021 students of Islamic Azad University Science and Research Branch



5. Discussion and Conclusion

Nature has long served as a source of inspiration for designers and architects in their work. Different approaches for integrating nature with design, utilizing nature as a tool for problem-solving, and raising the level of compatibility of the design with the environment and its context have been proposed and developed. Initially, simply the copying of the physical shape and appearance of nature was explored, but throughout time, they looked for techniques, tools, and design strategies that were comparable to how plants and animals grow and evolve.

To execute their strategies in architectural processes, architects might draw inspiration from nature and study how organisms adapt to their environments. In this regard, a design project that has been looked into and analyzed utilizing nature-inspired design methodologies is the subject of theoretical analysis, logical argumentation, case study, and holding focus groups (participant observation). Table 2, and 3 have been created after the investigations have been completed by the planned objectives to provide the most simple reading of the findings.

This study set out to clarify the "attitude, method, and tools" associated with applying nature-inspired design strategies to the architectural design process. When using nature design

methodologies, two problem-solving attitudes have been identified: the problem-based approach, also known as the top-down approach, and the solution-based approach, also known as the bottom-up approach. Utilizing both attitudes will benefit the designer in creating a sustainable product. The type of attitude is determined by the type of design problem. The kind of design problem and the requirements it presents will determine the type of problem-solving approach to use. Following the selection of the attitude type, the design process is carried out by the attitude type. Four steps of the procedure were described, one for each attitude. Tools and measures that were required for each phase were determined and modified. At the end of phase three, the validation procedure is also recognized and described.

Researchers have discovered four key stages with two distinct attitudes in the process of developing an architectural project as a result of their study. The order of the four main phases varies depending on the type of attitude, which is further detailed, and each of these phases is carried out using tools and a certain methodology, which is as follows:

1. A description of the project's objectives, biological research, and resource search in the biological area to address the issue and carry out the project's objectives and policies. Before 2013, a biological specialist assisted and accompanied studies in the biological field. Biological investigations might be carried out more independently by architects and engineers thanks to the development of tools like BioTRIZ, FOBIE, and databases like E2BMO or AskNature. At this point, biological research is used to help choose the biological model.

2. The design idea is presented by selecting the guiding principles of life and taking into account the design guidelines. Biological functions are categorized, isolated, and extracted during this step to be coded, utilized, and mimicked.

3. Information coding is the first step in the simulation of biological data gathered from sources in the biological field. Information simulation is carried out in two steps during this phase. In the experimental stage, a model constructed using natural processes and life's fundamentals is simulated. You can use a visual programming language or a textual programming language to transmit these data to the architectural domain.

4. State-based algorithms are used to transmit biological information to the architectural domain. To accomplish the predetermined objective of the architectural domain, this phase involves using algorithms in the field of architecture and obtaining the physical elements and components of the architecture. The prototype that comes out of this phase can be validated utilizing the analyses that the algorithms give.

The core of the problem-based approach is the "quiddity of the research challenge." A human need or problem is first identified in the problem-based process, and then designers, working with biologists or using biological databases, explore nature to identify a solution that organisms have used to handle a related problem. The analysis and classification of human difficulties, restrictions, and functional needs precede the conduct of biological research because designers employ this method to successfully identify essential objectives and design criteria. In that, the original design policy is created first by human aspects and functional needs, and the biological studies are then conducted by the initial design policy. It explains the general design philosophy. The nature design strategy is identified in the next step by the overall design philosophy, and as a result, the principles of life are chosen. The extraction, separation, and classification of biological data can be used to create the framework and basis of the strategy. The next step involves coding the classified data. By extracting, separating, and classifying biological information, the foundation and basis of the plan can be established. In the following phase, by coding the classified information, they can be simulated, and some suitable prototypes can be generated and presented (Fig 5).

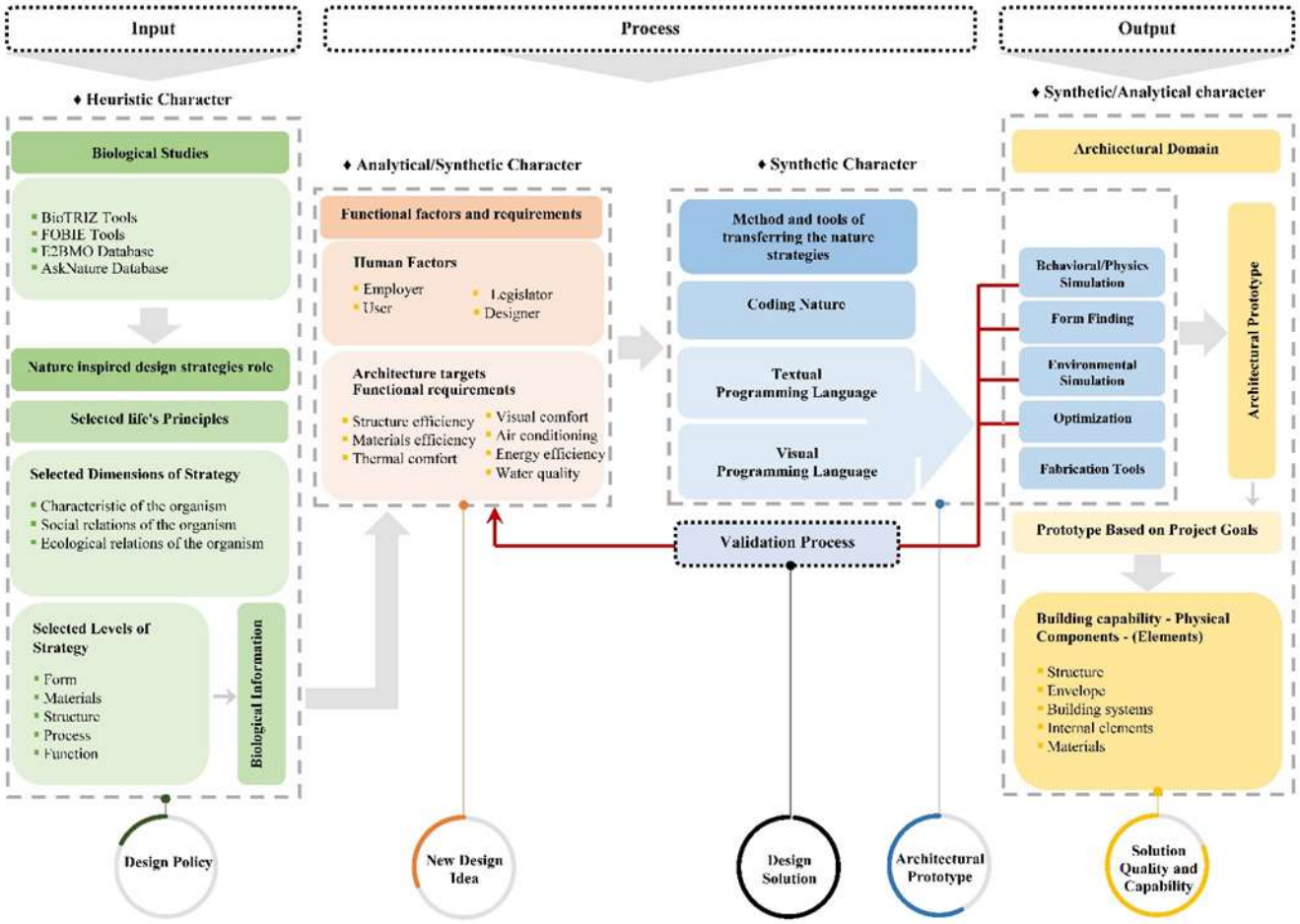


Fig 5 Diagram of the attitude, method, and tools of transferring nature design strategies in the process of creating architecture inspired by nature based on a solution-based approach

Instead of focusing on particular design issues, a solution-based approach bases its design process on biological knowledge and research. "The existing potential determines the quiddity of the research problem" is the fundamental of the solution-based approach. The biological source and the life principles are first discovered and chosen, and then carefully analyzed in many biological dimensions and levels so that they may be used as the foundation and basis of the design and can also be imitated and used. This is how biology influences design. This implies that biological information can be extracted, distinguished, and categorized in this phase before being coded in the following step to replicate it (Fig 6).

The two approaches are similar in that they both involve design strategies that are inspired by nature. The distinction between these two attitudes can be seen in the traits of the first and second stages of the architectural creation process. Phases one and two of the solution-based approach have exploratory and analytical-combination qualities, respectively. However, with the problem-based method, phase one has analytical-composite qualities, while phase two has exploratory characteristics. The two approaches differ in that: with the problem approach, design is founded on biology; this means that the human problem or need is first generated, and then designers work with biologists to solve it. They investigate nature and locate the answer within nature using biological

databases. Designers can efficiently use this method to pinpoint key objectives and design criteria. Since that biological research is carried out following an analysis and classification of human issues, constraints, and functional needs. Instead of focusing on solving specific design issues, a solution-based approach relies on biological knowledge, research, and design, and biology has an impact on design. To accomplish this, the biological source and the principles of life must first be identified and chosen, and then they must be thoroughly examined at various levels and dimensions of biology. These studies are of a type that can be effectively used as the framework and basis for the strategy."

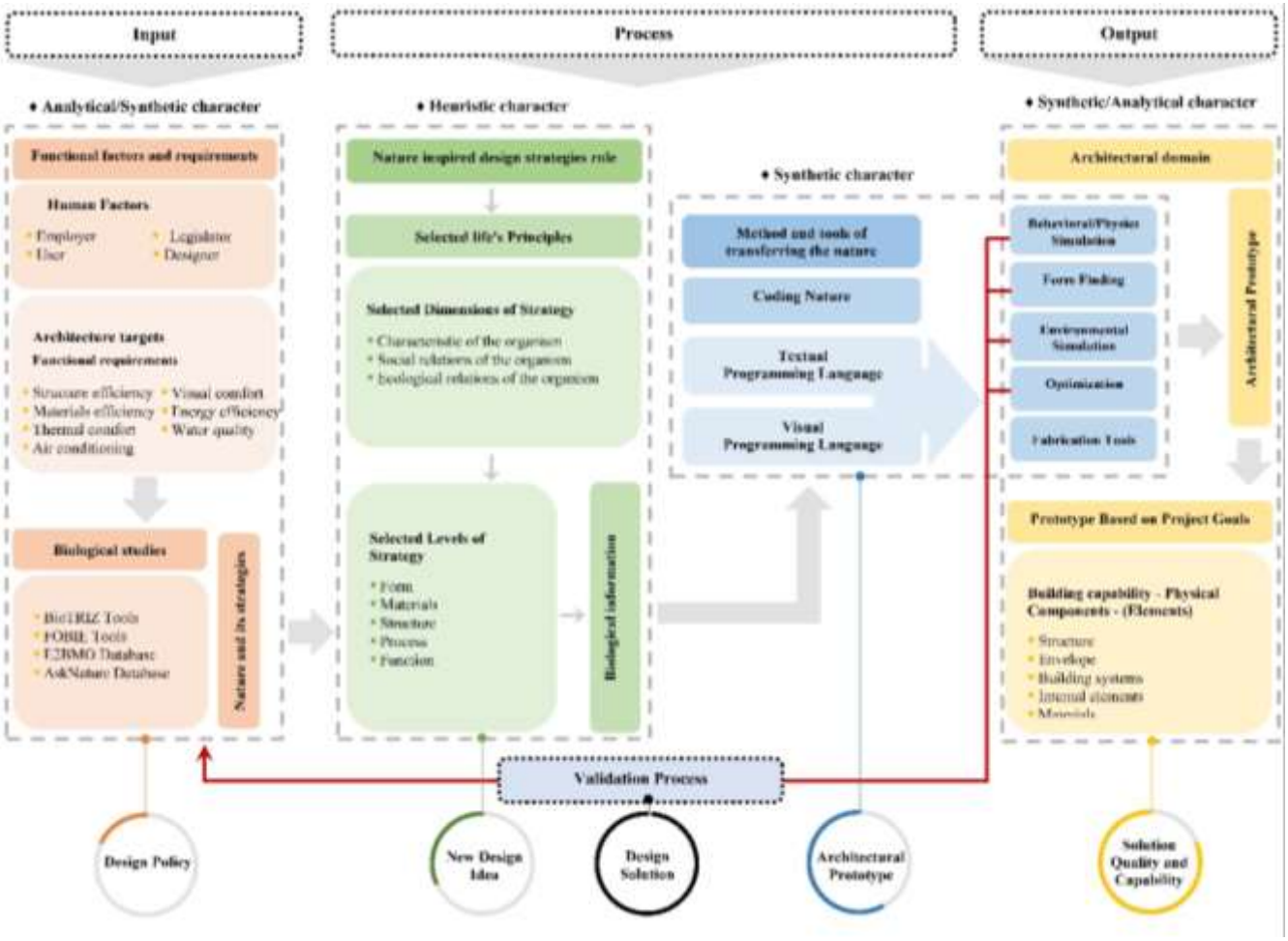


Fig 6 Diagram of the altitude, method, and tools of transferring nature design strategies in the process of creating architecture inspired by nature based on a problem-based approach

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Comparing Semantic and Semiotic Indices in Visual System Focusing on Identity Formation (Case Study: Fahadan and Posht-e Bagh Comparison)

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Research Article

Abstract

City as a combination of natural and social factors and environments recognized by human in which a resident population has been centralized has a special identity. An identity has distinguished city from other cities and gives meaning to the population residing in it, identity in the appearance of environments built by humans is always taken from the parameters of human and behavioral sciences that this identity is more valuable in neighborhoods with historical oldness and historical context due to more application of semantic and identity signs attributed to culture. The semantic and semiotic indices have been different from each other considering neighborhoods and their types but it seems that indices with high coefficient have been used to design the centers of these neighborhoods. This study aims at extracting variables with high coefficient in all neighborhoods to be used in the flagship development of other neighborhoods. Concurrent nested mixed research method has been used in this study that variables and indices extracted in qualitative part and compared in quantitative part, semi-structured interview used in qualitative part to explore and scrutinize variables and in order to facilitate this, Atlas. ti has been used to reduce data. The results compared in qualitative part using ORIGINPRO, sample size achieved using snowball system with theoretical saturation in qualitative part and Morgan Table used in quantitative part. The results show that all spaces are axial and central (1.000), specifying,

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explaining and defining each path (0.958) and inner value (0.921) have the highest coefficient of determination and effectiveness in Posht-e Bagh neighborhood and the least effectiveness is related to conceptual richness (0.246) but all spaces are axial and central (1.000), inner value (0.978) and special arrangement and order (0.920) have the highest coefficient of determination in Fahadan neighborhood and the least one is related to motifs taken from nature (0.254).

Keywords: Semantic Indices; Semiotics; Visual System; Identity Formation

1. Introduction

Human in naturally a meaning-maker creature and creates meaning through producing and interpreting "signs". Peirce says: "nothing is sign unless we interpret it as a sign" (Laripour and Dadvar, 2019: 72). Sign-modern semiotics is founded in "School of Paris" and based on the theories of Greimas (Zohurian, 2016: 2). Urban signs are elements and components of urban environments that as physical points in these environments cause nostalgia and readability of cities and identify formation of their different parts. In order to stabilize rich identity and culture, as well as urban elements it is necessary that readability has meaning and concept related to the culture of the residents of that city (Izadpanahi, 2016: 40). In the structure of each city, semiotics is so considerable to analyze the identity of city (Nasr, 2016: 189). Human action and desire relate meaning to sign and turns sign into an experienced element. Sign influences human mutually and guides human values and concepts by its meaning. Therefore, sign identity has been related to personal identity and grows as a result of directly experiencing physical environment. Thus, identity is a reflection of social and cultural aspects of urban sign (Poujafar and Montazerolhojjat, 2010: 50). In fact, what make a city dynamic and attractive and satisfy citizens are history, rich culture, beauty and visual quality of urban space appearing in the elements and signs of each city structure, semiotics is so considerable to analyze the identity of city (Nasr, 2016: 189). The successful neighborhoods have indices with high coefficient that using them may increase profitability and efficiency of neighborhood. Their existence considered as neighborhood desirability. Aiming at extracting the most effective indices, this study makes attempt to answer this question that which indices and signs have the most effectiveness in successful neighborhoods?

2. Theoretical Basics

2.1. Semiotics

Every sign refers to a unit of information that their configuration next to each other has meaning. The first models investigated the stricture of sign belongs to Swiss linguist "Ferdinand de Saussure" and American philosopher "Charles Sanders Peirce" (Majedi and Zarabadi, 2010: 51).

"Semiotics" has Greek root which is in the realm of "sign" and "meaning" (Amiri, Khoshkar and Vandadi, 2016: 425). Thanks to Charles Sanders Peirce (1839-1914) to have semiotics as a scientific major; on the other hand, he believes that semiotics is a referential framework which covers any other study. Almost at the same time with Peirce, Saussure (1857-1913) also considered semiotics. He considered language a system of signs which demonstrates thoughts (Ghashghaei et al., 2018: 448).

a) Diversity Types in Semiotics

A sign's physical identification may be derived from two categories of variables, including (Caduff and Timpf, 2008: 251):

1) The sign's physical characteristics, i.e., the variables belonging to the sign element itself that are part of its existential nature

2) The characteristics of the sign's contextual role, focusing on the type of relationship between the element or context and the surrounding texture; the second feature includes visibility and how the volume is combined with the adjacent texture. It shows a quality display that is the consequence of distances and angles of view to the urban sign, a part of the urban perspective defined by the visual and movement sequences (Mohammad Hasani et al., 2016: 66).

A semiotic element's functional differentiation arises from three types of importance (Van Lenthe, 2016: 765):

First: mere functional importance (depending on the type of use and its intensity);

Second: functional importance (focusing on the time dimension of use);

Third: The importance created by the type of users in an artistic element, leading that element to become a sign.

These features have begun from three parameters and reach smaller variables. Appleyard (1970) considers characters which make an urban element memorable and symbolic in people' mind, form distinction, apparentness (visibility) and enjoying symbolic and operational importance. At least form distinction and visibility are categorized in the physical field of signs (Appleyard, 2002: 79). Effective factors on form distinction are: size, shape, color, materials, the style of construction and external furniture. Also, visibility is evaluated in relation to the position of that element to vision centers and focuses and citizens activities (Mohammad Hassani et al., 2016: 64). Human is obsessed with meaning-making and creates meaning through producing and interpreting "signs" (Chandler, 2015: 46). Linguistic approach shows architecture that it is able to consider city and its buildings as a text and interpret it. Text is a physical phenomenon, thus every artifact encrypted with a performance and a message, is considered a text (Hamdjani et al., 2017: 48).

Like a text in front of audience, architecture reminds a world of thoughts and values of design and has a language behind of its veils which talks to audience (Zalnejad et al., 2013: 42). The words of this text are structural elements, buildings, mass and volumes, collective spaces, open spaces, access ways and knots that besides semantic interrelationship with each other, they show a unique generality (Frank, 2006) and they transfer their message through logical, aesthetic and social codes, therefore, what is identifiable in architecture as a meaning-maker factor of sign is appeared in three forms of "icon, sign and symbol" (Kumer, 2009: 17).

Table 1. Physical and semantic components of urban sign and its variables (Source: Mohammad Hasani et al., 2016: 67)

<table>
<tr><th colspan="2">Sense</th><th colspan="3">Body</th></tr>
<tr><td rowspan="2">Collective memories</td><td rowspan="4">Evocative</td><td colspan="2">Color</td><td rowspan="3">Essential physical characteristics of the sign</td></tr>
<tr><td colspan="2">Material</td></tr>
<tr><td>Collective memoirs</td><td colspan="2">General shape</td></tr>
<tr><td colspan="2"></td><td colspan="2">Size and scale</td><td>Essential physical characteristics of the sign</td></tr>
<tr><td>Non-verbal behaviors</td><td rowspan="3">Perceptual</td><td>Evocative</td><td rowspan="2">Visible</td><td rowspan="3">Essential physical characteristics of the sign</td></tr>
<tr><td>Activities</td><td>Angles of view</td></tr>
<tr><td>Behavioral camps</td><td colspan="2">How to combine volume with adjacent texture</td></tr>
</table>

2.2. Perception of the Environment

In the process of recognition and perception of the environment, the sense of physical elements in the urban space is the first step (Mousavi Sarvineh Baghi and Sadeghi, 2016: 101). The human mind at this stage seeks to visualize the visual order and organization through interpreting the relationships among the urban space elements as well as establishing a meaningful relationship between them (Kazemi and Behzadfar, 2013: 74). This way it can be claimed that human psychological effects of the perception of the urban space elements are divided into two categories: "perception of the semantic quality of the environment" and "perception of the visual quality of the environment" (Laripour and Dadvar, 2019: 86).

a) Perception of Environment Semantic Quality

From the second half of 20th century and after the decline of rationalistic thoughts in the framework of modernistic art inclinations and tendency to post-modernistic approaches in the literature of architecture and urbanism, the concept of meaning appeared in the quality of environment. The findings of studies by Lynch, Rapoport, Lang, Schulz, White, Relph and Appleyard show that perceptional and reminding aspects of meaning have been interrelated to each other (Kalin and Yilmaz, 2012: 241) and the difference among perceptional qualities makes these qualities remind audience of "meanings" in combination with each other (Kouhifard, 2018: 12).

