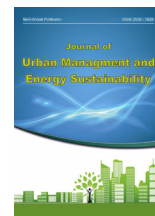# Journal of Urban Management and Energy Sustainability (JUMES)

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Investigating the effects of using the key elements of environmental graphics based on Derrida's philosophy in improving the quality of urban spaces in Isfahan city

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ABSTRACT

The problems that exist in urban life today require graphic science to do part of its activities in the field of architecture and environmental elements. Therefore, the present study was conducted with the aim of investigating the effects of using the key elements of environmental graphics based on Derrida's philosophy in improving the quality of urban spaces in Isfahan. In the current research, the library information collection methods and measurement tools are in accordance with the visual, emotional evidence and the available documents. According to the type of study, the statistical population of the study includes two groups of Isfahan citizens, the first group includes 18 experts and the second group includes 213 domestic tourists. Based on the beta coefficient obtained from the regression, in the investigation of the effective factors in the improvement of the urban spaces of Isfahan, the greatest impact was related to the components of texture, diversity, light, unity in the environment, proportion, continuity, balance and emphasis. This study showed that there is a significant relationship between the improvement of the urban spaces of Isfahan and the texture of the environment, diversity, light, unity in the environment, proportion, continuity, balance and emphasis, and the greatest impact was related to the texture of the environment.

Running Title: Environmental graphics based on Derrida's philosophy

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INTRODUCTION

The concern of deconstruction is a debate that was raised in the last decade of the last century. This approach started from the heart of philosophy and especially relying on Derrida's views and spread to many other fields as well. This new wave, which considers the era of structuralism to be over, is one of the favorite topics of many contemporary thinkers. Its main ideas have spread in many countries, including Iran, and in a number of fields, including art, literature, cinema, and architecture. And urban development has found a powerful position. On the other hand, writing about postmodernism in the second decade of the 21st century is not an easy task; Especially, in the case of art and visual arts, when its meaning is still ambiguous. The formation of postmodernism has created a significant change in the field of art and visual arts. Postmodern opinions, ideas and philosophical debates among thinkers and academics have played a significant role in the formation and development of issues related to this concept (1). Although it does not have a clear presence in the visual arts and architecture, but since the way of thinking, interpretation, philosophy and events have an undeniable impact on art and especially the philosophy of art, it is necessary to explore Derrida's philosophy in the treatise. and examine the relationships between this philosophy and other sciences such as tourism, architecture and urban planning. Deconstruction or deconstructivism, which in Persian is also translated as deconstruction, deconstruction, deconstruction, and refoundation, was proposed for the first time in the 60s and 70s by the French philosopher Jacques Derrida in the field of philosophy and literature. The school of deconstruction, which is considered one of the important branches of postmodern philosophy, is a serious critique of the vision of structuralism as well as modern thinking. According to Derrida's opinion, a text or an image never reveals its true meaning, and any reader who reads it (here the interpreter) can have a different understanding of the intent and purpose of its.

Jacques Derrida, the main character of the philosophical flow of deconstruction, believed that deconstruction is not just a theory but a set of strategies or ways of reading the text. In fact, the goal of deconstruction is to break boundaries and limitations, to achieve new perspectives, or in other words, to discover new territories, to disrupt and eradicate inherited conceptual orders and intellectual frameworks, and to interpret them against the stereotype. It is their own (3 and 4). On the other hand, the significant development of urbanization along with the development of cities in terms of population and area and the emergence of metropolises and mother cities have caused the creation of various urban textures and combinations and complex economic and communication factors (Behzadfar, 2013). Although urbanization has many advantages and welfare factors, it has caused problems and problems for the residents of the cities. Among the most important and obvious of these problems is the problem of irregularities and disturbances in different urban landscapes, which generate visual and psychological pollution of the people, which have adverse effects on the morale. Man leaves Meanwhile, the category of art and philosophy of art, including environmental graphics, plays a very key and necessary role in this regard. Graphics are very effective in giving identity to urban environments and making them readable, and it is considered a reliable tool for urban design. In fact, the problems that exist in urban life today require graphic science to do part of its activities in the field of architecture and environment. In such a way that, on the one hand, it brings order and the visual beauty of urban spaces, public places, buildings and structures, and on the other hand, it provides a pleasant and peaceful living environment for people in the society (Hosseinaghli, 2011). In this regard, environmental graphics is trying to bring a new and creative experience of space and form in front of the audience with the help of various sciences such as urban landscape design, industrial design, sociology, communication and

scientific technologies. in terms of communicative expression and aesthetic values (Rashvand, 2011). On the other hand, the function of environmental graphics is not limited to its communication and informational aspects, but the visual elements of environmental graphics are also related to its cultural and cognitive dimensions.