Lynch believes that "perception" is the objective demonstration of "meaning" and the meaning of environment determined due to presence at space and perceiving it (Lynch, 2016). Kalin considers visual and perceptional literacy an important factor in making the sense of satisfaction of individuals in contact with environment (Ameri Siahuei et al., 2017: 1). So, factors like the effect of physical place on feeling, emotion, and sense of belonging, general satisfaction and human health are ignored in designing environment (Majedi and Zarabadi, 2010: 52). This is while spaces like city, street, neighborhood, building and room people live in is the civil part of an individual's life, in fact spaces are created and take meaning but individuals ignore them (Dulabi et al., 2015: 40). Taking a phenomenological look at environment, Schulz believes due to presence at space, human is trying to make his existence meaningful and achieve a base in space and in time (Laripour and Dadvar, 2019: 86).

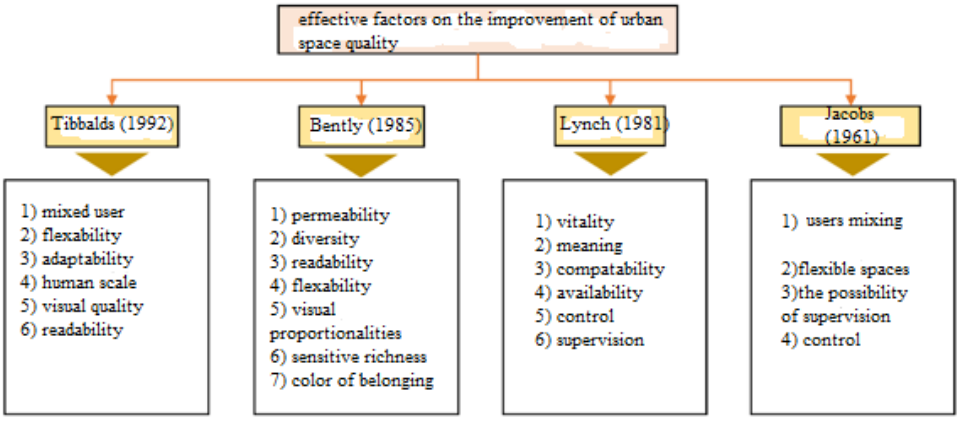

Fig 1 The diagram of effective factors on the improvement of urban space quality (Source: writer, 2020 narrated by Vahdat and Rezaei Raad, 2017: 70)

Schultz considers semantic quality of space as one of the features in turning environment into an effective place. The surrounding environment may turn into a meaningful one when provides rich facilities in determining identity and establishes an association full of meaning with a world consisted of different things. "Parimusic" maintains that: "meanings have existed before us (Kalali and Modiri, 2012: 45). In fact, the cultural characteristics of the society penetrate into the body of the place like the soul and are manifested in it and appear in local and spatial backgrounds (Vahdat and Rezaei Raad, 2017: 71). As a result, the semantic parameter of place is a qualitative and metaphorical background and is derived from the presence of events and group memories and generally from that group of features that place has become meaningful due to them (Ghashghaei et al., 2018: 448). Kevin Lynch has considered the improvement of urban life quality due to five criteria of vitality, meaning, compatibility, availability, control and supervision and maintains that the simplest form of meaning to the limited concept of this general term is identity (Lynch, 2016). Compatibility, transparency and readability are components of meaning which express the explicit relationship of a habitation with non-spatial concepts and values (Rezvani, 2016: 64).

Table 2 A review on the views of scientists in relation to the concept of meaning and effective factors on its formation, sustenance or diversity (Source: writer, 2020 narrated by Kazemi and Behzadfar, 2013: 79)

Scientist	Definition of meaning	Effective factors on the formation of environment meaning	Factors of sustainability or variability of meaning
Lynch (1997)	Clarity in comprehending the whole and the components of environment in time and place and its relationship with non-spatial values	Dependent on social, personal, cultural and physical conditions	Creation or reaction of mental image shared with the factor of sustainability of environment meaning
Rapoport (2006)	The result of non-verbal communication of human-environment, the adaptation of mental images with physical elements of environment	Cultural backgrounds/ traditions, social interactions, perceptual conditions, time/ environment reminding dimensions	Social, professional, relative, sexual groups/ multiplicity and diversity of symbols/ variability factor of meanings shared among historical environments
White (2006)	Meaning is the result of observer's perception	Experiences, individuals' perceptual differences	Temporal differences Cultural differences as meanings variability factor
Degen (2008)	Environmental meanings are reflective of social values	Perceptual differences	Different human capabilities like age, the level of physical ability, ethnicity and gender as meanings variability factor
Schultz (2009)	A qualitative matter formed from the special relationships of things with each other in environment	Mental organization of environmental hints	Environment symbolization as meanings sustainability factor/ values continuation as meanings variability factor

Relph (2009)	Environmental meanings are rooted in humans' presence at spaces	Memory, sense of identity, phenomenological approach to things, environment reminding dimensions	Individuals' attitude change as meanings variability factor
Appleyard (2009)		Experiences, mentalities, perceptual space	- Social classification as meanings diversity factor - Age, gender, education, familiarity with agent environment - Meanings variability
Rezazadeh (2011)	Definition of meaning	Dependent on culture, interests and viewpoints of different people	

b) Perception of Environment Visual Quality

The phenomenon of perception is a mental process in which sensitive experiences become meaningful and through which human comprehends the relationships between affairs and the meanings of things. Sensitive experiences, concepts and imaginations resulted from that and the motivation of individual and the position in which perception has happened interfere in it (Ghashghaei et al., 2018: 448). Environmental perception in this relationship is a process that human comprehends necessary data and mental imaginations from environment and combines them with his cognition of environment; which is the result of sensitive perception and cognition interaction. Environmental perception is based on human five senses and objective aspects and vision plays the most role in the visual perception of urban environments (Vahdat and Rezaei Raad, 2017: 71). Kevin lynch (1960) considers the quality of a city possible only through seeing it by citizens. He believes that this is formed by mental image and environmental perception of people of where they live. In relation to the visual qualities of city, he refers to different factors like readability, transparency and visual clarity (Lynch, 2016). Coulomb (1961) represents the theory of "serial vision" in the field of city visual aspects and refers to parameters like visual continuity, visible landscape, existing landscape and… in the visual perception of environment (Coulomb, 2011: 71).

Table 3 Effective factors on the improvement of the visual quality of urban spaces (Source: Vahdat and Rezaei Raad, 2017: 73-74)

Experts	Year	**Effective factors on the improvement of the visual quality**
Lynch	1960	Readability, visual clarity, transparency
Cullen	1961	Sequence, continuity, motion, hidden landscape, diversity in the path of movement
Spreiregen	1965	Landscapes, different visual experiences
Lerup	1972	Continuity, readability, capability of prediction
Lynch & Hack	1985	Unity, readability

Bentley et al	1985	Visual proportionalities, visual sensory richness, readability, visual compatibility
Gehl	1987	Beautiful vision and landscape
Lang	1987	Figures, proportionalities, rhythm, scale, complexity, colour
Tibbalds	1988	Visual desirability, readability, scale, enclosure
South Worth	1989	Vision, landscape
Marcus & Francis	1990	Visibility, desirable light, landscape, facilities
Carr et al	1992	Exploration and secret
Leonard & Lenaard	1993	Direction, readability
Nasar	1994	Figures, proportionalities, rhythm, scale, colour, lighting, shade, hierarchy, spatial communications, ambiguity, innovation, compatibility and wonder, enclosure
Punter & Camrona	1997	Visions quality, skyline, landscapes, controlling and establishing symbolic high-rise buildings
Lokaitou – Sideris & Baberjee	1998	Availability, readability, continuity, services, body beauty
Montgomery	1998	Creativity in architecture, pieces diversity
Oldenburg	1999	Suitable background, readability
DETR/CABE	2000	Visual diversity, readability, continuity, enclosure
PPS	2001	Readability, continuity, diversity, greenness, suitable appearance
Carmona	2003	Roof appearance, skyline, Cornish line, urban walls, floor, ground appearance, natural and artificial elements
Steadman	2004	Landscape
Hoehner	2005	Environmental beauty, continuity and path readability
Hooker	2005	Lighting, public equipment and facilities
De Bourdeu Dhuji	2005	Streets joints, continuity
Burton	2016	Cleanliness, aesthetics
Van Lenthe	2005	Landscape quality
PPSI	2005	Visual attraction, architectural composition, landscaping
Ramirez	2006	Air quality (pollution), street furniture, climatic conditions
Frank	2006	Environmental beauty, adjacency with historical elements
Lee	2006	Environmental beauty, readability
Pikora et al	2006	Diversity in architectural styles
Frank	2006	Joints of passages network, continuity
Carmona	2007	Identity formation factor, relationships of physical components with each other and with the whole
Forsyth & South Worth	2008	Urban furniture, landscape, cleanliness, street visual quality
Kumar	2009	Architectural appearance and walls continuity

c) Identity of Environment

Identity refers to the sense of belonging to a material and spiritual set with elements already formed (Hamdjani et al., 2017: 48). Accordingly, it should be noted that like other objective phenomena, each of the environmental appearance elements has an identity, if on the one hand, they are objectivity independent, and on the other hand, individuals are present in the environment as objective objects and the individuality of individual elements, first recognizing the environmental appearance and then adapting it to their mind (Kalali and Modiri, 2012: 51). In this state, the individual transforms part of the objects of the environment into a mental image; thus, the best way to assess the status of identity will be possible in the two ways below (Doulabi et al., 2015: 40):

1) Addressing the expectations from an environmental objective element; 2) Adapting it to the ideas arising in the individuals' minds (Kamvarshalmani and Hanachi, 2015: 67). Place is the most significant feature in transforming the environment into identity. The environmental semantic quality becomes meaningful when having an identity and roots. Korpela has defined any artificial or natural body to recognize place through time for environment "sense of self" (Korpela, 1998: 144). City is a set of living and dynamic agents whose identity has been transferred through time and the components and elements of its environments including buildings, passages and squares are the product of the creative soul of its residents. If city is considered a set of buildings and urban elements and centers, an appearance has to be given to it which is able to be unique, if identity is given to it or it is built or any other action (Shahabian and Golipour, 2017: 6). In the process of designing based on structural methods through identity measurement, features and mechanisms have been considered for different places which makes them different from each other. Transparency, forms distinction, functions, landscapes and mental imaginations, capabilities, desirability, efficiency improve place in the axis of meaningfulness. All of them are a part of components providing a background to improve the quality of environment which is the objective of environment and urban designers (Kouhifard, 2018: 11).

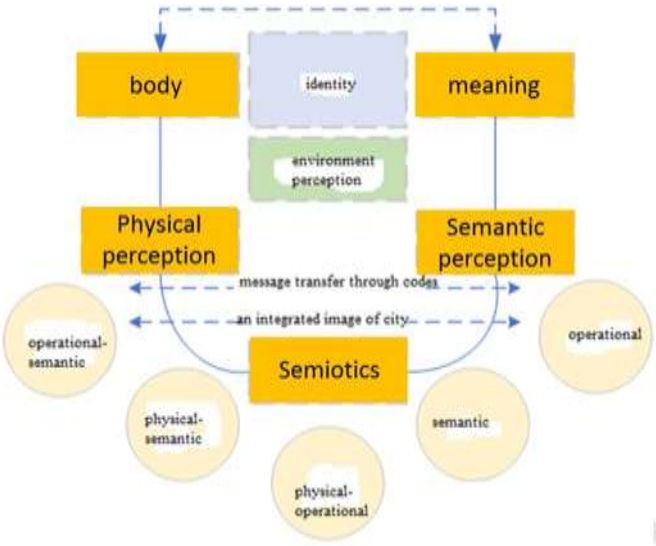

Fig 2 Research conceptual model

3. Research Method

This is an applied study which uses concurrent nested mixed research method with casual-comparative approach in quantitative part and also semi-structured interview used to scrutinize variables extracted from basics and also to allocate basic variables to case scalp and in order to facilitate encoding, the results entered ATLASTI, open encoding used to extract variables, the interviewees have been selected based on the following table and inclusion criteria are having scientific-research studies in relation to the subject and expertise in this field, snowball system used to introduce them. A questionnaire prepared in quantitative part using variables in Likert scale and divided among spatial users in two stages.

Table 4 Expertise of the interviewees

Interviewees	N	Frequency	Cumulative percentage
Professors of architecture	16	34.8	34.8
Professors of landscape architecture	9	19.5	54.3
Professors of urban design	12	26.2	80.5
Professors of urban planning	9	19.5	100
Total	46	100	-

High level of Morgan Table which is 348 is used to sample in quantitative part. Validity confirmed using CVR=0.76 formula and Cronbach's alpha used to confirm reliability as 0.78. Regression coefficient of determination and also graphic correlation coefficient have been also used.

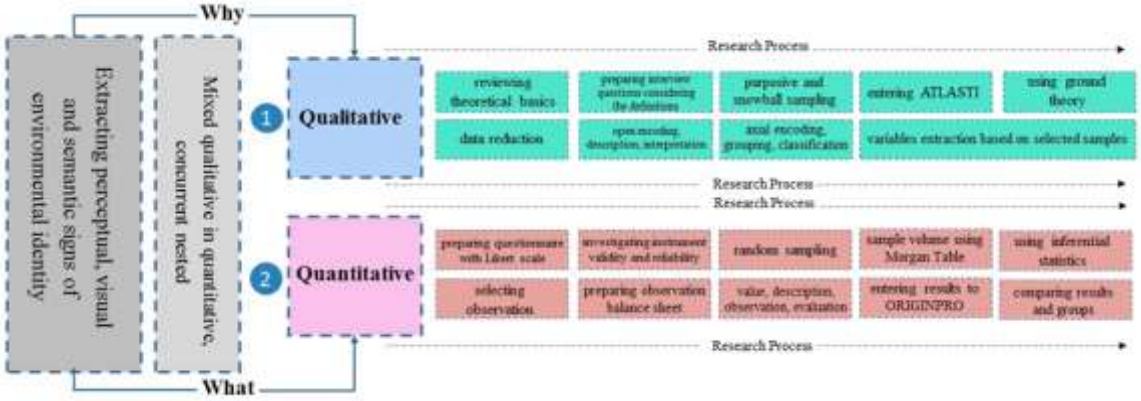

Fig 3 Research process diagram

3.1. Scope of Study

Fahadan is the name of one of the oldest neighborhoods in Yazd, located near the neighborhoods of Bazarno, Shah Abolghasem, and Kooshakno. Also known as Yuzdaran neighborhood, this neighborhood was previously the residence of nobles, elders, and dignitaries. Established in the early fifth century AH, Fahadan neighborhood is surrounded by four main streets named Imam Khomeini, Qiam, Seyed Gol Sorkh, and Fahadan. It is limited to Fahadan Street from the north,

Qiam Street from the south, Imam Khomeini Street from the east and Seyed Gol Sorkh Street from the west. Major uses in the collection include residential, commercial, educational, cultural, administrative, tourism, warehouse, and ruined uses. The main activity points inside the texture include Jame' Mosque complex (including Jame' Mosque, Seyed Rokanuddin Tomb, Vaqat Al-Saat Square, Bazaar and Chahar Sooq Shahi, Religious Islamic School, and Vaziri Library). Fahadan Neighborhood Center (including Davazdah Imams (Twelve Imams) Tomb, Iskandar Prison, Fahadan Hosseinieh, and Fahadan Hotel) is a collection of elements related to cultural heritage and part of the market.

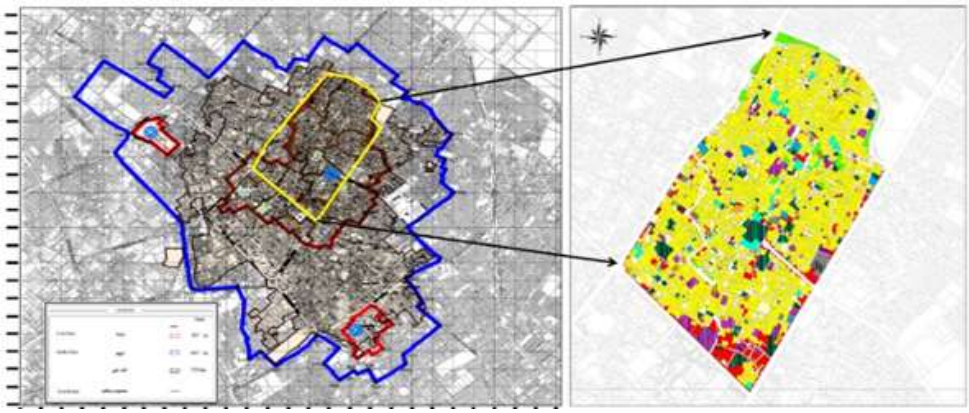

Fig 4 Scope of study (Source: Authors)

3.2. Posht-e Bagh Neighborhood

Posht-e Bagh neighborhood is in Azadi Square (National Garden), Iranshahr Intersection, Shahid Beheshti Square and some parts of Aab Taft Alley and Hashem Khan and is limited to Garage Naji Alley from the east and to Imamzadeh Jafar Blvd. from the north and to Farrokhi St. to the south and to Iranshahr St. and Araghpazha and Golchinan Aleis and Musalla, Mir Ghotb Alley to the east and to Motahhari St. and Chahar Manar Neighborhood from the west. It is worth mentioning that Posht-e Bagh neighborhood has been changed after the establishment of new streets and is consisted of different allies such as Khatib Alley and Musalla Godal and Atigh Musalla neighborhoods and Golchinan Alley, the main position of Posht-e Bagh neighborhood is that is has been a garden established by Ezzoddin Langar of Yazd Atabakan known as Ezzabad Garden which has been dried and destroyed later that only two pieces of arid lands have remained from it which is called Baghok-e Posht in Yazdi ascent that is small garden which was a cemetery that people went there and prayed for the dead there and right now it has become Shahid Rajaei Vocational School. When building the Vocational School ordered by Ayatollah Haj Sheikh Gholamreza Faghih Khorasani, all bones of the dead buried in Hussainiya Ghaemiyeh. According to Yazd local history, Ezzoddin Langar was of Yazd Atabakan Dynasty, he established a vast garden and high and beautiful mansion outside the city for his residence and called it Ezzabad Garden, a famous neighborhood called Khalf Ezzabdad Garden built in that place, it is called this considering the position of this neighborhood behind the mentioned garden, although Posht-e Bagh neighborhood doesn't enjoy high social position these days, and less noble people have lived in this alley at the present generation, the existence of buildings like caravansaries and bazaars, mosques and Hussainiya, tombs and luxurious houses and Ab anbars shows that this neighborhood has been

commercially and religiously important not a very long time ago. The job of residents of Posht-e Bagh neighborhood in the past and especially Khatib alley and allies around the small garden behind Posht-e Bagh was textile (weaving) and people in other parts including big alley behind Posht-e Bagh and Naghshin Hussainiya and Posht-e Sahra neighborhood and etc. were involved in coppersmithing which is demonstrative of that medium and medium-low classes of people have resided in these allies, this complex is consisted of:

Koocheh Yatim Mosque, Hussainiya and Ab anbar of Koocheh Yatim Mosque, big mosque of Posht-e Bagh and its Ab anbar, Khatib Alley Mosque and Hussainiya, Posht-e Bagh bath, historical bazar of Posht-e Bagh, Posht-e Bagh Hussainiya, Masoodi Caravansary, Papoli Caravansary, Imam Hassani Mosque, Naghshin Ab Anbar, Fatheh, cultural and Arabs Houses, Naghshin Hussainiya and Masoodi Ab Anbar (Shahbazi et al., 2017: 69).

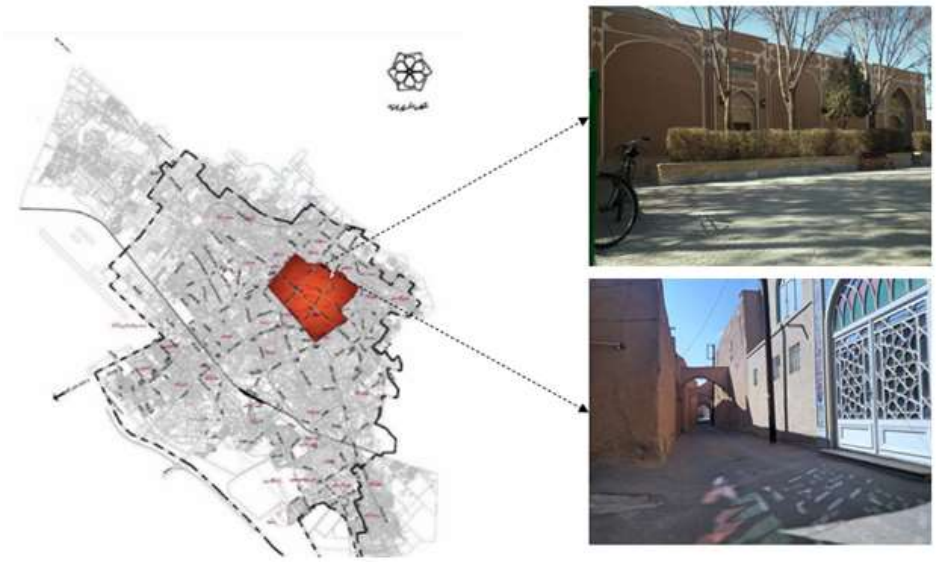

Fig 5 Posht-e Bagh neighborhood (Source: Authors)

4. Findings and Discussion

4.1. Qualitative Findings

In conclusion, all the codes extracted from the interviews related to the role of functional planning in creating sustainable buildings are provided in the figure below.

a) Open Coding

At this stage, the collected data have been frequently reviewed and considered from various angles. Now, the researcher attempts to identify the hidden concepts of the collected data by reviewing them. Finally, with the data obtained from interviews with professors and experts, 27 concepts related to the semantic and visual perception signs in identification were extracted through open coding. This experience structure was according to the type of meanings derived from positive experience and all the complex connections of various dimensions forming the main nature of the signs of semantic and visual perception in identification. The main sections of the resulting space became the fundamental issue for discussing the effective dimensions of the semantic and visual

perception signs in identification and the questions proposed in this regard. Subsequently, the classes formed in open coding were compared and their relationship with their subclasses was investigated. Similar classes were then merged and categorized into an axial class.

b) Extraction of Descriptive-Interpretive Codes in Open Coding

At this stage, the interview transcription is first carefully studied and word-by-word in search of topics related to the research questions, and at each point in the interview where a topic is found, that part of the interview is chosen and a descriptive topic is assigned to it. Descriptive coding of the interview transcriptions is followed by interpretation of their meanings. In the following, a descriptive and interpretive coding of some of the interview transcriptions is presented.

Table 5 Excerpts from concept codes extracted from the interviews text

Extracted conceptual code	Statements taken from the text of the interview and impressions
Symbolic meanings Hierarchy of presence	The components of the environmental significance provide a platform for reaching the perception of the meanings of existence in place, resulting in the creation of place's value and symbolic meanings in the mind. Then the sense of place is achieved from the result of internal relations among various levels of meaning of place, the hierarchy of human presence in various places and levels.
Visual appearance	The human vision structure affects the formation of criteria of the urban wall design and visual perception. The visual environment is analyzed based on its conformity with the human's physiological and visual mechanism and identified in accordance with the visual standards in understanding the image of the visual environment for human eye.
Physical identity Semantic identity	Iranian urban space has identity and its identity is manifested in culture, environment, body, and meaning; while it is not in this way in today's urban space.
Visual manifestation of unity	To preserve the identity and organize the visual system for reading the meanings of the historical context, the lasting values of the neighborhood must be preserved; and attracting and retaining the neighborhood visual cues, creating the spatial unity of the collection, restoring the social and historical identity of the neighborhood, reviving neighborhood units, passages, and historic accesses must be considered.
Perceptual richness Environment readability	Architectural signs of the city cannot provide a meaning appropriate to the individual's culture and identity, and in today's cities, urban spaces lack a clear sense of place and identity. Outstanding buildings and urban signs may play a significant role in enhancing the quality of urban spaces, while being a step towards giving meaning to space as well as creating a sense of place in the audience and making urban spaces readable and understandable, besides creating a sense of place in them.
Sense of ownership Knowledge of the environment	Every age has its own identity and signs; however, where rupture occurs, instances of identity crisis in individuals and the constructed environment show themselves. Thus, although the city is constantly changing, the rate of change in elements, signs, and meanings is not the same; accordingly, its originality and identity is preserved, indicating that the sense of ownership and knowledge of the environment is of paramount importance in the viewer's visual vision.
Harmony between body and meaning	With a cultural pattern, a city cannot be implemented anywhere on the earth, and the identity of each city differs from another city. Human, culture, and human behaviors are considerable components in an environment's identity; hence, the urban environment with an identity can be as a link between the individual and society, the individual and history, past, urban life, time, environment, and nature around him/her. Before focusing on the mentioned content factors, today's urbanization is summed up in physical manifestations. Thus, no concept can be considered for it, since the

	uniformity of the texture of cities, the mismatch of the apparent form of space and its meaning, lack of attention to the concept of culture in the body and meaning can be observed in it.
Harmony between body and building function	In architecture, everything begins from meaning, and indeed, it means that it constitutes the spirit governing human societies as well as every human thing and its crew even man-made buildings. The issue always occupying the architects' minds and causing their viewpoints to collide with each other is whether the form must eventually follow the function or it must be a function of beauty and the function follows the form.
Environment readability Knowledge of the environment	The individuals' positive presence and consequently the promotion and amplification of the level of social relations between individuals in society rely on a correct perception of the environment as well as the attention to the constructed space's signs and semantics. The space structure and its components' accompaniment guide the environmental social action and perception by citizens in defining space besides reading its spatial identity.
Perception of the environment	Signs may play a significant role in the design process to increase the sense of place and build a better quality about the architectural space; hence, the evocative meanings play a significant role in the design of architectural space and the audience's perception.
Natural elements Visual appearance	Human's behavior in the city relies on his/her perception of the environment and the perception phenomenon is a mental process in which sensory experiences become significant, through which human recognizes the relationships of things and the meanings of objects. Thus, it is a sign of a natural element, different from the environment in terms of form and function and employed to induce a sense of place and guide visual meanings in the audience eyes.

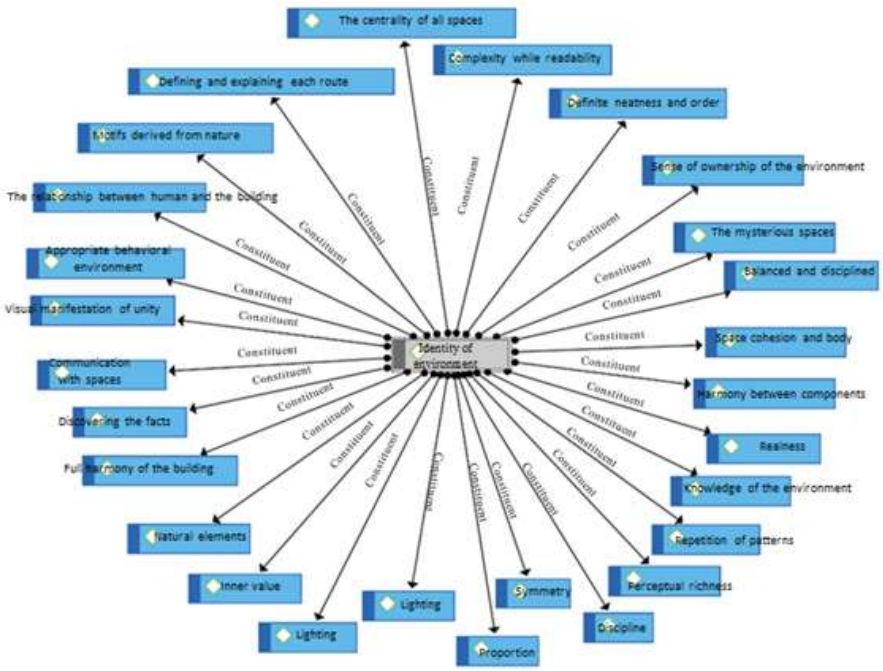

Fig 6 Open coding of variables extracted from the interview transcription

4.2. Quantitative Findings

a) Descriptive Statistics

According to descriptive statistics, 253 (70.7%) of the sample population were men and 131 (29.3%) were women and 74.4% were in 20 - 30 age range. The methodology is that questions have been prepared as much as the number of variables; and each question has a response range from 1 to 5 Likert scale. The total scores of the indices of a parameter means the score that each person has given to the considered quality. So obtainable score by each quality varies from 5 to 25. Accordingly, those have scored 5 to 11 evaluated it weak, those scored it 12 to 18 evaluated it medium and those scored it 19 to 25 have evaluated it good. The results of descriptive statistics showed that the most frequency of data achieved from semantic signs and cognitive visual signs variables in Posht-e Bagh neighborhood belongs to balance and order (1901) and the least frequency is related to natural elements (1048). In Fahadan neighborhood, the most frequency is related to proportionality (1899) and the least one is related to motifs taken from nature (1017). Considering the drawing line of variables mean, it is revealed that all variables in Posht-e Bagh enjoy higher coefficients.

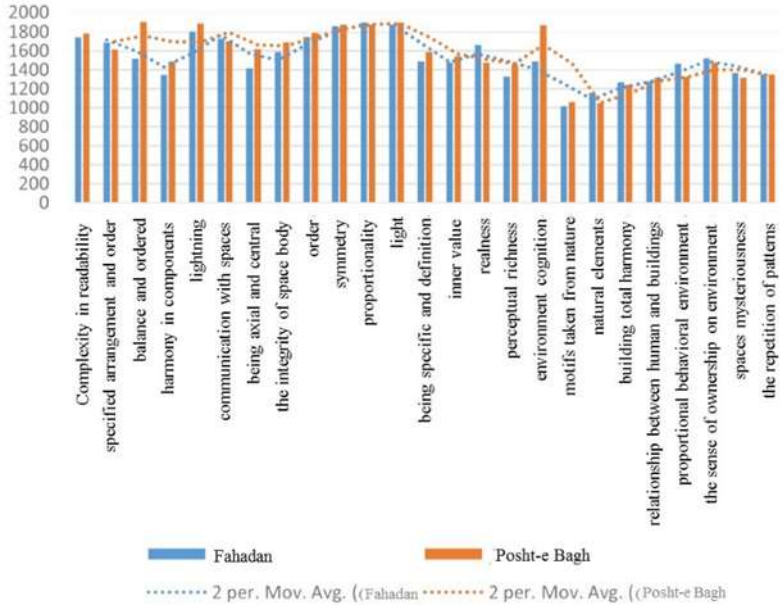

Fig 7 Frequency of variables

Complexity in readability, specified arrangement and order, balance and ordered, harmony in components, lightning, communication with spaces, being axial and central, the integrity of space body, order, symmetry, proportionality, light, being specific and definition, inner value, realness, perceptual richness, environment cognition, motifs taken from nature, natural elements, building total harmony, relationship between human and buildings, proportional behavioral environment, the sense of ownership on environment, spaces mysteriousness, the repetition of patterns Posht-e Bagh, Fahadan.

b) Inferential Statistics

Correlation: The results of questionnaire entered Sigma plot after numbering, prediction relations (regression) and correlation relations used for analysis. Two- Sample Kolmogorov-Smirnov Test used to investigate the parametric and non-parametric type of data.

Table 6 Kolmogorov-Smirnov Test to investigate normality of semantic and semiotic indices in visual system

Variable	Mean	SD	Kolmogorov-Smirnov	p
Semantic and semiotic indices in visual system	65/35	47/1	576/0	366/0

According to the above table, Kolmogorov-Smirnov Test is significant for the score of ecological architecture variables in different seasons of architecture (p-0.318) and so they don't enjoy normal distribution and they have been used for non-parametric analyses.

Inferential Statistics: Variables internal correlation matrix used for linear regression and or multivariate regression. After drawing the diagram of correlation matrix, it was revealed that the factors lack linear relationship so it is correct to use multivariate regression.

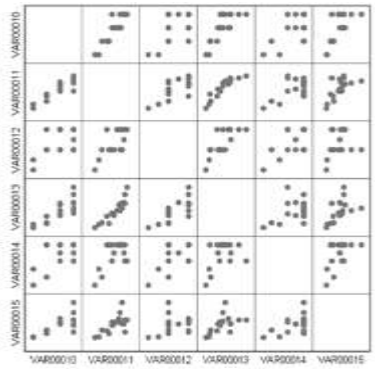

Fig 8 Factors correlation matrix

According to regression coefficients achieved from variables in both Posht-e Bagh and Fahadan neighborhoods, it was revealed that all spaces are axial and central (1.000), specifying, explaining and defining each path (0.958) and inner value (0.921) have the highest coefficient of determination and effectiveness in Posht-e Bagh neighborhood and the least effectiveness is related to conceptual richness (0.246) but all spaces are axial and central (1.000), inner value (0.978) and special arrangement and order (0.920) have the highest coefficient of determination in Fahadan neighborhood and the least one is related to motifs taken from nature (0.254).

Table 7 Coefficient of determination of multivariate regression of semantic and semiotic indices variables in visual system

Scale	Fahadan				Posht-e Bagh			
	t	β	F	Coefficient of determination	t	β	F	Coefficient of determination
Complexity despite readability	46/522	0/781	527/222	0/752	39/451	0/762	314/217	0/867

special arrangement and order	42/152	0/732	405/122	0/920	44/328	0/372	523/147	0/895
Balance and ordered	40/223	0/662	217/343	0/803	36/823	0/872	852/381	0.825
Harmony among components	38/239	0/648	199/943	0/746	39/362	0/685	298/921	0/625
lighting	8/958	0/664	201/612	0/681	18/958	0/597	247/257	0/612
Communication with spaces	11/134	0/662	643/623	0/816	16/644	0/436	644/321	0/656
All spaces being axial and central	18/441	0/652	849/683	1/000	21/422	0/852	845/523	1/000
The integrity of space body	19/144	0/665	349/603	0/846	19/144	0/665	754/254	0/645
Order	49/173	0/483	184/945	0/814	39/231	0/213	124/541	0/715
Symmetry	47/963	0/464	276/748	0/546	29/914	0/425	232/241	0/514
Proportionality	46/226	0/452	199/943	0/795	24/221	0/414	201/321	0/795
Light	47/228	0/463	499/034	0/243	48/248	0/421	443/124	0/323
specifying, explaining and defining each path	25/288	0/472	523/34	0/895	25/288	0/621	522/134	0/958
Inner value	45/256	0/661	147/258	0/978	65/254	0/615	229/265	0/921
Realness	41/552	0/452	321/564	0/462	49/517	0/424	323/412	0/421
Perceptual richness	21/356	0/401	492/371	0/331	25/326	0/423	441/211	0/246
Environment cognition	58/321	0/411	471/658	0/745	58/351	0/454	321/541	0/821
Motifs taken from nature	19/694	0/421	650/987	0/254	29/324	0/341	621/991	0/285
Natural elements	24/879	0/589	542/960	0/455	21/825	0/578	581/920	0/675
Building total harmony	44/587	0/521	214/362	0/781	31/586	0/514	218/654	0/754
Relationship between human and buildings	48/566	0/542	752/382	0/756	48/566	0/542	752/382	0/756
Suitable behavioral environment	23/658	0/545	699/301	0.645	25/618	0/541	514/321	0/661
The sense of ownership of environment	12/231	0/411	421/115	0/831	22/131	0/654	428/167	0/874
Spaces mysteriousness	16/897	0/309	411/325	0.315	287/861	0.221	431/175	0.265
Patterns repetition	36/458	0/517	161/415	0/811	43/418	0/521	154/425	0.727

Graphic correlation between two neighborhoods shows that they have 0.48 correlation coefficient.

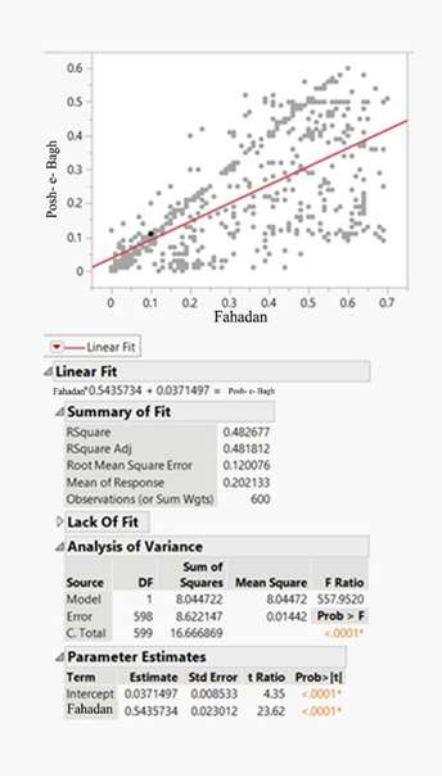

Fig 9 Graphic correlation of semantic and semiotic indices variables in visual system with Originpro

5. Discussion

Considering the results achieved in the last part, the variables of semantic and semiotic indices of visual system in neighborhoods totally lead to identity. These variables have high coefficient in both neighborhoods, graphic correlation confirms this, generally physical variables have high value in both neighborhoods and mystical variables have lower values. And also coefficient of determination achieved from variables in Posht-e Bagh neighborhood has higher mean, after extracting impact factor and investigating it, it was revealed that spatial users focus on spatial independence of each space to form identity and consider their presence next to each other as spatial desirability, in some parts of the neighborhoods using decorations as signs has created stronger and more powerful schema in the mind of audiences, it is doubtful that some users may perceive it.

6. Conclusion

Perceptual and visual signs play an important role in the identity formation of urban contexts and may be a way to induce identity, encourage and invite individuals to present at them in the centers of different neighborhoods, one of the ways of environmental studies in recognizing identity formation in neighborhoods is recognizing perceptual and semantic signs derived from visual systems, these signs exist in neighborhoods with spatial vitality and success to their different performance. But some of them have higher coefficients, it is different in all neighborhoods. The following strategies are recommended for environmental design based on perceptual and visual signs containing identity for different neighborhoods:

Independently designing spaces for supporting special activities.

Using native and national symbols in the decorations of neighborhoods buildings to induce identity.

Defining readable paths to make visual security and separating rider and walker in neighborhoods to deeply communicate with neighborhood and more sense of belonging.

Using special geometry to make independent graphic identity in the mind of spatial user and integrating culture with geometry elements like proportionality and balance.

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Explanation of the Concept of Theoretical Critique in Relation to the History and Philosophy of Art

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Research Article

Abstract

Among the existing academic texts on plastic art criticism in Iran, and of course among the approaches that are practically applied in writing critique, theoretical criticism has been vastly overlooked. Awareness of the theoretical criticism attributes will help us to achieve a personal perception of artistic media. Such a realization, first of all, has hermeneutic dimensions; because in it, the work of art, as the occurrence of an experience, does not necessarily reveal all its features however the way of its interpretation determines the character of the collection to which the work belongs. This paper is intended to provide a definition of theoretical criticism and determine the relation between this domain and a range of plastic criticism definition, that the applied approach is its beginning and academic approach is the end.

Crisis occurrence of significance in modern art led to the emerging of theories such as formalism, abstraction, institutional theory of art and in order to provide a definition of art. Parallel with these theories, there was a development, revival or birth of the media. The contemporary situation led to a situation that can be considered as the end of artists' art and the beginning of their tendency to create a kind of philosophy through the creation of works of art. Attempting at theoretical critique can be very effective in realizing and receiving this development. The present study aims to redefine the relationship of the domain of discussion between philosophy and art history.

A documentary and library method has been used to collect the material; and as the philosophy of critique is central to the subject matter, the text has a metacritique structure.

Theoretical criticism explains the media intrinsic values by examining a few limited number works. This approach seeks to create a pluralistic history based on discourses. Theoretical critique

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transforms the relation of critique to the philosophy of art from a one-way relation in which critique is the only consumer of concepts to dialectical cycles.

Keywords: Theoretical Criticism; Applied Criticism; Philosophy of Art; Art History

1. Introduction

The challenge which linked modernism in visual arts to the postmodern situation was more about ontology and epistemology questions and aesthetic knowledge about the works of art than a change in the style and idiom of execution of them. In the last years of 1960s, artists of various media had the sensation of responsibility to question the radical situation of the media, which they were expert of, with the help of self-reflexivity and introspection. Doubts about inefficiency of formalist were the result of reviewing the situation and finally classical modernist had entered its post-classical age; the age which its result was the current post-modern situation.

"What is art? How is its context to be defined? Can art be created or perceived when it is no longer bound to an aesthetic object? Can art be political or is art per se integrated into political contexts? Can the discourse about art itself constitute art? How can the authority to make appropriate judgments on art be extended from a small circle of insiders to a large number of stakeholders?

These and many other issues were raised by various works which in the late 1960s radically questioned the traditional idea of what was art" (Marzona, 2004).

In parallel with the fact that artists had a critical vision at the a priori compliment of art, critics also had tried to formalize the situations which were happening. On the other hand, the nature of questions about "what art is" in most cases leads to critical questions; the ones which distinguish good art from bad one. It seems that a neutral definition around art is practically impossible because "even neutral definitions of art implicitly refer to good art and bad art" (Velasquez, 2011).

The deep relationship between art definitions and criticism in theoretical criticism is more organic than other techniques. This research aims to provide a definition of theoretical critique, while clarifying this method defines a particular media by examining a limited number of works of it. We will understand that in this level, theoretical criticism will not get different. Next steps are expression of the relationship between media and art and finally providing a relative definition of art. Theoretical critique has been emerged from the development of traditional ideas around the definition of art; the developments that led formalism in modern art to the context pivot approaches of the post-modern. In order to achieve a deep apprehension of the problem methodology, it is necessary to realize the universal relation between critique, history and philosophy of art and of course, its relation with theoretical criticism, the kind of critique that is the main purpose of this research.

2. Literature Review

None of the Persian article dealt with the subject (theoretical critique) independently. Usually, theoretical criticism is proposed as a method in literary criticism under the literary criticism and literary theory reference books. The book "the light room", by Roland Barthes and an Alain Scola's article on the invention of the photographic meaning are some obvious theoretical critique applications in plastic arts. However, using metacritique structure is not new; and of course, we can call the article written by Dr. Helia Darabi, one of the few researchers which consider metacritique

as a method. She defines metacritique, in the first chapter of the article in this way: " Metacritique, or critique of critique, includes the study of the principles, methods and terms of critique both generally and in the way that includes studying of specific critical discourses; and examines the underlying criteria of critical actions such as interpretation or evaluation. Metacritique can be considered as a critical approach to the systematic study of words, critic and critical theoretical discourse, studying of words is approaches and methods of critical action. In other words, if a thesis is about examining and critique of Chehel-Sotoun mural paintings, its subject matter will be art criticism; by the other hand, if it deals with the principles and criteria of such critique, its method or the approaches, the subject matter will be metacritique (Darabi, 2014).