The city of Isfahan, as the third metropolis of the country after Tehran and Mashhad, is not exempted from this rule and has always relied on its planning and urban management strategies, as well as benefiting from its geographical location and historical, cultural, political and Tourism itself has taken effective steps to improve the quality of its urban spaces and increase competitiveness in the tourism industry (Rahmani and Shaderukh, 2014). So that today the city of Isfahan is known as the cultural capital of the Islamic world and one of the most prominent and attractive tourist places in the world. But unfortunately, despite the efforts and formulation of economic development policies in this city, as it should be and perhaps these potential capacities are not properly used in proportion It has not been done with its importance. Therefore, according to the international cultural-tourism status of Isfahan city, on the one hand, and on the other hand, the possibility of benefiting from other potentials in this city, the necessity of using environmental graphic elements and increasing the quality of urban spaces has become very necessary in order to increase its competitiveness. increase compared to other tourist destinations. For this purpose, in the current research, by using the concepts of environmental graphic elements, global experiences and theories presented in this field, an effort has been made to compile the general principles and research framework with the focus on improving the quality of the space of Isfahan city. Therefore, the main goal is to the use of the key elements of environmental graphics is based on the philosophy of deconstructivism to improve the quality of the city spaces of Isfahan. In addition, the use of this innovation causes

tourists to have a favorable image of this city, and this plays a significant role in improving the tourism potential of Isfahan. Therefore, in order to achieve the quality of the urban spaces of Isfahan, it is necessary to firstly identify the most effective factors of environmental graphics and combine them with the philosophy of deconstructivism and schema.

Derrida's philosophy

The postmodern artistic-intellectual flow sees the world as a set of "pretend" or virtual forms, a world full of quotations that are under various mechanisms such as copying, Pastiche, allusions, references, reconstruction, reproduction, permission and virtual reality are classified and of course none of them have the ultimate truth or originality. The world around us is a set of pretenses, a complex network of signifiers that has lost its reference to a single concept or a specific signifier. And as Derrida says in "Grammatology": Derrida presents a broad idea of the text. The text is a weave of signs or, in Derrida's term, traces, and everything in the world is a sign or trace. Understanding and experiencing the text requires interpretive knowledge. Therefore, everything Derrida says about written texts can be extended to the world as a text. According to him, the experience of anything in the world should be obtained through a process similar to reading. Therefore, in the realm of human experience, there is no such thing as pure nature. The human experience of nature occurs when nature has meaning, and this meaning is acquired not by seeing or touching, but by reading. What happens in the reduction of experience to observation is the reduction of the cultural aspect of man. In the mentioned work, in the section titled "Writing as Difference" in the question and answer between himself and Julia Kristeva - another prominent thinker of the deconstruction school - Derrida explains some of the points. Where Derrida introduces the phonetic writing model in ethnocentric thinking, he says that pure phonetic writing cannot exist because writing is always accompanied by

phenomena such as spacing between signs. We are faced with punctuation, intervals and differentiation methods that are necessary for every written text; Therefore, it can be said that all the logic of phoneticians or lexicographers will be in trouble. The scope of the validity of the claims of the axioms becomes narrower and more artificial. If we consider the principle of difference and plurality as Saussure considered, the scope of the limitation of the axioms becomes more visible. That is, if we want to accept Saussure's concept of difference and plurality, we must prefer the phonetic form of the language (timing nature of language) over its graphic or written form (spatial nature) and also consider all meaning-making processes as a game. Let's accept some forms of differences (Zahed, 2012). Although here, in rejecting the phonetic form of language and in defense of the written form, Derrida proposes a special concept of language under the title of gram or difference, in which all language combinations and references are based on the assumption that no element of language It cannot be present or realized in itself, they are formed. In any discourse system, whether written or oral, no part or element of language can act as a sign unless it refers to an element or part that is absent. As a result, such a chain of communication between the components of the language, whether written or phonetic, is formed based on the existence of a network in the language. This network of intertwined interactions actually forms a texture called a text, and this texture is formed only when other texts are transmitted or in the state of text displacement (10). Elsewhere in the same dialogue, Derrida adds that the subject, the self-aware and expressive subject, is dependent on this system of differences and the suspended movement and postponement of difference, that is, the subject is formed only when it is divided, plural and in itself. Space expands and is delayed in time. Therefore, language as a set of differences and multiplications cannot be only the function of the expressive subject.