3. Research Methodology

Data of this research have been obtained by documentary-library method; and its methodology has a metacritique structure. Studying of philosophy of critique is called " metacritique"; philosophy of critique is called “metacritique” by Noel Carroll, he believes that being doubtful about art significance is the result of inability to develop a clear concept of philosophy of art. So, he replaces the philosophy of critique instead of philosophy of art (Carroll, 2014). Metacritique is not only a philosophy of critique but also includes research on the subject matters related to critique. " The study of criticism, metacriticism examines theories or critical approaches to textual meaning, author-text-reader relationships, and the criteria by which texts and other cultural artefacts should be judged. Metacriticism is sometimes referred to as hermeneutics (although hermeneutics can also refer to a specific approach to metacriticism) or as meta-interpretation since issues of interpretation play a major role in metacriticism” (Makaryk, 1993). At the macro levels metacritique is used to seeks finding the meaning of the text. Subconsciously examining critique is related to two kinds of text; The first is a textual critique that pursues a meaning about the work. Moreover, the work of art itself is a multi-layered and interpretable text. Understanding how and with what preliminaries the critique concocts the work significance in the audience's mind will be beginning of metacriticism; on the other hand, criticism of art, in the position of a relatively independent literary work, itself is understandable through its structure. Thus, the attempt to form significant units in the structure of art criticism and explanation of its systems will be a kind of metacritique at the macro level.

4. What is Theoretical Critique?

One of the eldest Persian texts that provides a definition of theoretical criticism is the book of literary criticism by Sirus Shamisa, its first edition was in the year 1999. In, this book definition of theoretical critique is begun in this way: "Theoretical critique is a coherent set of terms, definitions, categories and classifications, that can be used in considerations, studies, and interpretations of literary works. It also sets out the criteria and rules by which literary works and their authors can be judged, evaluated and so-called valued" (Shamisa, 2020). In this article, the theoretical critique means expression of rules and techniques; even if the goal of expressing them is to forbidden their use. Accordingly, in this approach, the theoretical principles of critique are explicitly used to critique a normative phenomenon from a predetermined point of view. In the following, in this book, Shamsia provides a definition of theoretical critique in the literature that is consistent with understanding of the present research. "Theoretical critique means discussion of what literature is and what its values and benefits are" (ibid). The reason for finding this approach is having declarations for media as we had for poems. The present study examines three other reasons for

emerging of such an approach: the emerging of new media, the combination of media, and the inefficiency of the priori definition of art.

Applied criticism in general, or what is specifically known as journalistic criticism, is always considered the opposite side of theoretical criticism; however, it seems that these are continuously related; and we can consider academic approach as the cause of this connection. The academic vision of art criticism provides theoretical basics for the applied domain of criticism, thus is embellishing the taste in journalistic criticism with reasoning debatable arguments. We can understand the common spirit of academic and theoretical approach to criticism by this sentence, from Andy Grundberg: "Criticism's task is to make arguments, not pronouncements" (Barret, 1989). Their difference is that the subject matter of discussion and argument in academic criticism is more internal issues and structural features of the work addressing; and this is mainly done with the aim of developing the awareness of the audience. However, in theoretical critique, the subject matter is the relation of the work to fundamental external issues in order to raise questions in the audience.

"Newspaper and magazine criticism is largely concerned with evaluation—think, for instance, of film reviews, which exist chiefly to tell the viewer whether a film is worth seeing—but most academic criticism assumes the value of the works it discusses, and it is chiefly analytic and interpretive" (Barnet, 2015). Although being certain about work of art values and presenting analysis and exegesis of it are necessary for theoretical criticism; it ignores formalist and internal analysis about the work as possible as it can; and makes external critique of the work as the source of the theory. In this method, instead of dissecting the work for the purpose of the anatomy of it, one or some works are considered parts of the structure of an explanatory whole.

In academic critique, the basic premise is: a work of art has the value of analysis and discussion. After assuming this, the critic presents a thesis or theory and its description, a theory which usually considers the internal subject matters of the work to express the external facts of it. What by theoretical critique we will face is adding a new step to the set of applied and academic critique. Here the use of theory is achieving something beyond the visual perception of that particular work. The main goal is to achieve media definition of which the art work is considered as a sample of it. The next step is to use these findings to have an art definition, however, this step is not included in all the theoretical critique samples necessarily. In theoretical critique, it is possible to have the artist's biography as an external subject matter, which is linked to the main goal of the critique. Usually, explanation of the artist's biography shows the artist's mainstream. The critic seeks to achieve the artist's definition of media and art through the work of art by understanding his mainstream.

We present important claims, through theoretical critique, in the form of general theories; and by explaining the differences between these theories and the ones in other domains, their attributes can be understood. Habib Ayatollahi believes that there is a difference between scientific and artistic theories; "In science, the scientist, in the first place, present the theory based on his guesses and then tries to prove it. Proving of the theory may be done by the scientist himself or by other scientists. If it gets proved, it will turn to science. Therefore, first of all we achieve theory, after that experience and if we get experienced, science will be obtained. However, in art, theory is derived from the proven experience of artists. It means that when a number of artists have believed in a task over the centuries based on numerous experiences, they declare it as a theory" (Ayatollahi, 2014). Theoretical critique is based on the belief that artists' works of art of are a practical experience of an idea or a theory. Meantime, theoretical critique can explain the theories of artists about the

media they use or art, can formulate a theory from the previously known method of science through the evidence found in works of art about phenomenological issues in art.

"Andy Grundberg, a former photography critic for the New York Times, perceives two basic approaches to photography criticism: the applied and the theoretical. Applied criticism is practical, immediate, and directed at the work; theoretical criticism is more philosophical, attempts to define photography, and uses photographs only as examples to clarify its arguments. Applied criticism tends toward journalism; theoretical criticism tends toward aesthetics" (Barret, 1990). Grundberg considers mentioning the critic's feelings while observing the work and ignoring the analytical aspects of critique as a worthless technique of applied critique; so in describing the acceptable samples of applied critique and theoretical critique definition considers current situation, the origin of the theoretical and practical approach, the relationship between theoretical criticism and epistemology, the closeness of theoretical criticism with philosophy and aesthetics, as well as the applications of applied and theoretical criticism. "Applied Criticism is essentially practical, immediate, and directed at specific objects that we call "the work." It tends toward journalism and functions to "review" the work. Theoretical criticism, on the other hand, is ontological; it endeavors to tell us what photography's nature is. In this respect its references to specific photographs or bodies of photographs are tangential, even if they are intriguing. If applied criticism tends toward journalism, then theoretical criticism tends toward philosophy. In practice, of course, these two approaches can, and usually do, overlap" (Grundberg, 1982). Grundberg places the earliest form of theoretical critique at the beginning of a spectrum which at its end is theoretical critique. "The major modes of applied criticism, as I apprehend them, are based on models that pre-date or exist independently of photography. Perhaps the most basic, the most used and ill used throughout photographic history, resides in the notion of connoisseurship. In essenee, connoisseurship as a critical instrument depends on the existence of an "educated eye"—an eye, in other words, that has surveyed the breadth and depth of the art and therefore is able to judge how a new work compares to the traditions from which it springs. Connoisseurship asks, "Is this good or bad?" an elementary question in the critical realm but one that the connoisseur is unable to go beyond. Connoisseurship's major flaw is that its judgments cannot be disputed except in terms of taste; the rudimentary theoretical structure latent in the connoisseur's values (e.g., "quality," "beauty," "the vintage print") is neither disclosed nor discussed" (ibid.).

Theoretical critique, like academic critique, is based on reasoning logic, except that presentation of reason is not the ultimate goal of the debate; but theoretical critique seeks to provide logical attributes for the way of recognizing a particular media or art phenomenon in general. The three main goals in theoretical critique can be formulated in the form of three questions: What is the function of artistic media? Which discourses have influenced the emerging of a category of works of art? What is the relationship between media and art? The latter question is not necessarily addressed in all theoretical critiques and is sometimes asked in the next step after explaining media function. In the next two chapters, the first two questions are examined and the third question is tried to be analyzed following the first question.

5. Looking for a Definition of Media

Theoretical critique announces the discussion attributes and formulates the way of looking at the media. In post-modern age, new media and inter-media were born from the combination of artistic transmission tools or development in presentation methods. For example, in the space of conceptual art, performance art is emerged by combining visual and performing art. In such a space, theoretical critique tends to provide an independent definition of media of others. In this definition, the nature

and mission of the media are important issues that can be addressed. Theoretical critique provides definitions of new media; it redefines the historical development of the meaning of art object and the artistic experience in the fame of primitive media such as painting and relatively newer media such as photography though. The main topics about media in theoretical critique are: what the media does? What are its goals? How does it affect? What is the relationship between the media and the outside world? And what is the relationship between it and art?

One of the most important issues that can be raised in the definition of media is the relation between the media and the subject matter and the way it is represented. Roland Barthes devotes a portion of his book light room, which can be seen as a clear and detailed example of theoretical critique, to the relationship between photographs and the subject matters they record. " A specific photograph, in effect, is never distinguished from its referent (from what it represents), or at least it is not immediately or generally distinguished from its referent (as is the case for every other image, encumbered from the start, and because of its status-by the way in which the object is simulated): it is not impossible to perceive the photographic signifier (certain professionals do so), but it requires a secondary action of knowledge or of reflection. By nature, the Photograph (for convenience's sake, let us accept this universal, which for the moment refers only to the tireless repetition of contingency) has something tautological about it" (Barthes, 1981). In discussing the relationship between media and subject matter, the critic reveals the nature of the media by examining the intermediaries that it uses to portray the world.

Theoretical critique seeks to expose the function of media. Function is influenced by three issues. The tasks that society and the institutional theory of art expect from media are the internal discourse of media, the underlying discourses that affect it and finally the relationship between the media and art. As in theoretical critique, in order to reveal the function of media, its relation to other media is determined; sometimes, with the same deductive logic, in order to provide a definition of art, the relation of art with other phenomena is examined. In an article entitled On the Inventing the Photographic Meaning which can also be considered as an example of theoretical critique, by Allan Sekula describes the relationship between art and industry in the words of Edmond and Jules Goncourt. "Industry will kill art. Industry and art are enemies which nothing will reconcile…. Industry starts out from the useful; it aims toward that which is profitable for the greatest number; it is the bread of people. Art starts out from the useless; it aims toward that which is agreeable to the few. It is the egotistic adornment of aristocracies" (Sekula, 1975).

6. Trying to Discover the Dominant Discourses of the Work

The formalism that governed the structure and interpretation of works of art in modern era has consistently sought to regard works of art having no external connection with essence and universal meaning. During this period, all theories about abstraction had rejected metalanguage necessities and understanding of the work within the attributes of discourse. Theoretical critique sought to overcome the obstruction of modernist art and examine the work of art as a continuous element of cultural, economic, political, media and aesthetic discourses. Here, a discourse can be defined as "an arena of information exchange, that is, as a system of relations between parties engaged in communicative activity .... The discourse is, in the most general sense, the context of the utterance, the conditions that constrain and support its meaning, that determine its semantic target." (Ibid) Just as in the theoretical critique approach, a work of art is examined as a means of communication in the context of media, discourse is also considered as an information exchange system that determines the meaning of a work in the context of culture.

7. Relationship between Theoretical Criticism and Art History

There are three different approaches to compare art criticism and history. Art criticism and history are two different subject matters; history is a form of art criticism and art criticism is the beginning or the result of art history. The first aspect stems from a common notion among people which according to it, history in the general sense and history of art in the specific sense is an unbiased description of events and critiques are the product of judgment and the critic's spiteful vision. The second point of view which considers art history as a form of art criticism, contrary to the aspect that, due to their informative and convincing positions considers art criticism and history as two different issues, believes that all these traits are observed in art history. Any history of art is an actual critique. The third approach considers critique as the beginning or result of art history. Those who see art criticism as the starting point of a process that leads to history believe that art criticism provides the raw material for the use of art historians through the process of recognition. According this attitude, critique is a form of history that deals with contemporary works. Some people credit that the critic must inevitably place the work of art in the context of history in the form of diachrony studies, simultaneity studies or a combination of both. They ignore the point that the critic is free to take an approach considering the work only in terms of formal or aesthetic significance.

In this formation, theoretical critique is most consistent with the third approach because it ignores methods that merely formulate the interpretation in favor of the cultural context, the individual status of the artist and the discourses that govern the historical context. Andy Grundberg bases typology of his critique on the historical performance of the photographic media. "I would like to propose a provisional typology of photographic criticism, based on its historical and contemporary practice, in an attempt to decipher and clarify its mission vis a vis the media. To begin with, one can perceive two basic and dialectical approaches to the mission of criticism, which I would call the applied and the theoretical" (Grundberg, 1982). So, the attention of the theoretical approach to historical contexts and the attempt to create a historical interpretation of art is the boundary between applied and theoretical criticism.

Theoretical critique seeks to formulate a pluralistic history based on the intellect within the institutional theory of art. The origin of this history is the works that provide attributes of expression tools in art. A posteriori constructs the structure of such a history. Here the artist's lived experience takes precedence over the idealized experience which studied in art history previously. In this case, experience is a cognitive raw material that ultimately leads to an interpretive historical formulation, not a model for proposing theories which are preset.

The art historian places the value of reflection on a work or justifies the values that already exist in it. Paul Ricoeur believes that "Historical experience as inscribed is put at a distance, and so history is a science based on traces. That it may begin with an external critique of documents in an archive is a result of this fact, that historical experience allows itself to be externalized, inscribed, and perpetuated in the form of archives" (Ricoeur, 1976). Theoretical critique provides a hermeneutical understanding of the history of art. The graphic system within visual works is a tool by which thought represents and describes the world. The graphic system compresses and reinforces the human experience in the form of a concise structure of the sign system. Theoretical critique offers a holistic interpretation of this system. The commentary presented can be considered as one of the possible narratives in the hermeneutic historical context of art.

Just as theoretical critique seeks to make a connection between a work and a genre of art history, it also places the work in direct confrontation with philosophy and theory. Most of the times works of art are faced to typically philosophical challenges in the process of receiving and critique;

because creating art and its apprehension require cognition about generality and its components. Such cognition necessarily connects the artist and the audience to the zeitgeist and philosophy is part of this perspective and its meaning (Boghrati, 2008).

8. Relationship between Theoretical Criticism and Philosophy of Art

If we consider the beginning of philosophy as doubt and questioning; Theoretical critique also begins at the same point. Meantime philosophy poses radical questions about existence and wisdom, it offers theories to define concepts such as beauty and art. Today we live in a world of theories; the ones which have developed the world in its current form and on the other hand, are reviewing themselves all the time. Theory is an action especially for human which does not only define issues outside, but also reviewing himself. It is this continual review that causes the development in theory; in this sense, theory has the same function as art criticism. Just as critique has developed art, theory also places itself in a process of constant development. Theory describes and interprets issues by criticizing itself and the world at the same time. Besides criticism applies theory in academic approach. Academic critique uses a kind of deductive logic in the process of critique and realization of the work, puts preset theories to the test of experience, presents logical questions of the work and also tries to start a dialogue with the work. Theoretical critique extends the issues of this dialogue to the context of the effect as well as uses its deductive logic to construct a theoretical apparatus. Interpreting the effect is the first step in the emerging of this meaning-generating apparatus.

“Arthur Danto has said: The critic judges and evaluates the work no longer; but tries to gain its apprehension by referring to philosophical and theoretical issues” (Tahoori, 2008). In this attitude, the critic is known as a consumer of philosophical cognition. He examines the aesthetic theories and concepts produced in other domains of the liberal arts. He is practically measuring the analytical-interpretive power of the apparatuses which generate cognition. Now the question is whether the critic's relationship with the radical domains of the liberal arts is always so linear and direct. Theoretical critique turns a straight relationship between critique and theory, in which critique is the only consumer of concepts, into a hermeneutic cycle, in which radical concepts are emerged in criticism and also applied to description.

In such a situation, critique establishes a two-way relationship with philosophy of art typically and of course, with philosophy generally. The concepts and definitions that are produced in philosophy are used in the critique and their quality is tested as an interpretive tool; on the other hand, the interpretation which is used by the critic in the analysis of works of art, has the potential to gradually turns to an apparatus which generates cognition, overcome the testing of one individual or a particular collection of works of art and examines enormous art subject matters. In the next step, explanation of this apparatus which generates cognition will be a tool for accuracy and measurement in the phenomena of universe. Here that the art critic, as an intellectual, can generalize his particular apparatus which generates cognition and as a theorist, regulate the world.

"Generally, each interpretation refers to a qualitative measurement that has already been regulated by art criticism and paved the way for other measurements" (Ajand, 2014). Theoretical critique as a commentator of works of art designs the apparatus which generates cognition and analyses a particular subject matter in a limitedly. The next step is to increase the accuracy of this apparatus and expand it in such a way to have the necessary power of analysing all the works of artistic media, instead of interpreting a particular work. The re-expansion of this apparatus will finally build a tool for measuring the radical problems of the world and defining and analysing radical questions.

The rise of theoretical criticism can be seen as the product of conditions that led the art to a situation which Arthur Danto chose the name of the end of art for it. During this era "Artists are trying to push the boundaries of what we want to call art. It seems that they are often distorting the previous attempts of philosophers to create a definition of art. They seem to be trying to make us ask the question: What is art? It seems that these artists, almost instead of real art, are deeply attached to this philosophical question ... What exactly is a work of art? This is the opinion of Arthur Danto, the American philosopher. Danto argues that this new kind of art itself signals the end of art: Artists at the end of the twentieth century turned to art and began to philosophize. Now the art has reached the end of the line (Velascons, 2011). Now that art has turned to discussing philosophy, a plural world has emerged in which the definitions of aesthetics and philosophy of art previously offered have lost their comprehensiveness. In a condition where art seeks to understand itself and reach self-awareness, theoretical critique paves the way for this goal. In this era, a priori definitions of art are no longer worthy of following because art can play a role in our lives without following them; without these definitions Realization and interpretation of art are possible. The absence of a comprehensive and impediment definitions of art caused the meaning crisis in late modern era. In this modern age, epistemological questions which created a priori awareness of what art is, have given way to phenomenological questions. Just as artists thought about their work in relation to the world around them, critics redefined the relationship between works of art and historical definitions of their media through theoretical critique. The phenomenological questions which are posed in the theoretical critique sought to discover the appeared qualities in works of art. The generalization of these questions led to discover the inherent qualities of media and art.

9. Conclusion

Theoretical critique has emerged from the development of traditional ideas around the definition of art. The same developments that led formalism in modern art to post-modern contextual perspectives. Theoretical critique, in the simplest definition, is the use of theoretical models developed by other fields in the process of visual perception. In this definition, theoretical critique is a normative approach from a predetermined point of view; however, it points to the similarity of this domain with academic criticism, rather than revealing the function of theoretical criticism. In order to reach an analogical apprehension of theoretical criticism, the present study considers a continuous range of approaches to criticism; at the beginning is journalistic criticism, in the middle is academic criticism and at the end is theoretical criticism. In the simplest way of commendation, journalistic critique is value judgment, academic critique is analytical and interpretive and theoretical critique is philosophical. Academic critique provides theoretical basics and deductive logic to the domain of applied critique. The same as academic critique, theoretical critique is based on deductive logic, except that the presentation of reason is not the ultimate goal of the debate, but theoretical critique seeks to provide logical attributes for the way of looking at particular media or art phenomenon in general. In academic criticism, the subject matter is internal reasoning and the goal is to increase knowledge about the work. In theoretical critique, however, the subject matter is contextual and external reasoning which is for the purpose of questioning. Here, reasoning clarifies relation of the work to external concepts and the introduction of theory takes place. In academic critique, a priori theories are used to achieve visual perception. In theoretical critique, however, a critical attitude is taken at a priori theories in order to achieve something beyond visual perception.

Theoretical critique offers a hermeneutical definition of media as it makes sense in organic relation to history. Here, the media and their relationship to the outside world and art become structured. The need to define media are felt in three more ways: when new media are born, when a

media is threatened and attacked and also when the historical or cultural context of developments in the institutional theory of art has changed the functioning of the media.

The main topics in the theoretical critique about a media is: What do the media? What are its goals? How does it affect? What is its relationship with the outside world? And what is its relationship with art? Addressing this approach can be considered as an introduction to constructing theories about art.

Theoretical critique ignores methods that deal only with the formalist interpretation of the work in favor of considering the cultural context, the individual status of the artist, and the discourses that govern the historical context of the work. This approach can be considered as one of the activistic efforts to overcome the blockade of modernist art and resolve the crisis of meaning in the modern era. Here, the work of art is examined as a continuous element of cultural, economic, political, media and aesthetic discourse. Criticism, then, is the beginning of a process that leads to a pluralistic historical formulation based on the internal intellectual institutional theory of art. Writing critique is emerging of contemporary historical phenomena of the tools and methods of artistic communication.

The origin of this history is the works which provide a narrative of the attributes of the media in art. A posteriori, constructs the structure of such a history. Here, the artist's lived experience takes precedence over the idealized experience that previously studied in art history. In this case, experience is not considered a model for proposing theories in advance, but is a cognitive raw material that ultimately leads to an interpretive historical formulation.

One of the paths that transforms the critic from the consumer of theories to the intellectual of the thinker and the producer of ideas is the theoretical critique approach. This approach transforms the one-way relationship between critique and philosophy into a two-way cycle in which critique, while producing simultaneous concepts, puts them to the test.

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A Semiotic Study and Analysis of the Archetype of the Tree of Life in Contemporary Iranian Graphics

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Research Article

Abstract

The present study was conducted to investigate the semiotic archetype of the tree of life in contemporary Iranian graphic works. The purpose of this study is to investigate the importance and role of the archetype of the tree of life in contemporary Iranian graphics, which has been done with a semiotic approach and the study of myths related to Iranian culture. Library and interview methods were used to collect data. For this purpose, in addition to studying the relevant documents, in-depth interviews were conducted with experts in this field. The method of data collection in this study was interview. Interview findings were analyzed based on theme analysis. Based on this, our findings show that based on the codifications, the concept of the tree of life has been used in 21 categories and 7 main concepts. These concepts include eternity, death and life, connection to the other world, light, the importance of worldly life, the myth of life, and the myth of creation. The results of this study show that the tree of life in the works of contemporary Iranian graphic artists has been related to their religious, spiritual and historical beliefs, and what has made contemporary Iranian graphic works a meaningful symbol is its value and meaning in relation to concepts. It has been fertility, fertility and childbirth. Even the appearance of animal symbols, celestial bodies, and goddesses, along with this archetype, contains the concept of fertility. Although not all manifestations of tree idols in contemporary Iranian graphics are merely related to the concept of the tree of life, but the use of common imagination between artists and of course the distance from diversity, has caused artists in this field the historical, spiritual and cultural contribution of this element as a symbol on the contemporary graphic art of Iran.

Keywords: Tree of Life; Semiotics; Graphics; Theme Analysis

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1. Introduction

"Archetypes" or "archetypes" are complex psychological contexts that last as long as human life;

He was born with the first human being and will certainly continue until the last days of human life. The term archetype was first used by Carl Gustav Jung. He believes that the archetype is only the constructive power or potential constructive possibilities of the psyche, which finds content and meaning only when it reaches the level of consciousness (Amini, 2002: 54). The archetype is a mental image that is clothed in symbolism and reaches objectivity. Most writers agree. Wilfred Green says: "When we talk about images that have a meaning beyond their usual real meaning, we are talking about the symbol. These symbols ... are also archetypal images; In this sense, archetypes are the symbols of experience" (Green, 1997: 197). Archetypes are the main pattern and stability and the result of human collective experience over thousands of years, which are stored in the cache of the human's unconscious, called the collective unconscious, so archetypes are universal and have the same meaning and essence in all places (Golabchi, and Zeinali Farid, 2014: 7). Archetypes are not specific to a particular region, culture or country; Rather, they are universal concepts and have never been published due to specific traditions and migrations. "Rather, they may manifest themselves at any time and place without any external influence" (Jung, 1998: 22).

One of the most common forms of archetype is the tree image. This phenomenon is an example of life, life and its various transformations. Trees also have a special place in mythology and their existence is dedicated to God. The existence of the tree of knowledge in Judaism, which is equal to the same forbidden fruit tree, is one of the manifestations of the tree in stories. The sanctity of this natural phenomenon shows his relationship with God in the perspective of the past human beings (Rangchi, 1993: 7). The tree has always been more than an ordinary plant in the human eye (Nouri and Sharifi, 2021: 307). The tree has been sanctified in the context of art, mythology and religions in different nations. The tree is the full mirror of man and his deepest desires. This exemplary image is the generator of a multitude of mysteries that spread in countless branches and reap in the context of myths, religions, arts, literature and various civilizations (Dubocor, 1994: 8). The tree was worshiped by many ancient peoples as the place of the gods or in fact God himself. Also, the tree was a symbol of the universe, a source of fertility, a symbol of knowledge and eternal life (Hal, 2001: 285). The tree has always been considered and praised as one of the oldest symbols in different cultures. The symbolic concept of the tree is intertwined with many aspects of people's culture and life in every way, even today, when we live in a non-religious age (Dadvar, Mansouri, 2006: 69). From ancient times, trees have been considered by primitive humans of ancient times and modern humans as having animals like humans and humans (Ibid., 2011, second edition: 99). In the world of human belief, the tree, despite its inactivity, is considered a symbol of birth, growth and development, and life in general, and has found sacred manifestations. The tree is also sacred in terms of vitality and fertility (Taheri, 2011: 45). The tree has appeared in three different cultures and myths. Cosmic tree, tree of life and tree of cognition are three forms of a symbol that have appeared in cultures and the history of the presence of this symbol as an archetype in various civilizations can be traced (Kazempour, 2010: 39). The tree of life in ancient Iran is usually in pictures and motifs, between two mythical animals (lion, wild goat, lion, etc.) that are considered its guardians. This tree is the symbol of a sacred and fearful force. In order to pick the fruits from which the heavenly elixir of life is obtained, one must fight with its guardian monsters and whoever wins this battle will be promoted to a superhuman level (Abedoost, 2009: 105). In the contemporary era, with the development of science and technology and human reliance on the scientific laws, the works of art of the past were analyzed and tried to decipher the meanings and meanings hidden in the heart of archetypes and images and related works. The science of semiotics

studies and studies these meanings and meanings, and semioticians seek to discover the mechanism of meaning through signs. Pourkhaleghi Chatroudi (2001), in a study entitled The Tree of Life and its Cultural and Symbolic Value in Beliefs: Using the method of in-depth research with deep and symbolic exploration, find the secrets and messages hidden in the tree and interpret them and represent. The researcher tries to decipher the transformed and symbolic mythical face of the tree of life, which has become a dilapidated and menu-like diagram. Kamizi et al. (2014), in a study examining the symbol of the tree of life in Seljuk fabrics, the results show that the design of Seljuk motifs, while continuing the motifs of Sassanid art and the connection with Islamic themes, the role of the design more delicacy, combined with the background and adapted to the design structure of the motifs. Javani et al. (2017) in a study examined the representational approaches in graphic design with the aim of better understanding the communication methods and its role in visual communication works in order to make students and enthusiasts more familiar with extensive studies in this field. Also, Ahmadiani (2011) has studied the possibilities of graphics as a language and has tried to match the mechanism of the two systems of language and graphics, the researcher has been able to provide a systematic classification of the theories of semiotics such as Pierce and Saussure. The archetype of the tree as a genuine symbol has a wide range of meanings. The cosmic tree, the tree of life, and the tree of cognition or knowledge are signs of various manifestations of human thought from the beginning to the present, and semiotics try to identify and decipher these various forms of the tree in the context of cultures and myths. These forms have a continuous and wide presence in various arts and are sometimes repeated in different cultures, which shows the strong cultural connection of different civilizations.

Today, artists around the world are indebted to historical experiences and genuine currents that have played a role in all aspects of human life since the beginning of the formation of civilizations and even much earlier.

2. Tree of Life and Related Symbols in Iranian Culture

This symbol has a special place in Iranian culture. For this reason, it can be seen in works of art from different eras of history. Sometimes it is shown in the form of a deciduous tree and sometimes in a realistic way and in some cases it is shaped. And this is how myths and symbols preserve contemporary art as the massive and intertwined roots. Traces of myths can be seen in other fields of art, including literature, painting, architecture, cinema, graphics, and so on. In this research, an attempt has been made to study and analyze the status and importance of the tree as a sign of life in various civilizations, and then to perform a semiotic analysis of contemporary Iranian graphic works by symbolizing the tree of life. It has a geometry, which is often associated with plants and animals.

The mythical form of the "tree of life" is sometimes shown in the form of a deciduous tree and sometimes in a realistic form, and in some cases, it has a geometric shape, which in most cases is associated with plants and animals and can be continued in Iran. witnessed. Examples of these works can be seen in the vertebrae left from the Elamite period (Fig 1).

GC Cooper introduces the tree as "the whole of the objective universe, the combination of heaven and earth and water, a dynamic life in contrast to the rock in which life resides" (Cooper, 2000: 215). Also, "the tree was worshiped by many ancient tribes as the place of God or, in fact, God himself, and was a symbol of the universe and the source of fertility and the symbol of knowledge and eternal life" (Hal, 2001: 124).

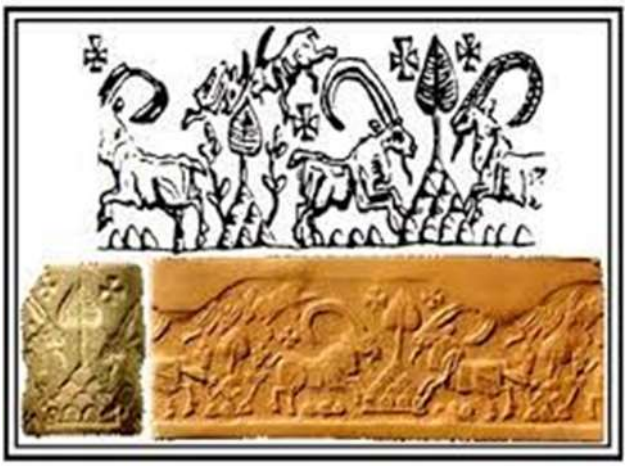

Fig 1 An example of Elamite seals (Ihal, 2001: 124)

3. Relationship between Trees and Natural Symbols in Ancient Iranian Art

Ancient Iranian art is full of natural phenomena and their relationship. Man did not neglect nature to portray myths and the imaginary world, and sought his ideals, myths, and heroes in the heart of nature. The Iranian artist from ancient times has shown extensive manifestations of this harmony in his works.

3.1. Relationship between Water and Trees in the Art of Ancient Iran

According to mythological descriptions, the cosmic tree has its roots in cosmic waters. In the Manichaean painting and the text that describes it, it says, "Next to the cosmic reservoir, there is a cosmic tree that has fallen to the ground on one side of Khordad and Amrdad on the other" (Pope, 2001: 60). Among the bronze works of Lorestan, a number of cups in the form of Saghar but without handles have been seen. Most of the motifs of these Sagars show Assyrian influences. On one of them is holy water, which is taken from the leaves of the Assyrian palm and is placed in a spherical pot that flows in a stream of water and the heads of eagles standing in front of it fertilize or purify it (Fig 2).

Fig 2 Lorestan bronze cup painted with inspiration from palm tree leaves and bird motifs (Boston Museum of Fine Arts) (Pope, 2008: 337)

3.2. Relationship between Mountains and Trees in the Ancient Iranian Art

The mountain is one of the symbols of the connection between heaven and earth. Among the linkers of heaven and earth (mountain, tree, pillar, rope, ladder, water) has a special place in terms of height and sanctity. The mountain is one of the cosmic elements that is always associated with the tree. Hersfeld identifies the overlapping scales on the Elamite line as a mountain sign (Herzfeld, 2002: 43). According to Ackerman, "a tree from the genus of deciduous cones, which is located on a mountain, represents the moon of the tree" (Pope, 2008: 3124). In a part of a Sassanid Simin bowl, two tree goats are surrounded by a mountain symbol on the Dalberi signs (Ibid: 1096). Goats that surround a tree perched on a mountain can also be seen in Mesopotamia (Fig 3). It is not possible to determine in which civilization this composition first appeared, and it can only be emphasized that these motifs exist simultaneously in two regions.

Fig 3 Sassanid silver plate with the role of a goat and a bird (Smithsonian Museum) (Pope, 2008: 3124)

3.3. Relationship between Columns and Trees in the Ancient Iranian Art

One of the forms of the cosmic tree is the column or pole. It is not possible to say exactly from which civilization this symbol entered Iran and where it originated, but it is certain that it is the secret pillar of the universe. The tree sometimes appears in an artificial form and is placed between a pair of horns (Pope, 2008: 369). One of the most obvious examples of the appearance of a tree in the facade column is the Bostan arch. Two rectangular pillars can be seen in the work with the motif of the tree of life, a decorative symbol of the ancient Hittites and Assyrians in the Bostan arch. What distinguishes it from its Eastern ancestor is the Greek artichoke leaf. The root tree has an irregular trapezoid shape which is one of the characteristics of Sassanid flowers and plants (Hertzfeld, 2002: 336) (Fig 4).

Fig 4 Column tree in Iranian handmade carpet with geometric shapes (Hertzfeld, 2002: 336)

3.4. Relationship between Cypress and Trees in the Ancient Iranian Art

Sebo is a symbol of blessing and fertility. Two-bladed or unbranched sebum, from which two streams of water may flow symmetrically outwards. As stated in the hash clause, "Tishter used it to bring down rain" (Pope, 2008: 1056). An example of the connection between a tree and a cedar or vase appears in Marlik motifs. This dish can be seen among the winged cows while the golden tree is in it (Fig 5) (Negahban, 1964: 140).

Fig 5 Jam Zarrin Marlik (Museum of Ancient Iran) (Neghaban, 1964: 140)

3.5. Relationship between Sun and Trees in the Ancient Iranian Art

When man left the life of cave-dwelling and hunting and turned to agriculture, he realized the importance of the sun and he, who used to worship the moon as his god, replaced the sun and the symbols of the moon came under the domination of the sun (Dadvar, 2006: 54). Often in myths, the sun is the conqueror and possessor of the storm, and in the totemic system, the defeated totem is

usually taken over. For this reason, the stamps of cows and horses, which are lunar animals, can be attributed to the sun (Pope, 2008: 990).

3.6. Relationship between Moon and Trees in the Ancient Iranian Art

In early civilizations, the moon was the first deity to be worshiped, and they considered the moon to be the cause of rain (Samadi, 1988: 43). In Iran, just as the moon is the guardian of the stars and the bearer of their race, it is also considered the guardian and protector and the source of plants (Pope, 2008: 1064). Woman was associated with the moon in ancient Iran. Because it is one of the attributes of the fertile month (Dadvar, 2006: 57). Sometimes the role of the moon is shown next to a tree and sometimes it is depicted as a tree on the top of a mountain. Moon, water and rain bring life with them, and therefore the ancients believed that the sap of a tree called the moon tree is the essence of life (Dadvar, 2006: 157).

3.7. Relationship between Horse and Trees in the Culture of Ancient Iran

The horse is a symbol of the sun and the moon. When white, golden or fiery horses appear with the sun gods and kill their chariots, they are the solar force. While meaning the wet element, the sea, the initial turbulence and the gods of the ocean are the lunar force. The winged horse of the sun or the cosmic horse, the white horse also means purity, intellect, innocence, innocence, life and light (Cooper, 2007: 20). In Marlik there is a goblet with motifs in two rows, in each row the legendary horned animal is repeated on both sides of the dish. At intervals of horse designs, beautiful decorative and geometric flowers are generally used to fill the space (Fig 6) (Neghaban, 1984: 33).

Fig 6 Marlik cup with plant and horse motifs (Museum of Ancient Iran) (Neghaban, 1984: 33)

3.8. Relationship between Bird and Trees in the Ancient Iranian Art

In the art of the Sassanid period, the role of birds can be seen next to trees and foliage. Including the shape of birds among the hair tree, which shows the extension of older traditions to this period (Fig 7).

Fig 7 Sassanid Sassanid plate with the role of a bird and hair branches (Smith Sonyan Museum) (Pope, 2008: 3130)

3.9. Relationship between Lion and Trees in the Ancient Iranian Art

Iranian weavers have shown the lion symmetrically on both sides of the tree of life (Ibid). A group of Sassanid fabrics show the role of a tree among repetitive rotating rings in which two riders are placed on both sides of a tree to hunt in the village. In this group, other animal motifs such as two lions, two jumping lions, a cow or a deer, two birds sitting on a tree, etc. are depicted. By examining Byzantine fabrics that have many visual similarities with Sassanid examples, Grishman has considered the art of the medieval empire under the influence of Sassanid art style and this group of motifs (Grishman, 1991: 315). The silk cloth from around 600 AD depicts riding on both sides of a tree of life.

Fig 8 Byzantine fabric adapted from Sassanid themes (Vatican Museum) (Grishman, 1991: 315)

3.10. Relationship between Snake and Tree in the Culture of Ancient Iran

Ackerman believes that "the snake was originally the only water symbol for the air and in terms of meaning and content with the pond. But its mythical literary attention was formed over time, which portrayed the snake as a creature of the enemy of profession and aquatic threat to the moon-

tree. A horse and a horned snake can be seen on the silk pottery belonging to the second millennium BC. The horned snake is a well-known symbol of the moon. But later the snake became a threat to the moon tree. According to Andre Godard, the collection of palms, snakes and cows in the works of Lorestan, which are attributed to the great god of fertility, draws attention to Ilam, and Ilam has certainly been the inspiration of Central Lorestan throughout the second millennium BC.

3.11. Relationship between Fish and Tree in the Culture of Ancient Iran

The fish is a symbol associated with the sun, and in mythology the sun gods are depicted as fish. In the zodiac, the fish are astronomically located next to Jedi and Aquarius in the sun. In general, there is very old evidence that fish was considered a sign of regeneration (Mokhtarian, 2008). Herzfeld, in his book Iran in the Ancient East, quotes a work from Samarra in which birds of prey and fish rotate in a rotating motion around a swastika (Herzfeld, 1941: 59). According to some scientists, Su Astika actually represents the sun and has some solar concepts such as light, fertility and especially happiness (Hal, 2001: 5). The silver plate belonging to the 5th-7th century AD from the Sassanid period is perhaps an illustrated form of the mythical description of the protective fish floating at the foot of the bush seed tree in Zoroastrian religious texts (Hali, 1997: 94).

Fig 9 Silver plate belonging to the 5th-7th century AD from the Sassanid period (Dadgi, 2006: 151)

3.12. Relationship between Trees and Natural Symbols in Islamic Iranian Art

After the entry of Islam into other lands, Islamic culture was formed based on the slogan of unity. Islam used the art of the people of that region in every land. In Iran, too, Islamic art, based on the original culture of Iran and the slogan of equality and unity, served to express Iranian and Islamic values. The presence of ancient myths in post-Sassanid culture and art shows the continuity of Iranian art based on Islamic views.

3.13. Relationship between Water and Trees in Islamic Iranian Art

The relationship between water and trees continues in the Islamic era. His servant speaks of a pond full of fish at the foot of the cosmic tree from which everything grows. At the same time, this role is reminiscent of the importance of gardens and water in Iran (Pope, 2008: 1824). Touba tree is

the Islamic form of Bes Takhmeh tree, which is a Zoroastrian myth in the Sea of Farakhkord. It is noteworthy that this tree is described as follows: "It is a tree of the atmosphere that is in the Aquarius tower" (Rezazadeh, Malek, 2005: 123). In this description, the relationship between the cosmic tree and water is beautifully discussed. In the architecture of Iranian mosques, we see the presence of a strong Touba tree on a blue bed, which is a symbol of water and light.

3.14. Relationship between Mountains and Trees in Islamic Iranian Art

The archetype of the relationship between mountain and tree continues in post-Islamic Iranian paintings. In these works, the tree is often formed on a rock. In a page of Baysanghari Shahnameh, we see that the troops did not climb the top of the mountain and the rock from which the ancient trees emerged. In most of the paintings, the tree is located on a rock (Fig 10) (Pope, 2008: Table 876).

Fig 10 A leaf from Baysanghari Shahnameh (Golestan Museum Palace Library) (Pope, 2008: 876)

The sacred cypress tree of the Iranians has also been formed on the mountain in the paintings of Islamic schools. An example of that is a leaf from the drawing of Zahak being tied up in Isfahan school. In this picture, crooked heads are seen on the rocks on both sides of the figure. (Fig 11) (Zakat and Ghazizadeh, 2015: 188).

Fig 11 Cypress in the drawing of Zakat (Golestan Museum Palace Library) (Pope, 2008: 876)

3.15. Relationship between Columns and Trees in Islamic Iranian Art

In the Islamic era, the presence of these two elements together in works of art continues, and in mosques we see the appearance of tree arrays on the pillars of altars. In the Nain Grand Mosque, the two main and central sides of the altar, the columns are reminiscent of the cosmic tree. The scaly designs on the top of the columns may have been an abbreviated form for drawing the bark of the tree, and the continuous foliage is always reminiscent of the decorative design of the rafters that have found their way on this cover and have reached firmly under the headboard. (Fig 12) (Ibid: Tablet 267).

Fig 12 Tree arrays above the altar of the Nain Grand Mosque (Pope, 2008: 876)

3.16. Relationship between Sun and Trees in Islamic Iranian Art

The presence of the sun next to the tree in the Islamic period continues. This connection is subtly mentioned in one of the astronomical texts of the Islamic period (Reza Zadeh and Malek, 2005: 664). From the studies of natural elements in mythology, it seems that the role of the moon and the sun in Iranian art appear less directly and they can be identified more through the symbols associated with them. Symbols such as eagles, lions, etc., which are solar animals, and symbols, such as snakes, deer, cows, etc., which are symbols of the moon.

3.17. Relationship between Horse and Trees in Islamic Iranian Art

Fig 13 Eastern Iranian silk woven garment with horse and tree design (Reza Zadeh and Malek, 2005: 664)

Like other symbols, the accompaniment of horses and trees continued during the Islamic era. According to Ackerman, the decorative motifs of the horsemen perched next to the tree on a piece of fine silk cloth with the "wash" show the symbol of the sun, and in some cases, there is a deer, which is a strong reference. It has to do with our connection with the moon" (Ibid.).