Derrida says that writing should have action and be comprehensible. Even if the author of the text cannot describe his manuscript, the author is not always with the text and cannot explain about it. From Derrida's point of view, whatever is in the mind of the creator of the work has no significant superiority over the meaning of the words. The writer can find out the meaning of his words while writing them. Derrida practically does not accept the existence of meaning in the human mind. He has a new and somewhat familiar understanding of meaning, which is not related to signs that are written on paper and refer to concepts. He easily denies the existence of any signification. In his opinion, it is nothing more than an illusion that man has created for himself. Based on his thought, it can be concluded that there is no movement or reaction from the signified to the signified. In fact, Derrida wants to say that one signifier only refers to another signifier, and that other signifier also refers to another signifier, thus creating a chain of signifiers that continues to infinity. By abandoning the signified, Derrida practically destroys the last trick of man to control language. With such a move, Derrida intends to prove that language achieves creativity without the presence of the signified, which is different from the author's mental creativity. In fact, this creativity is something that the writer can free himself from and get rid of, therefore Derrida's view on language is far beyond the views of structuralists.

MATERIALS AND METHODS

Methodology
The current type of research is based on the practical purpose and based on the method of collecting descriptive-survey data and is from the branch of field investigations. In applied research, the goal is to discover new knowledge that follows a specific application about a product or a process in reality and applies the principles, theories and laws of basic research to solve practical problems. It is descriptive because its purpose is to objectively and regularly describe the characteristics of a situation, and it

is survey because it examines the opinions of experts. Therefore, the research method, in terms of the way of collecting descriptive data (in the sense that the researcher evaluates the existing situation and conditions without manipulation) and because the questionnaire and interview methods were used to collect the information of the studied community, is part of the research. It is descriptive-survey. In the current research, the methods of collecting information are library and field. Also, in the current research, the measurement tool is based on the visual, emotional evidence and documents available in the library. According to the type of study, the statistical population of the research includes two groups of citizens of Isfahan city. The first group includes experts (managers and senior experts of relevant organizations) and the second group includes domestic tourists of Isfahan city in 2018. Since the approach of this research is to identify and extract indicators and criteria of environmental graphics based on Derrida's philosophy, the sample size is about 18 people including (4 senior organizational managers from the fields of graphics, illustration, architecture and urban planning; 4 deputy of the mentioned fields, 2 urban illustrators, 2 sociologists, 2 psychologists, 4 urban design experts) were considered as experts and the second sample group included 213 domestic tourists of Isfahan city. who have visited the historical places of Is-fahan city; Therefore, the sampling method will be clustering. In this research, descriptive and inferential statistics were used to analyze the information obtained from the questionnaire. Also, according to the progress of the research project, Kolmogorov-Smirnov test methods are used to check the normal distribution of data. If the test is normal, parametric tests will be used, otherwise non-parametric tests will be used.

DISSCOUSION AND FINDINGS

The present study is based on 213 samples, which included 77% men and 23% women, 51% of them were in the age range of 41 to 50 years, 28% in the age range of 30 to 40 years, and 21% in the age range of 51 years and above, also mainly the level of education of the people was doctorate, then master's degree and bachelor's degree. Also, people mostly had 21 to 25 years of work experience, 24% of people had 11 to 15 years of work experience, 22% had 16 to 20 years of work experience, 18% had 26 to 30 years of work experience, and 12% had 6 to 10 years of work experience. The results of the Kolmogorov-Smirnov test showed that all the variables under study follow a non-normal distribution, and therefore, non-parametric tests were performed for inferential statistics. Spearman's correlation results show that there is a moderate and strong correlation between the independent variables, and secondly, the positive sign indicates a positive relationship and a direct effect between the variables.

Table 1: Correlation test results

Research components	Urban life quality		
	Correlation Coefficient	Sig. (2-tailed)	N
Balance	.311**	0	213
Proportion	-.252**	0	213
Continuity in the environment	.231**	0.001	213
Emphasis in the environment	-0.019	0.781	213
unity in the environment	.582**	0	213
Diversity in the environment	.653**	0	213
Material	.965**	0	213
Light	.565**	0	213
Public spaces quality	1	.	213

In the relationship and correlation between these variables and the quality of urban spaces, it can be said that there is a strong and meaningful relationship between the four variables, and the context variable has the highest correlation and the environment emphasis variable has a very weak and negative correlation.

Investigation of independent variables on the dependent variable of the quality of urban spaces

In the first model, considering balance as an independent variable and the quality of urban spaces as a dependent variable, the following results have been obtained. As it turns out:

F ratio is equal to 32.410, which is statistically significant. Therefore, it is confirmed in the main hypothesis that the balance is on the quality of urban spaces.