3.18. Relationship between Goat and Trees in Islamic Iranian Art

In the Islamic era, we see goat motifs on pottery that probably belong to the early Islamic era and shows the continuation of the goat and tree motif after Islam in Iran (Fig 14)

Fig 14 The role of a goat on pottery of the Islamic period (Museum of Ancient Iran)

3.19. Relationship between Bird and Trees in Islamic Iranian Art

In the art of the Iranian Islamic period, the bird appears on the tree a lot. The combination of cypress trees with birds on the golden pottery of Kashan and Rey, which has been repeated a lot in the pottery of this region, can be considered related to this theme (Pope, 2008: 1825). Examples of this can be seen in post-Islamic tiles. An example of this is the golden painted tile of Kashan, the first half of the seventh century AH, which shows four birds on a central plant that has its roots in a water pond (Fig 15) (Ibid., 1810).

Fig 15 Kashan Golden Tile of the Islamic Period with Plant and Bird Design (David Collection) (Pope, 2008: 1825)

In the architecture of mosques and religious buildings, we see the use of bird motifs next to the tree, especially with the concept of the tree of life, and we see the continuation of the Sassanid style in combining bird motifs and plant motifs (Zakat, and Ghazizadeh, 2015: 11).

3.20. Relationship between Lion and Trees in Islamic Iranian Art

Ackerman states the continuity of the Sassanid style in Islamic art, and the winged lions that surround a tree sitting on cloths on both sides of the fifth and sixth centuries AH are reasons for this view (Fig 16) (Pope, 2008: 2323).

Fig 16 Islamic period fabric with lion and tree design (Pope, 2008: 2323)

3.21. Relationship between Snake and Trees in Islamic Iranian Art

In some works of the Islamic period, the connections between water and snake and plant and snake appear. This connection sometimes exists in the paintings of Islamic periods in the form of drawn stories. For example, in a drawing from the manuscript of Galen of the Seljuk school, which was painted in the seventh century AH in the form of a story of a snake and a jar of wine, this connection can be found (Fig 17) (Pope, 2008: Table 812).

Fig 17 A drawing of the manuscript of Galen of the Seljuk school (Pope, 2008: Table 812)

3.22. Relationship between Fish and Trees in Islamic Iranian Art

The relationship between fish and the sun and even the sunflower can be seen more explicitly in the works of the Islamic period. During this period, the motif of the floating fish in the water pond

in which the tree or plant has roots is repeated in many potteries, which shows the continuation of the ancient tradition of fish-water and plant formation. The opposite figure shows a bowl painted on glaze from Neishabour in the sixth century AH, in which four fish and four Simorghs can be seen, and plant arrays are involved in Simorgh decorations (Fig 18) (Pope, 2008: Table 687).

Fig 18 Peacock and fish pottery of the Islamic period (Museum of Antiquities, University of Saskatchewan, Canada) (Pope, 2008: 687)

4. Research Methodology

The present study is fundamental in terms of purpose and exploratory quality in terms of data collection method. The present study was planned and conducted based on the data theory model of the Strauss and Corbin Foundation. Grounded theory is suitable for identifying processes in their social context and analyzing and interpreting process-related factors and situations. On the other hand, it identifies, describes, and explains interactive processes between individuals and groups in a social context (Polit and Hungler, 2006). In this study, 20 samples of graphic works were selected and 10 experts and researchers in the field of contemporary graphics in Iran who had sufficient expertise in the field of the role of the tree of life in contemporary graphic works were interviewed.

According to the purpose of the study, purposive (non-probable) sampling method was used for the interview. In order to enrich the research, an attempt was made to interview graphic experts and researchers who have sufficient expertise in the field of the role of the tree of life in contemporary graphic works. Data analysis was based on approaches such as coding, conceptualization, note-taking, and bulge search.

Data collection continued until the data was saturated. Gradually, the text encoding of the interviews and the analysis of the data led to the summarization and classification of the data. Data analysis used three stages of open, axial and selective coding, which is the method used in grounded theory research. In the open coding stage, the text of all interviews was extracted individually and line by line, their concepts and then their categories were extracted. In the central coding stage, we compared the categories extracted from each interview with the categories of other interviews and integrated the categories. For categories, if necessary, we defined subcategories, characteristics and dimensions. In the selective coding stage, the categories and their dimensions were compared and integrated, and the final classes were obtained; Which is the first step to extract the model from the data. To ensure the validity and reliability of the research, the interview questions were approved by several experts. In evaluating qualitative studies, Lincoln and Guba referred to the criteria of reliability, trustworthiness, dependability, transferability, and confirmability (Flick, 2008). To achieve these, the following steps were performed: Implementing interviews and continuous analysis and collecting data during the interviews, examining how the

interviews were coded by another expert to ensure the coding was correct and the researcher did not have a taste for the interview.

5. Findings

In this study, 10 interviewees participated, of which 7 were male and 3 were female. Of these, 6 had administrative and government jobs and 4 had free and personal jobs. As we know, the data theory of the foundation has a specific approach and the approach of Strauss and Corbin used in this research. Examines each phenomenon in the form of six concepts. According to these theorists, every phenomenon has a central category, a set of causal conditions, a set of contextual and intervening conditions, a number of strategies to influence the central category, and finally a set of consequences. To analyze the data, Strauss and Corbin (1998) comparison technique including three steps of open coding, axial coding and selective coding was used:

A. Open coding: After copying an interview, open coding began. Open coding means breaking down the collected set into the smallest possible conceptual components. The following table shows the concepts obtained from the research findings and the categorization process of the concepts.
B. Axial coding: Classification and categorization, in open coding, leads to a reduction in the number of units we have to work with. This helps the process of implementing grounded theory in the axial coding stage. Coding at this stage was done axially and according to the process embedded in the data. The Strauss-Corbin coding paradigm was used to facilitate the data embedding process. In other words, at this stage, by linking the categories, the information is linked together in new ways.
C. Selective coding: Selective coding is the last stage of coding in which the main category is selected and its link to other categories is determined. (Strauss and Corbin, 1998). All the factors obtained from the research background and the factors obtained in the analysis of the interviews, along with the categories and semantic codes are plotted in the table below.

Table 1 Analysis of categories and concepts related to the tree of life in contemporary graphic works

Basic codes	Category	Concept
Dealing with death, delaying death, preventing death	Namiraei	Eternity
Eternal life, life again, life after death	Immaturity	
Another world, the underworld, the eternal world	Eternal life	
Flowers and nature, living nature, the flow of life	Lotus	
Breastfeeding, usefulness, production	Animals	death and Life
Life and flow, vitality, excitement	Mobility	
Worship, divinity	Altar	Connect with the other world
Worship and servitude, servitude	Communication with God	
Light, sunbeams, chandeliers, light rays	Light and brightness	the light
Awareness, guidance, direction	Shine	
Cebu, Vase, Rain	Mercy	The importance of worldly life
Continuity of life in the universe, worldly life	Blessing	
Duality – Contradiction	Good and Evil	Myth
Endurance, tolerance, forbearance	Cypress	
Love, mania	Willow	
Wealth, good luck	Flowering tree	

Common bonds, the same origin of human beings	The common root of human beings	The myth of creation
Communication between humans, communication between humans	Human interaction	
Basis of life, origin of life and life	Source of life	
The equality of human beings, the same principles of human life	Common lineage of creatures	
The Myth of Creation, Adam and Eve	Adam and Eve in heaven	

After identifying the categories and concepts and placing them in the factors expressed by the researcher, according to the paradigm model of grounded theory, the theory is as follows:

The concept of eternity includes: immortality, immortality, eternal life, lotus. The concept of life and death includes: animals, mobility. The concept of communication with the other world includes: the altar, communication with God. The concept of light includes: light and brightness, shine. The concept of the importance of worldly life includes: mercy, blessing. The concept of myth includes: good and evil, cypress tree, willow tree, flowering tree. The concept of the myth of creation includes: the common root of human beings, the interrelationship of human beings, the origin of life, the common descent of beings, Adam and Eve in heaven.

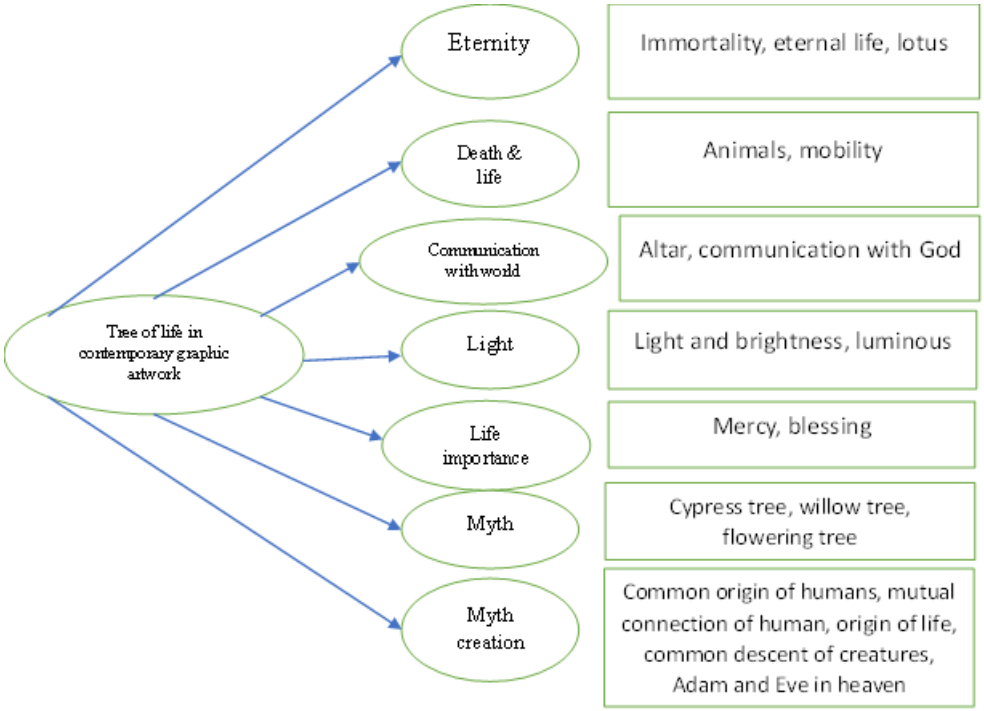

Fig 19 Tree of life and related categories (Author)

6. Conclusion

Man has always represented his mental manifestations of nature in the form of images on various works, some of which gradually became directly related to his beliefs and convictions. Throughout history, some plants and animals, with their inherent powers and abilities, have been sanctified alongside gods and goddesses, and in popular belief, have become mythical beings due to allegorical and symbolic arguments. Tree painting is one of the elements that has been repeatedly recorded on various works, but in some cases in the form of the role of the tree of life is associated

with symbolic meanings and concepts, whose semantic similarity in many civilizations, has turned it into a symbol with concepts. Has been subscribed. In this study, the purpose was not to examine the long process of using this symbol, but inevitably provided short definitions of similar concepts in some cultures and tried to show what impact the tree of life has played in the graphic world in the contemporary world.

Numerous historical evidences and studies show that not all manifestations, allegories of the tree, are simply related to the concept of the tree of life. In recreating the symbol of the tree of life in graphic works, it can be seen to what extent, using the common imagination among the actors and, of course, avoiding diversity, in many cases, has caused the creators of the historical contribution of this element as a symbol, play a role in the history and graphic culture of our country.

The tree has been sanctified in the context of art, mythology and religions in different nations. The tree is the full mirror of man and his deepest desires. This exemplary image is the product of a multitude of mysteries that spread in innumerable branches and reap in the context of various myths, religions, arts, literatures, and civilizations.

The inseparable connection of man with the tree from the beginning of life has caused him to be incompatible with nature through transformation. It was once thought that the earth was flat and round, and it was said that it was covered by a kind of inverted bowl, the sky, which needed central bases such as mountains, pillars, and trees to stand.

The tree is a symbol of perfection and growth, and its presence in human life, myths and legends is as old as itself. In this study, while examining contemporary graphic works, I saw that if a tree is full of sacred power, it is because it is upright that it grows, which loses its leaves and regains them. As a result, it is revived. He dies many times and is reborn.

The tree of life was also called by other names. Types of life trees in different cultures with the names of trees such as dates (palm), sycamore, grape, olive, jumbo, fig (tin), tongue sparrow, turmeric (Shahnameh), tree of life or immortality (Torah), hummus, hummus, white or tree Life and Immortality (Ancient Iran), Gokren (White Home), Taghuk, Berries, Elm, Willow, All Seeds, etc. are known. One of the most important concepts related to the tree of life has been the issue of fertility and immortality throughout history. The tree was worshiped by many ancient peoples as the place of God or, in fact, God himself. It was also a symbol of the universe and a source of fertility and a symbol of knowledge and eternal life.

Studies show that in this context, he believes that the tree in its archetypal meaning implies the life of the universe, its continuity, and the growth and reproduction of reproductive and regenerative processes. The tree is a sign of inexhaustible life and is therefore equivalent to immortality. As a result, according to what has been mentioned, the most important findings of the present study include the following:

- The tree of life has been associated with their religious and spiritual beliefs before the fantasies of the actors.
- The value and meaning of the tree of life in graphic works has been relentlessly linked to the concepts of fertility, fertility and procreation.
- Some symbols such as animals, celestial bodies, gods and goddesses used next to the tree of life also include the concept of fertility.

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Designing of the Fabric Stickers to Implement Environmental Graphics

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Research Article

Abstract

This descriptive-experimental article uses the fabric to design a sticker for the environmental graphics of Imam Javad University of Yazd-Iran. In these designs, each etched forms induced a special concept and vitalizing the objects is important in these cases. On the other hand, the psychology of colors has been used to design them. The organizational color of the university was used in choosing the colors in order to make more accordance between the stickers and the university environment. The book is used as the main element in the designs due to the inseparable choice of science and books. The final work was presented in the form of five designs, each designed with reasoning.

Keywords: Environmental Graphics; Fabric; Sticker

1. Introduction

Emojis, which are known as emoticons in Persian, such as symbols like, have been formed in cyberspace in recent years especially in instant messaging networks; and some people believe that the emoji language has the fastest grown among other languages in the world. Stickers have also found a significant place along this new language, and some linguists have described the growth of emojis and stickers as the beginning of the future transformation of language and communication in the world. The visual richness of social media enables the users to express their feelings clearly, the feelings that do not fit in the form of words (Lim, 2015). Welcoming of users to use stickers and emojis as a new visual language has also caused to notice the subject and content of this new language (Dehghan, 2018).

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Stickers are animated shapes and images that can be used to express more complex emotions in virtual networks. They are the small emoticons that replace words and sentences in making communications, and have become part of the global language over the past few years. Welcoming of users to use stickers as a new visual language has also caused to notice the subject and content of this new language (Amiri, 2008).

The essence of this phenomenon is good and is considered as a step to increase the beauty of communication. There are a few remarkable points for using a sticker:

1. Mutual acquaintance of sender and receiver with the real meaning of the sticker.
2. Regarding the abbreviation, except when several concepts need to be conveyed together.
3. Bewaring of misunderstandings and misconceptions.
4. Immoral stickers are distasteful and if they are used carelessly, it will gradually cause cultural waste, especially in the field of children.
5. Stickers will replace conversations in the future, and it is mostly predicted that people will only use signs for communication (Izadpanah, 2018).

Fig 1. Primary stickers and emoticons(ostvar,2013)

The Unicode Consortium, which is responsible for providing international standards for digital fonts, added libraries containing 722 types of image emoticons in 2111. Finally, the emojis were attached to the standard keyboards by the end of 2112 coincided with the expansion of the new generation of Smartphones and tablets, so that there are more than 811 emojis right now (Parkin, 2016).

What should be considered is the awareness about the generality rate of stickers' meaning and the hidden meaning of a sticker from the people's point of view. For example, the stickers of a TV, political or cartoon character are used a lot during the broadcast of that program, but using this sticker decreases after the end of the program and eventually their usage is stopped and new stickers related to the topic of the day will replace it (Izadpanah, 2018; Sajjadzadeh, 2017).

Today, living in large cities especially metropolitan areas is such that most people spend their time outdoors due to the expansion of urban life. A part of this time is spent commuting on the streets and alleys. Therefore, the impact rate of people from these environments is very high. So, such spaces provide the best opportunity for graphic designers to be able to do their best based on aesthetic principles in the field of environmental graphics. Environmental graphics have a very wide range. One of the different types is the graphics of the means of transportation's body that can be used for various commercial, cultural, educational purposes and etc. (Dehghan, 2018).

Environmental graphics should be considered as one of the main elements of social and urban life. The effects of visual arts in everyday life are made possible by environmental graphics. Environmental graphics is a social phenomenon that can be analyzed and studied according to the visual space, national, ethnical, cultural, and social characteristics, customs and political and

economic tendencies of society. As a result, environmental graphics have a direct impact on the culture of a community, a city, a neighborhood, a house and even a family member's room (Mirzaei Nasab Fahadan, 2014: 13).

Nanotechnology is the study of particles in atomic scale to control them. In other words, the physical, chemical and biological properties of every atom and molecule are different from the mass properties of the matter in the nano scale. Nanoparticles in such unique properties and scales lead to creation of new achievements in medical and engineering sciences. The main goal of most nanotechnology researches is to form new compounds or make changes to the existing materials. Studies show that the systematic system of a matter at the nanometer scale is a key for the physical, chemical and biological systems with the new and better properties. The normal properties of materials change at the nanoscale, and the surfaces' behavior gradually dominates the mass behavior of the matter, and a new realm is opened. Analysts believe that nanotechnology, biotechnology and IT are the three scientific domains that form the third industrial revolution. The sensors, robotic arms, etc. are made in nanotechnology by placing four or five very thin layers with a diameter of less than three nanometers. Nanotechnology is used in electronics, biology, genetics, aeronautics, energy studies and even in other engineering sciences.

Silicon nanoparticles are an ideal alternative to fluorescent pigments due to their biocompatibility, high photoluminescence quantum efficiency, and stability against photobleaching. Researchers at the University of California have developed a new solution for producing macroscopic amounts of hydrogen-terminated silicon nanoparticles without the need for making a contact with hazardous materials.

The starting point and initial development of nanotechnology is not exactly known. In fact, the history of nanotechnology dates back to prehistoric times, when early humans used natural nanomaterial. We learned that the first nanotechnology engineer was in fact the nature itself. For example, carbon molecules at the nanometer scale are located in the cavities of cave walls, which are remained for thousands of years. Shrinking the objects has not been a new category in the industrial and post-industrial era, and in the electrical industry. Being small had a special value and cost in the Far East thousands of years ago. The childhood is referred to as beauty in classical Japanese literary texts in the tenth century (Zohoori, 2017; Yamin,2021; Borhan, 2016).

Traces of nanostructured materials have also been seen in antiquities of different historical periods such as the Middle Ages. Medieval glassmakers may be considered as the first nanotechnologists. Studies have shown that gold nanoparticles were used in the beautiful glass of churches at that time. Of course, these glassmakers did not know why adding gold to glass changed its color. Another famous example is the Lycurgus Cup in Rome, dating to the fourth century AD. This cup is seen green in daylight, but when the light is shone into the cup, it is seen in red and pink. This interesting optical characteristic is due to the presence of gold and silver nanoparticles used in it.

In future medical applications, the most important issue is the construction of very stable quantum dots that are not dangerous to health, in other words, are inherently non-toxic. Therefore, more studies are needed to be done on high quality silicon nanoparticles, especially on the photo physics of silicon nanoparticles that have a narrow size distribution, because these silicon nanoparticles, which have controllable optical properties, are very useful for future applications such as fluorescent labels.

2. Practical Discussion and Work

The cotton fabric with the specifications listed in the table is used in this article. Silica nanospheres is also used with the specifications listed in the table to complete it. The completion is done as a batch pad.

Table 1 Characteristics of the used fabrics

Texture's type	Fabric's kind	Weight (g/m2)	Cord density (1/cm)	Weft density (1/cm)
Twisted	Cotton 100 %	100	22	14

Table 2 Material used

Type of material	Chemical formula	Molecular weight	CI.NO.
Silica nanospheres	SiO_2	61.18	813173

The mentioned material was prepared on the cotton fabric by the batch pad method in order to prepare a sample of cotton fabric with silica nanospheres. The fabric was used as an effective factor in preventing the destruction of the fabric by water (rain) due to its usage in the open university environment after stabilization.

2.1. Drop Test

This test was performed to evaluate the stability of the fabric against water, so that the fabric completed with nanospheres was exposed to the same droplets and the same acceleration of water with the control sample and the rate of water absorption on them was investigated. The results showed that the control sample immediately absorbed the droplets, while the fabric completed with nanospheres still did not absorb anything after 12 minutes.

2.2. Primary Etudes

At first, many etudes were made and five designs were approved by the professors, so their color and computer design will be discussed below.

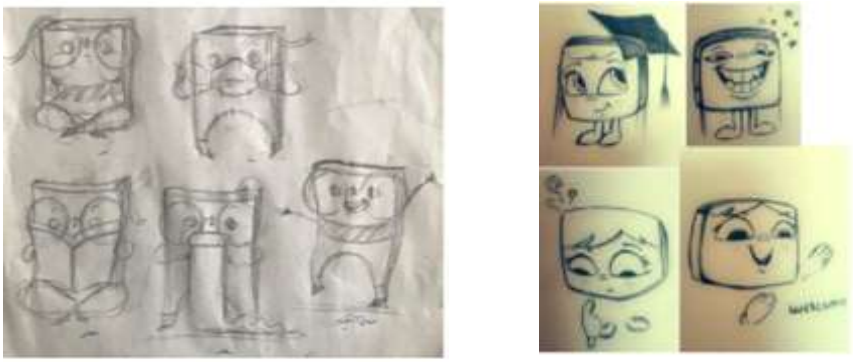

Fig 2 A sample of the primary Etude

Today, stickers can convey messages about a variety of topics, and can also provide more accurate illustrations of characters and relationships. Presenting the sticker design for Imam Javad University has been done. The book is considered as the main form of the sticker because it symbolizes the relationship between the science and the student due to designing a character with different modes.

The property of the fabric used in making the sticker is that it can be stored in a rainy environment, so that the fabric is highly resistant to water and it is also partly resistant to light. Currently, all the people of the world are affected by Covid 19 disease. Due to this issue, a sticker has been designed about this subject that it has a mask which is one of the preventive factors of this disease and a scarf designed with a university-specific color shows that the university is trying to create a safe place with observing all protocols.

Fig 3 Designed stickers

2.3. Sticker Analysis

The form that appears at the first glance in the sticker is a rectangular shape, which is one of the shapes that a child depicts in the beginning of his drawings, and a house is drawn by placing a triangle on it which inspires a sense of security. The rectangular shape of the book is reminiscent of a safe university house.

Red color releases adrenaline in the blood and increases energy. The law of red lives says: Man can achieve whatever he wants and “where there is a will, there is a way”. This color is used for the thinking sticker chair in this part, so that it actually draws the students' attention to the subject of thinking by drawing the red color, as if the thinking concept is emphasized. The eye is the window of the soul. The glasses are the symbol of Imam Javad University in this part, which has been chosen in the color of the university logo, and the book which is related to the human soul. As a

result, Imam Javad University is a gateway to science. The circular shape of the glasses is the secret of success, which is the key to eternal success. A very cheerful and lively graduation sticker designed to bring satisfaction to your education.

Visual features and symbols are divided into five characters. A very cheerful and lively graduation sticker designed to bring satisfaction to your education.

Turquoise can be considered as the name of a set of colors between the green and blue spectrum, which has more blue shade and is between blue and green on the scale. Therefore, according to psychology, turquoise has characteristics of both colors; it has the calmness of blue and the growth and development of green, and a color similar to turquoise stone, which has been given characteristics such as being auspicious and being protected against bad opinions, etc. This color has many positive features and is used in the university logo, so it is the color chosen for the stickers' glasses, and it also complements the brick color, namely the stickers' bodies. Turquoise color along with the red or orange color creates an eminent and dazzling effect. Turquoise enhances creativity and sensitivity and is the color of the soul evolution. It has great power in perception and observation and can create the ability to distinguish and recognize the ways ahead, ways to succeed, balance between advantages and disadvantages, and the right and wrong situations and opportunities. If students have daily routines and do not know how to get out of it, they can get help from seeing the turquoise color, all of which have been considered due to the way the people in university treat with it.

The combination of turquoise with the colors found in nature creates an interesting harmony, and the combination of turquoise with green, brown and dark blue creates a beautiful combination that the designer has used these combinations due to the placement of stickers in the university environment. Despite all these good properties, the best color for the corona sticker's scarf is turquoise that carries all these positive properties against this virus.

The color used for a part of the sticker on the hands, feet and graduation hat is a range of purple color that has been considered both in terms of its size and the environment in which it is placed. Its combination with purple color has strength and energy of the red color and also perfection and spirituality of the blue color. Purple evokes a sense of worth and prestige and is a symbol of originality and personality. This color increases the power of imagination and creativity. This creative color is very effective in work and education environments and it is considered for the university due to this reason. It helps to create peace and tranquility, superiority, gentleness, respect and reduction of noise along with other colors. Educational institutions often use the middle shades of purple and violet because these two colors inspire intellectual thinking and great achievements. This color is also a symbol of willpower, which says that the sticker entered the university with willful feet and strong hands holding a graduation letter. The eye is the window of the soul. The glasses are the symbol of Imam Javad University in this part, which are chosen in the color of the university logo (turquoise color) and the book, which is related to the human soul is considered as the entrance to science in Imam Javad University. The circular shape of the glasses is the secret of an eternal success.

3. Conclusion

In this article, fabric stickers were designed to be used in the university environment according to the environment of Imam Javad University and considering the organizational color of the university. The fabrics are also supplemented with nanomaterials to be more resistant to water and rain in the open environment of the university. On the other hand, each designed forms of the stickers induce a special concept, and the colors psychology has also been used to design them. The

book is used as the main element in the designs, and the reason of this choice is inseparability the between the science and book. Vitalizing the objects was also considered in the designs and the organizational color of Imam Javad University was used. Finally, five designs which were provided with reasoning were presented.

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Conceptual Function in the Lack of Photomontage Philosophical Representation Gilles Deleuze Perspective

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Research Article

Abstract

The philosophy of art work in postmodernist view is structuralist, and based on this issue, art cannot be considered as narrator because art as narrator based on structure, is dead art. According to structuralist view, Gilles Deleuze violates any representation in the visual arts. Therefore, by examining Deleuze's point of view, while identifying its lack of representation and explanation in photomontage, also explains the function of concepts in this field. The function of concepts in non-representation is only in the failure of the organizational structure and the creation of non-narrative works. The main question is what role does the concepts play in the lack of philosophical representation in photomontage? It has been assumed that concepts have a movement-oriented and creative role with the principle of being in photomontage. In conclusion, Deleuze, by violating narrative and being in the art of photography, considers photomontage to be a creative movement in fluidity that takes up time and space. The research method is done through library.

Keywords: Concept; Lack of Representation; Photomontage; Deleuze; Photograph

1. Introduction

By considering representation as classic and support it to the thinking of centuries-old philosophers, we find that truth is part of what we perceive in our perceptions. If this is an absolute

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thing, cannot be ignored because it is a principle and philosophy is the science of principles. But art is more than representation because it can be integrated as the meanings of the past and absolute. Self-awareness shows us that a book is smaller than a table which is rationally true, and representation emphasizes the same thing, but when in the art of photomontage one can be influenced by the external truth, a book placed next to the table and exhibits a real table smaller than a real book, then the structure is broken and the mind is confronted with a new form of image. In fact, by breaking the structure and violation in art, it can be injected by time and movement, especially in the visual arts such as photography. But, what this really means, or how it can be called as non-representation, is complex and an attempt is made to simplify, through the help of Gilles Deleuze thoughts, a postmodern philosopher. Non-representation begins with deconstruction in the postmodern perspective, when the truth can be represented in a different way by means of art. Old structures are broken and the image as a modern symbol changes the intuitive image of the mind and new concepts are formed. But in general, the failure of the structure leads to the creation of new concepts, although the philosophers emphasized by Gilles Deleuze have been insistent on the essence of the substance and have used the adjective with it. But Deleuze, by measuring this issue in art, emphasizes the lack of representation. In the visual arts in particular, Deleuze has had the most views on photomontage and lack of representation, which will be explained in this article.

1.1. Function of Common Concepts in Combinable Montage

The formation of a common concept is the first step of a moral act. However, this notion of the production of common concepts is not yet accurate enough to be implemented. Deleuze says we must distinguish between more general common concepts, and less common concepts. The most common concepts are those that bear a resemblance from a very general point of view: they can at most include what is common to all bodies, such as dimension, motion, and stillness. However, these very common concepts are exactly the ones that benefit us the least. On the other hand, the less common concepts are in fact the ones that immediately benefit us the most. These concepts create a similar combination between two bodies that directly agree on their local position. Just as we have constantly descended within the internal structure of power, here too we must descend to the lowest and most local level of commonality to begin our practical project. "Through such concepts we understand the agreements between states. They go beyond the external perception of the agreements seen at random in order to find an internal and necessary reason for the agreement of the bodies in the similarity of composition." Thus, especially in the most special cases, we see that the common concept finds internal logic, and the common concept covers and explains its cause, or in other words, the common concept is a complete idea: "Common concepts are general and absolute necessity; "In other words, common concepts are ideas that are formally explained by the power of our thinking, and materially express or manifest the idea of God as the actual cause." The common concept gives us a tool with which we can create a complete picture of ourselves. The first Tommy idea can identify something in common between two bodies. This idea immediately leads to another idea. This way, we can start activating our builder project. However, Deleuze has not yet been persuaded that we have put this initial moment into practice as it should be: "Therefore, there is a danger that a common concept may emerge to intervene like a miracle, unless we explain how we shape it ... Exactly how and under what conditions do we make (common concepts) desirable? "How do we achieve the power of our action?" Deleuze warns that when we look at Spinoza's theory of common concepts, we must avoid two dangerous misinterpretations. The first mistake about common concepts is to "highlight their mathematical meaning, and ignore their biological meaning." In other words, we must remember that common concepts refer primarily

to the physics of bodies, not to the logic of thought: it is better to think of them as arising from Hobbesian material realm, not the Cartesian mathematical world. The second misinterpretation we may make about common concepts is "Highlighting their theoretical theme and disregarding their practical function" (Hart and Deleuze, 2013: 180). When common concepts were first introduced in the second part of the book Ethics, they were presented precisely from a theoretical point of view in their logical order. In this theoretical design, common concepts go from the highest degree of generality (motion, stillness, etc.) to the lowest degree of generality. The practical development of common concepts in the fifth section of ethics is exactly the opposite: from the lowest degree of generality (the specific proportional relationship between two bodies) to the highest degree of generality. Common concepts are not essentially a theoretical form of analysis, but a kind of practical tool. Here, to begin practical progress, we can assume that we are experiencing a proportionate encounter by chance. We can have a correct idea of the famous epistemological beginning of Spinoza's understanding; Or we have at least one correct idea) to move to the realm of bodies and interactions. We have at least one joyful passive effect. This experience of happiness is the spark that drives moral progress: "When we encounter a body that agrees with our body, when we experience a joyful passive theater, we are encouraged to imagine something in common between that body and our body." The process begins with the experience of happiness. This random encounter with a compatible body allows or encourages us to identify a common relationship and build a common concept. However, there are two processes in this path that Deleuze insists should be considered separately. In the first moment, we try to avoid sad passions, because the power of action and the accumulation of joyful passions ruin us. This choice increases our power, but never brings it to the point of activation: joyful passions are always the result of an external cause, and always imply an incomplete idea. Therefore, with the help of sad passions, we must build what is common between the external body and our own body. "Because this very idea alone, this common concept, is complete." The first moment, the accumulation of joyful passions, provides the conditions for this leap of complete imagination. According to Deleuze, the common concepts of "ontological rupture" form Spinoza's thought and represent the completion of the transition from theory to action. "Common concepts are one of the discoveries of the book of ethics" (Spinoza, 1985: 292).

1.2. Concepts in the Existence of being and how it actually works

Man is able to blow designs and go beyond his own design and situation to finally express the creative nature, but the description of this human freedom and creativity is not clear. Of course, society is based on human intelligence, but Deleuze points out that there is no direct movement between intelligence and society. Instead, society is more directly the result of "irrational factors." Deleuze considers "potential instinct" and "the function of mythology" to be the forces that lead to the creation of tasks and gods. However, these forces cannot justify the human forces of creativity. For the solution, we must return to the analysis of the gap between human intelligence and socialization. "What appears in the distance between intelligence and society ...? The answer is not intuition" (Hart and Deleuze, 2013: 41). Intuition is the "explosive inner force that is in the heart of life" and we have already referred to it as the positive dynamics of existence. Here, however, the concept is more clearly completed. More precisely, Deleuze immediately adds that what fills this gap between intelligence and sociability is the source of intuition, and the source of intuition is creative excitement. This original production of socialization through creative excitement takes us back to Bergson's "scope of unity in memory," but this time it is a new memory. "And this creative excitement is nothing more than a cosmic memory that actualizes all levels at the same time and

frees man from the scope or surface he has to make him a creator or creator in accordance with the whole movement of creation" (Deleuze, 1988: 111 (with slight modification). With cosmic memory, Deleuze arrives at the mystical Bergsonian socialization that exists for "privileged souls" and is able to depict the design of an open society or a society of creators.

2. Explaining the Function of the Concept in the matter of Repetition to Problem

Existence means what is and what is true, but it can escape from reality in what we mix with art, and by not representing it, it can abandon narration and all concepts can leave the organized structure. Can nature be anything other than what it is in art? This is shown to us by postmodern postmodernist philosophy. If there is a change, it must be felt in the concept and understood in the experience, but the art and philosophy of postmodernism considers the experience to be right when it is productive of movement. How does thought, and mental activity in general, emerge in the universe, and how thought create the internal structures that are sufficient and appropriate to understand potential and form evolution? In introducing her theory of mind, Deleuze uses the philosophical concept of "repetition" as a guiding clue. He discusses four theories of repetition - the theories of Hume, Bergson, Freud, and Nietzsche -: the repetition of habit (Hume), the repetition of memory (Bergson), the forced repetition (Freud), and the metaphysical theory of the universe as A movement in the field of "eternal repetition" proposed by Nietzsche. These theories of repetition have in common that repetition in each case involves a process similar to or associated with mental activity. Combining activity is necessary for any observer to note that the sun is rising again today (habit). Philosophy must both understand how the mind works in the natural and pragmatic realms, and be able to go beyond it when it seeks to understand the order of reality, of which the mind is a part. "Creative Evolution," Bergson says: "But these difficulties and contradictions of theoretical philosophy all stem from the attempt to apply the usual forms of our thought to subjects with which our industry has nothing to do, and therefore our dough has not been formed in their form." (Bergson, 1960: 113). In Deleuze's view, "our natural industry appears in the beginning as a very primitive regular activity, that is, with a combination of imagination in which the two repetitive motion poles are united by that activity alone." The body currently performs such compositional and imaginative actions that it can combine and integrate sensory perceptions and recognize them when they are repeated. The mind, in this early stage of development, derives its pleasure from its activity and from the feelings which bind them together in the present life of its present, now that its foundation is based on the continuation of the habits of the body itself. Thus, this stage constitutes the main level of mental life that is based on narcissism. If we now take a step back and consider Deleuze's philosophical approach to developing a theory of mental activity, we can see that the concept of repetition performs two different strategic tasks, both of which are related to the very fundamental and established issues of the new philosophy. Another problem addressed by the concept of repetition is related to the first problem, but its metaphysical aspect is less; This is not about the relationship between mind and body, but about the relationship between consciousness and the world, that is, between the "cognitive agent" (subject) and the "subject of cognition" (object). The strategic advantage and great importance of the concept of repetition is that it links the development of mental activity and cognitive ability apart from any intentional relationship with the issues of identification. If there is a repetitive "subject", it is not transcendental (or super-empirical): It is not the central nucleus for the representation corresponding to the arbitration system that determines the subjects of identification in the empirical world (Dave and Deleuze, 2016: 72). This motivation to separate mental activity, thought, and language from "intention" is one of the enduring themes in Deleuze's early philosophy. This motivation is weakened and shaken

in the books of Anti-Deepus and the Thousand Plateaus by the concepts of machine and underground stem, which imply a kind of relationship between thought and the world, but in Deleuze's later works, in his books about Leibniz and about Cinema is re-emerging. It can be said that Bergson is, in Deleuze's view, the embodiment of idealistic temptations, that is, the temptation of mental idealism, which equates endurance with the realm of mental activity. "Materialist Guatari" weakened this attraction, but in recent writings about Leibniz and cinema she has returned in an artistic and aesthetic form. What is the philosophy behind the new creation? Except for the diversity of the truth? Creation itself is a lack of representation of nature because creation in today's philosophy means breaking structure. In new creations, art seeks to create concepts that are unstructured, time-consuming, and non-representational, just as an apple can be imagined larger than a house and depicted to the mind is confronted with its objective representation in an inverted representation and time finds its meaning in the whole image and is not just a concept of being.

2.1. Function of Concepts in Ideas from Imagination to Image

Reality, as a connection according to the laws, is the same as the continuous connection of actualities, and unreality, as what appears suddenly and discontinuously on consciousness, is a latitude in the process of actualization. As a result, there is another pair of terms: true and false. The real and the unreal are always different, but the distinction itself is not always distinguishable: when the distinction between the real and the unreal becomes indistinguishable, you have a lie. But for this reason, where there is falsehood, truth itself becomes indistinguishable. Lying is not a mistake or a mistake, but a power that makes truth uncertain and indecisive. Imagination is a very complex idea, because it represents the common denominator of these two pairs of terms. The imaginary is not the unreal, but the indistinguishable between the real and the unreal. These two terms are not interchangeable, but they remain distinct from each other, but the distinction between them is constantly changing. This distinction manifests itself well in three different aspects of the crystallization phenomenon: An exchange between an actual image? And there is a latent image, the latent becomes actual and vice versa; There is also an exchange between light and opaque, opaque becomes clear and vice versa. Finally, there is the exchange between seed and environment. I think the imaginary thing is this set of exchanges. Imagination is the same as the image - crystal. Imagination is an important factor in modern cinema. We find it in very different forms in Ophelia, Renoir, Fellini, Visconti, Tarkovsky, Zanussi, and so on. I do not believe that fantasy is special at all, but it exists in the system of images: a system that can be called organic belongs to the image of motion, which is based on rational continuities and itself provides a model of the truth of the whole (Deleuze, 2013: 48). And then, a crystalline system, belonging to the image-time, which is based on irrational slices with mere reconnections and replaces the pattern of truth with the power of falsehood. Cinema - precisely because it moves images - has its own resources to address this issue (i.e., the issue of two different image systems). But we also find these systems elsewhere, which have received help from other sources: Weringer? It had long before shown a confrontation in art between a "classical" organic system and an inorganic or crystalline system, so that the second system has no less vital force than the first system, but is a Gothic or barbaric life. These are two stylistic forms, and one cannot be said to be "more honest" than the other, because truth as a pattern or as an idea relates to only one of these two systems. Perhaps the concept or philosophy also takes these two different forms. In Nietzsche we see a philosophical discourse that collapses into a crystalline system, replacing power instead of a pattern of truth, inorganic life instead of guidelines for the acquisition of knowledge, and shameless re-linking (choice of items) instead. Makes logical connections. What Weringer calls expressionism (expressionism) is a good way to approach

inorganic life, which is fully developed in cinema and cannot be adequately explained in terms of the imaginary. But Expressionism is only one approach, and by no means does it end the crystalline system, but emerges in various forms, in other art forms, and in cinema itself.

3. Interpreting Issue of Burnout in Deconstruction and Lack of Representation

Burnout due to the erosion of a priori beliefs and long steps towards combining new concepts in order to create a new image and spread lack of representation alongside the conscious mind is something that can be defined from a postmodernist point of view as burnout due to the collision of old structures. In this regard, one can rely on Deleuze's own writings, which proceed with a staged thought process. Our implications of Deleuze's expression are that ethics presents three elements that are not just content but also forms of expression: media or effects (emotions): ideas or concepts; Essences or perceptions. These three elements correspond to three types of cognition, which are also states of existence and states of expression. A sign for Spinoza can have several meanings, but it is always an effect or a defect. One effect is first of all the rejection of one body on another body, that is, the state of one body to the extent that it tolerates another bodily action: "An effect (affectio) is an effect, like the effect of the sun on our body, which 'indicates' the nature of the affected body and includes only the nature of the affecting body." We know our effect by our ideas, senses or perceptions, senses of heat, senses of color, senses of form, and senses of distance (the sun is high, a golden disk, two hundred feet inverter). For convenience, we call impressions graded signs, because they express our situation in an instant, and are distinguished from other types of signs: Because our current situation is always a slice of our past, and under this heading increases or decreases, expands or limits our existence compared to the previous situation (no matter how close) in Durand. We do not compare the two states in a reflection operation, but determine each state from the effector to a "more" or a "less": the heat of the sun overwhelms me, or, conversely, its heat repels me. So, the effect is not only the immediate effect of a body on my body, but also on my past - a pleasure or a pain, a joy or a sorrow. They are transitions, ups and downs, continuous fluctuations of power that go from one state to another. We call these effects which, to be more precise, are no longer effects. They are signs of increase and decrease, vector signs of the happy type, and are no longer graded like impressions, sensations, or perceptions (Deleuze, 2013: 282). There are six or seven types of signs that combine seamlessly. In particular, graduated signs are necessarily combined with vector signs. Impacts always assume the effects from which those effects are derived, although they are not reduced. Associativity, variability, and ambiguity or analogy are common to all of these symptoms. Impacts vary depending on the chains of association between the bodies. The sun hardens the flower and loosens the wax, the horse has no meaning for the warrior and the peasant. Moral effects themselves change depending on the people, each person responds to them with her imagination. An incomprehensible or multi-conceptual problem goes back to the essence of meaning in the mind of each of us, and our mind is able to understand the world through its own comprehensibility. "The most incomprehensible thing about the world is that it is understandable" (Heaton, 2017: 57) As far as interpretations are concerned, they are fundamentally multi-meaningful, based on the association of a variable between a given data and something not given. It is a polytheistic or analogical deity that lends infinite understanding and will to God, to the magnified image of our understanding and our will: There is the same ambiguity between the dog as a barking animal and the dog as a constellation. Signs are like conventional words because they act on natural signs and only categorize their variability and ambiguity: Conventional signs are abstractions that establish a relative constancy for the variable chains of association. The natural contractual distinction for signs is therefore no more decisive than the

distinction of the social state of the natural state; Even vector signs can rely on contracts, such as rewards (increase) and penalties (decrease). Vector signs, that is, effects, are usually entered into variable associations as much as effects: What causes a part of the body to grow can reduce the other part, what is a slave for one part is an ability for the other part, and following a peak can be a depression, and vice versa. Understanding the issue of non-representation goes back to our understanding of new objects that are made by the conscious mind and at the same time are reflected in postmodern art that seeks to break down old structures.

4. Concepts and Lack of Representation in Expressive Attributes and formal Distinction

If we consider attributes from Deleuze's point of view in an understanding of Spinoza's philosophy, in fact, what is in the mind also becomes a descriptor with the perception of attributes, so representation is suspended because we do not see the image of existence with the essence of existence, but with everything that exists. Deleuze takes a simple chain of theological paradigms to give an image of Spinoza's theory of manifesting or expressive traits. Negative theologies generally state that God is the cause of the universe, but they do not consider the essence of the universe to be the essence of God. In other words, although the world is a kind of expression or manifestation of God, the essence of God always goes beyond the essence of its expression or manifestation and seeks excellence: "What is covered, it also reveals, but what it reveals remains hidden" (Deleuze, 1968: 63). Manifestations cannot be received in any other way, i.e., accepted into empirical (sensory) consciousness, except through the combination of plurals, through which representations of a certain place or a certain time are produced. That is, through the combination of congruent things and through the consciousness of the combined unity of these (congruent) multitudes. Now, awareness of congruent multitudes in general intuition, as far as the representation of an object is possible through it, forms the concept of a quantity (quanti). Therefore, even the perception of an object, as an appearance, is only possible through the unity of the combination of multiples of a given sensory intuition, through which the unity of the combination of homogeneous multiples is conceived in the concept of a quantity; That is, the phenomena are all quantities, and of course the quantities are continuous, because the phenomena as intuitions in space or in time, must be able to be represented through the same combination, through which space and time are generally determined (Lash, 2014: 250). Appearances are not objects per se. Experimental [sensory] intuition is possible only through pure intuition (intuition of place and intuition of time); Therefore, whatever geometry dictates about pure intuition is undoubtedly valid about empirical (sensory) intuition. And these unwarranted excuses must be abandoned that the objects of the senses cannot conform to the rules of building [forms] in space (for example, the rules of infinite divisibility of lines or angles). Because in that case, man denies the objective validity of space and at the same time the objective validity of all mathematics, and he no longer knows why and to what extent mathematics can be applied to phenomena. The combination of places and times, as the inherent forms of any kind of intuition, is what it receives at the same time, and as a result makes possible any kind of external experience, and then also any kind of recognition of the objects of external experience; And what mathematics, in its pure application, proves about perception, is necessarily valid about the objects of cognition. Any objection to this approach is the language of the sophistical games of an ill-trained intellect; An intellect which mistakenly indulges in the delusion that it frees the objects of the senses from the formal condition of our sensibility, and represents these objects, though they are nothing but appearances, as if they were understood as objects in themselves. In this case, of course, from these objects of the senses a priori nothing can be known

compositely, and consequently nothing can be known compositely through the pure concepts of place, and the science which determines these concepts Slow, that is, geometry, itself will not be possible (Lash, 2014: 252). Salma, Gilles Deleuze's point of view has many differences with Kant, because the passage of philosophy from modernism to postmodernism leads to the failure of the structure, and the true representation as it is in the opinion of the old philosophers does not appear in today's art, and the result is a photo and understanding with new concepts. Innovation and technology face each other. It is in this chapter that Gilles Deleuze sees montage as a part of the ineffectiveness of the previous concept and analyzes movement, time and space in it in a post-structuralist way. The distinction between expression and allegory becomes clearer when Deleuze distinguishes attributes from properties. "Characteristics are not adjectives in the strict sense of the word, precisely because they are not expressive or demonstrative (Deleuze, 1968: 50). Attributes are concepts that affect us and cannot help us understand nature, because they do not provide us with a common form. Therefore, Deleuze distinguishes between two meanings of "God's word": one refers to the attribute as an expression or manifestation, and the other refers to the property as a sign: "A sign is always attached to a property; A sign always implies a commandment, and forms the basis of our obedience. Expression or manifestation is always related to an attribute; It is the expression or manifestation of an essence, i.e., nature in the infinite matter; It makes the expression or manifestation of essence or nature understandable for us. Once again, the expression or manifestation of attributes can only take place through the common forms of existence. This view can be presented from two dimensions: on the one hand, due to the attributes, God is absolutely hidden within the universe of states (he is fully self or manifest); and on the other hand, due to the common forms of the attributes, the states are completely in the divine essence. Innerness and interference are two ways of expression or manifestation of attributes. It is this involvement that makes a distinction between the understanding resulting from expressive or manifesting attributes, and the prescribed obedience with similar properties. The system of signs does not tell us anything about existence; Consonant signs and rules of semiotics reject ontology. It is only expression or manifestation that can enable our knowledge of existence (Hart and Deleuze, 2013: 128). In fact, Deleuze considers the first two major steps of Spinoza's philosophical system, that is, the description of essence and attributes, to be a kind of alternative logic of speculation; Not in opposition to the Hegelian development, but quite independently of it. This conceptual independence shows how Spinoza represents a turning point in the evolution of Deleuze's philosophical work, and also shows how Deleuze's interpretation is revolutionary in Spinoza studies that have been dominated by Hegelian readings for many years in continental philosophy. In reading Deleuze's interpretation of Nietzsche, we said that Deleuze frees her own thinking from the dialectical realm through the theory of full-fledged critique. This process is completed in Spinoza's interpretation. Moreover, although Hegel is not mentioned at all throughout his text, we can easily make a comparison with Hegelian ontology to show the important conceptual independence of the basis of Deleuze's Spinozism. In fact, Hegel's own interpretation and critique of Spinozian ontology highlights the differences in Deleuze's work; From a Hegelian point of view, we will be able to recognize the radical break based on Deleuze's reading of the unity of essence and the monotony of attributes in Spinoza's philosophy.

4.1. Composition and Concepts from Chaos to Non-Representation of Montage

The growth of fantasy in the mind continues until the structure of reality in the universe breaks down in the mind and chaos leads to a new result in such a way that the representation of a ridiculous idea is in the mind. It is possible to take a picture from the aspect of self-awareness and

by mixing everything that is self-aware to create something new that needs a new attribute. What kind of idea can representationalism be and when does the mind want an idea beyond the universe? Even the smallest causality remains rare without this subjective element. Every organ is not a brain and every life is not organ-like, but there are forces everywhere that create micro-brains or non-organ-like life of things. Vitalism has always been possible in interpretation: the first interpretation refers to an idea that acts but is not, which therefore acts only from the perspective of external mental cognition (from Kant-Taclaud Bernard); And the second interpretation implies a force that exists but does not act, and therefore it is a kind of pure inner feeling (from Leibniz to Ruyeh). If it seems that the second interpretation is binding for us, the reason is that the contraction of the holder is always in a state of withdrawal from action or even from movement, and presents itself as a pure contemplation devoid of cognition. This is even in Mia. It can be seen at the highest level of the brain of habituation or the formation of habits: Although everything seems to occur from one test to the next according to progressive and active connections and integrations, it is necessary, as Hume shows, that the tests or cases, as well as events, in an "imagination" become contemplative, while still remaining distinct from actions and knowledge; And even when the party is a mouse, it is through meditation that makes a habit "contracted" and "complicated". With all these words, it is still necessary to discover this sense of inner creative data or the silent meditations that testify to the brain under the noise of actions (Deleuze, Guthari, 2016: 284). The two aspects or layers of the core of the subject, the sense of the concept, are very fragile and fragile. These two are not merely objective dissociations and dissociations, but rather a limitless fatigue that leads to a sense of data that is now disturbed and allows the escape of elements and vibrations that find it increasingly difficult to contract. Aging is fatigue: therefore, aging is either a fall into the mental chaos, out of the layout of the composition page, or a return to ready-made voices, clichés that imply what the artist no longer has anything to say about, art. A mind that no longer has the ability to create the sense of new data and no longer knows how to store, meditate and contract. The case of philosophy is somewhat different. However, philosophy also depends on a similar fatigue. But this time about the philosophy of tired thought, which does not have the ability to maintain itself on the plan of the internal plane, it can no longer handle the infinite speeds of the third type, which, in the manner of an abyss or a vortex, is simultaneously present and simultaneous with the concept and all its components. They measure its strength component (coherence) and endure, the tired thought returns to relative speeds, which are only related to the sequence of movement from one point to another, from one constituent part of an effort to another, and from one idea to another idea, and without the ability to reconstruct any concept, simple associations [= they measure and measure the simple. Undoubtedly, these relative velocities may be very large, to the extent that they simulate the absolute; But they are nothing but variable speeds of vote, discussion or "present answers", as we see with tireless young people whose agility of mind we admire. And also, with the tired old people who follow the documented votes and get involved in stagnant discussions by talking in pure solitude and inside their hollow heads. Like a distant memory of their old concepts that are still hanging on them so as not to be completely overthrown in the depths of Chaos. The operators themselves are layers of the brain that draw the variable coordinates of a kind of recognition (reference) plane design and send partial observers anywhere (Deleuze, Guattari, 2016: 286). Variables die continuously without reviving, and this causes the brain to turn into a series of small deaths, which puts permanent death inside us. This invokes a power that undoubtedly operates not only in determinable bonds that result from perceptions, but more so in the freedom that changes according to the creation of concepts, sense data, or the operators themselves. The internal philosophy page design, art composition page design, reference page design with the coordination

of science; The form of the concept, the power of feeling, the operator of knowledge: Concepts and conceptual characters, sensory data and visuals, operators and partial observers. Similar issues are raised for each page design: in what sense and how is the page design, in each of the three cases, single or plural, and which is unity and which is plural? But the most important issues that seem to us now are the issues related to the interference between the plans of the pages that join together in the brain. The first type of interference appears when a philosopher tries to create the concept of a datum or an operator (for example, a concept specific to Riemannian space or specific to dumb numbers). Or when a scientist is trying to create operators of the sense of data, like Fechner or in the theories of color or sound, and even the creation of operators of concepts, as shown by Albert Lutman regarding mathematics as far as virtual concepts are actualized; Or when an artist makes a sense of the pure data of concepts or operators, as we see in various types of abstract art or in Leh. In all these cases, the rule is that the intervening field must act with its own methods. For example, it is possible to talk about the inherent beauty of a geometric shape, a kind of function or a kind of proof, but this beauty will not have beauty or aesthetic quality as long as it is according to the criteria borrowed from science such as proportion, symmetry, asymmetry, projection, or transformation, is defined as: This is what Kant has demonstrated with all his might. Concepts and conceptual characters are removed from the inner manic screen plan that corresponds to them to slide on another screen plan, between operators and partial observers, or between Hassads and Hassani's pictures: The same situation is true in other cases. These slips are very subtle, like Zarathustra's slip in Nietzsche's philosophy or Igitor's slip in Mallarmé's poetry - so that we find ourselves on the design of complex and composite pages that are not easily described. Partial observers, in their turn, introduce a receptive sense to science, which sometimes resembles Hassani's paintings on a mixed page design (Gutari and Deleuze, 2016: 289). Can it be said that by combining philosophy and art, the concept can be transformed into the unintelligible and the unintelligible into the concept? Nothing can be understood before entering a mind, so if it is not understood after receiving the mind, what can be understood with a non-mental concept? So, philosophy can turn the incomprehensible into a concept, but art can do the opposite so that everything that has a concept in the mind becomes an incomprehensible? That is, until the representation of the mind is faced with nothing. The reflection of concepts in the mind is a function of the surrounding nature, but the reflection of the same concepts to nature can not be the primary concept, because the attribution in the mind is different from what is in nature, so can it not be said that the representation of the event is not the subject? The design of the white page, on which spots are imprinted in the mind, and the thought sprinkles color on it, and the concept comes to a conclusion? Can't it be said that everything is meaningless before sitting on the screen design? Representing nonsense is just a ridiculous idea. Is it not possible to say that everything that comes out of the mind is completely non-representation of even a photomontage photo that the photographer makes with her mental plan.

4.2. Function of new Concepts and Non-Representation in Upside-down Image

Our mental image of a specific problem is such that only we ourselves have achieved it with our mental characteristics. For example, my individual view of truth is such that it should exist, and the world is empty of truth, but from a poet's point of view, truth is something that can show another truth by changing the dimensions of the world through words. Nature is an undeniable truth, but do all human beings have the same perception of nature? Perception is formed through language and concepts and thought nurtures it, but how much can the cultivation of such a thing be measured by pure reason? But these relatively real issues of philosophy are meaningless for Deleuze because she

believed in the existence of forces in time and the movement of forces in art, and any solid structure for Deleuze was nothing but an outdated concept. Relying on the views of philosophers such as Nietzsche, Deleuze pays attention to the origin of the mind and everything that is a change of forces, to actions and reactions and what can be changed, or at least this is our perception, and not all perceptions can be considered the same. In fact, "in the origin, there is a difference between active and reactive forces. The relationship of action and reaction is not the relationship of sequence, but the relationship of being together in the origin itself. In addition, the association of action forces and confirmation and association of reactive and negation forces were obtained with the principle that negation is placed in advance and completely on the side of reaction. On the contrary, it is only action forces that affirm themselves and confirm their difference and turn this difference into an object for pleasure and approval. The reactive force, even when it commands, restricts the active force, imposes restrictions and restrictions and is controlled in advance by the spirit of negation (Nietzsche, 2013: 11). This is why the origin itself, in a sense, has its own inverted image, if we look at it from the side of reactive forces, the differentiating and genealogical element appears upside down, the difference becomes negation and confirmation, a contradiction. An inverted image of the origin always accompanies the origin; "Yes" in the perspective of reactive forces becomes "No" in the perspective of reactive forces, and self-affirmation is changed into another's negation. Action forces are original, but they find themselves against a popular image that is reflected in reaction forces. Genealogy is the art of difference or distinction, the art of originality; But he sees himself upside down in the mirror of reactive forces. In this way, his/her image appears as an image of an "evolution". Sometimes this evolution is understood in the German way, as a dialectical and Hegelian evolution and as the formation of a contradiction, and sometimes in the English way and as a derivation of believable benefit and the formation of profit and benefit. But true genealogy is always caricatured in the essentially reactionary image that evolution presents. The evolution of belief, whether English or German, is a reactionary picture of genealogy. So, it is the characteristic of reactionary forces to deny the difference that made them from the beginning. They invert the element of differentiation from which they have diverged and present a distorted image of it "Heterogeneity breeds hatred" (Nietzsche, 2010: 263). This is why they do not perceive themselves as a force and prefer to turn against themselves instead of understanding themselves in this way and accepting differences. The "commonness" of thought shows the madness of interpreting and evaluating phenomena in the form of reactive forces, from which each nation chooses itself. But the origin of this madness, from the very beginning, is in the upside-down image. Consciousness and conscience are only magnifications of this inverted image (Deleuze, 2013: 95). If we go to the mind's interpretation of the concepts with these words and say that the mind seeks something higher than representation by escaping from fatigue, and the mind itself is a world that makes a big bang in itself to create another world, what can be represented and what Can something be considered non-representation? This kind of thing only happens with an artistic and poetic vision when we make the sky fly with words or the moon seems bigger than the sky with a picture. In fact, the action and reaction completely depend on the mind, because everything that goes into the mind comes out with another manifestation. As a photographer depicts a polar bear in a glass by creating a photomontage photo. Both are real, both the glass and the bear, but what made two real existences together to form an unreal concept? Is there anything other than the principle of non-representation that happens in art?

5. Lack of Representation in Photomontage photos and Function of Fluid Concept in Creation

Fig 1 Photo representing time and movement

Deleuze believed that art is alive, and in his opinion, whatever is in the image and photography that evokes and narrates the past is not alive and cannot be called art. By violating representation, Deleuze seeks the continuity of force and movement in art. The above photo contains time and movement by disrupting the rule of being. The image can be anything other than what Fahime already has in her possession, so that a concept includes several concepts at the same time and creates an image outside the mind that is far from representation. Creation in the photo can change our mental image of a specific thing that we have believed in all our lives or break its structure in our mind. If such an event occurs, the non-representation of its objective concept will be found, like what we see in the above picture. Destructuring or overthrowing the pre-determined structure of the mind through experience is something that postmodern philosophy establishes with the combination of art and creates a new perspective in the mind. If we want to scrutinize the problem with Deleuze's mentality and its analysis on the previous works, we should pay attention to everything in a photograph based on its impression from the surrounding world and its non-representation when returning to the world with another appearance. About Bacon's paintings, Deleuze has drawn such a world many times. This is a case where, one might say, the "common hallucination of crazy images" is compressed into a "situational hysteria". This "situational hysteria" preserves the only necessary totality that, following Sartre's sharp critique, is still possible for the phenomenological method: that of the spontaneity that defines consciousness as a form of creation. Since the photo excites the viewer, Bacon uses the variety of situations provided by the photos to enliven his paintings through the effect of "companion". The photograph is determined, creating the viewer's sense of individuality, even if it is a spontaneous individuality that is different from the sense of consciousness that creates it. However, Barthes's interpretation is not in complete agreement with the passage referred to in Sartre's "Imagination". But it is necessary to emphasize the fact that what distinguishes different kinds of situations is the theoretical property of intention, and not the presence or absence of an object... If I look at a picture in a magazine, they are very easily They can have nothing to say to me." Which means that I look at them without the certain assumption of their existence. It is possible that someone will find cases in which the photo leaves

me in such a state of indifference that no impression is created in me. "The photograph is vaguely established as an object, and the people it describes as people indeed, but only because of their resemblance to humans, without any particular intention. They float between the edges of perception, sign, and image, without touching any of them (Morton and Deleuze, 2013: 37). The disintegration of the world is not far-fetched in the minds of today's technologists. The interweaving of different concepts in the above photo, which represents two concepts of today's world that are cast in an artistic format and what we find in a certain time, is the non-representation of what nature is. Photomontage basically belongs more to the world of nature than art. (Soulage, 2019: 328)

Fig 2 Visual concept

What changes the nature of a visible concept and what does the change include in the concept? Art can be our answer and this problem appears when some contradictory adjectives and some concepts with a certain paradox form a single meaning together and break the representation. The previous drawing of the mind due to empiricism can change with an artistic event into two halves before the event and after the event, and with the discovery of a new connection in the conscious mind, the result will be non-representation. By understanding the issue of being and being away from being, Deleuze tries to make the art of imaging, especially the photograph, with potential and injects becoming into it, so that whatever work is created, its creation continues with the audience's feelings without reaching the static matter. In fact, the lack of representation represents the flow of feeling in the art of photography and it lack focus on the past time. In fact, a photograph is a living art that always has time and movement in it. Therefore, Deleuze's escape from the structure of the photograph is where she considers feeling as its main thing and negates any organization in it. Basically, the subject is not organized and static, but fluid and variable. Transcendental empiricism liberates thought from any ultimate metaphysical foundation by insisting that life is not an actual field but a potential multiplicity (Ardalani, 2017: 39). Relying on this issue, photomontage in

photography can be seen as a proof of the principle of fluidity and transformation from Deleuze's point of view.

Fig 3 Photomontage in mind of photographer

The mind's perception of the concepts is a heterogeneous interpretation of the world, which each mind considers a meaning for itself from that world. For example, making a design of a photomontage in the mind of a photographer in order not to represent objects, (as Deleuze did in a discussion from wear and tear to structural change (Deleuze, 2016: 283 onwards), means something that changes the image of the surrounding world and what reaches the field of emergence is a different effect of the surrounding world and it cannot be called a representation anymore. It means preserving forces, time and movement in the image, which according to Deleuze Demomet in the flow and aliveness of art in space.

6. Conclusion

Movement and being in time must be maintained. By avoiding representation, this will happen if the habit is avoided. It is in such a situation that your transformation is continuous. Photomontage in photography is to move away from the space of representation and keep alive the creation in motion and being alive. The flow of chaos should originate from feeling and be in conflict with representation because it is in this way that the true meaning of art is transferred to photography. The creation of a work in photography is far from representation, which does something beyond narration, and in photomontage photos, time becomes active and immortal and does not evoke the past. With such a description, one can reach the death of the concept in a moment and achieve the transformation of the concept in every creation. When functions become non-representational, its effects are infinite and have existence. If creation in a work of art always continues even after the death of the author and continues with the audience's feelings, it means that the organization will be completely disintegrated and we will face a lack of representation every time. This is the same thing that I took from Deleuze and it is the same thing that she refers to in expressing order in disorder. If we consider the photo to be, it means something that remains in the past and its permanence is only in the past and it is a narrator. But if we consider the photo in the photomontage as the creator of the forces and the stimulus of feeling in every piece of time, then the photo has its own form and

lack of representation finds meaning in it. Concepts in the creation of artwork have a form that Deleuze defines their role in forces and body with disorganization.

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