CONCLUSION AND RESULTS

- **The beta coefficient shows that for each unit of change in the balance dimension, 0.150 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

- **The beta coefficient shows that for each unit of change in the dimension of continuity in the environment, 0.158 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

Table 2: The first regression model with balance variable

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.365a	.133	.129	.75590
a. Predictors: (Constant),				

Table 3: Variance analysis test of the first model

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.518	1	18.518	32.410	.000b
	Residual	120.562	211	.571		
	Total	139.080	212			
a. Dependent Variable:						
b. Predictors: (Constant),						

Table 4: Regression coefficients in the output of simple linear regression analysis

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		t	Sig.
1	(Constant)	2.407	.193		12.471	.000
	Proportion	.150	.059	-.173	-2.553	.011
a. Dependent Variable:						

- **The beta coefficient shows that for each unit of change in the emphasis dimension in the environment, 0.017 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

- **The beta coefficient shows that for each unit of change in the dimension of unity in the environment, 0.393 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

- **The beta coefficient shows that for each unit of change in the dimension of diversity in the environment, 0.928 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

- **The beta coefficient shows that for each unit change in texture dimension, 0.983 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

- **The beta coefficient shows that for each unit of change in the light dimension, 0.451 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

- **The beta coefficient shows that for each unit change in the fit dimension, 0.237 units are added to the improvement of urban spaces. Therefore, as it can be seen, in a constant state and considering the effect of these variables, the relationship between the independent and dependent variables is significant.**

In this research, we investigated the post-modernist interpretation of environmental graphics from Derrida's point of view in a practical way in the city of Isfahan. During the 1960s and 1970s in Europe, different currents of thought emerged in different fields of human knowledge, especially humanities. Among these currents, we can mention the emergence of the "deconstruction" point of view. Derrida's view of deconstruction is one of the topics that has entered into various fields, such as literature and art, sociology and politics, psychology, economics, and philosophy, and has created extensive developments. Today, Derrida's thoughts have permeated environmental graphics and its processes and created profound changes. Derrida's deconstruction is a method of decentralization; It is a way of reading or a way of reading that first reminds us of the centrality of the central member and then tries to remove it from the centrality and provides the ground for peripheral members to find their way to the center. The responsibility of individuals is to find the structures and foundations that have provided the means of centrality and domination. Then these foundations should be criticized and deconstructed as much as possible. According to the presented materials and based on the studies and interviews conducted in order to extract the conceptual model of the research, the factors affecting the environmental graphics in the city of Isfahan can be examined as follows: Diversity is the result of difference and contrast. The difference between the shape, color or texture of the elements that make up the variety is considered. Various components make the eye look for the unifying factor in the whole work. Diversity in fact strengthens unity, unity has a desire for order, and diversity has a tendency to stimulate. Point, line and surface have a special power of expression. Points are different according to their size and how they are used in the environment and create a different visual effect. Lines, as well as curved lines, broken lines, oblique lines, and lines in horizontal or vertical mode, each leave a different effect and are used where

needed and appropriate. Space determines the position and status of every objective phenomenon with other phenomena. Space determines the existence of every objective entity in relation to other entities and makes the internal, external and intermediate space comprehensible. Another of the elements of internal and external architecture is texture, texture can be discussed from two points of view, in terms of form and shape, which is perceived by the visual faculty, and secondly, in terms of the physical properties and gender of texture, which can be understood with la mesa. The degree of light reflection or absorption by the textured object is very important. The contrast of matte and rough surfaces next to shiny and polished surfaces is very attractive and creates a visual effect. Rough texture has the power to attract attention, and on the contrary, smooth and polished textures are usually pale and unattractive. The texture is obtained from different materials, such as tree bark, stone surface, animal skin, or its artificial type, such as brick, metal, plastic, etc. The intensity of the light and whether the texture is natural or artificial affects its quality. The viewing angle and distance of the observer to the work should be taken into account. Light is one of the most important components in environmental graphics and interior and exterior design. Natural and artificial lights create different effects in the environment. The observer's point of view, the amount of light that shines on it, and the observer's viewing angle are factors that must be observed in all the elements inside the street and have a suitable and beautiful combination and have a good and standard design. Balance is one of the basic principles of art. Art seeks a kind of balance in communicating with the audience. Balance in art is done by balanced division of components. Color, light and texture also play a role in maintaining balance or imbalance. To design the environment, the proportion between the dimensions should be taken into account. Because the lack of attention to proportion makes the design not suitable for its surroundings and loses its ability to inform. Repetition,

escalation and proportion are the three components of continuity in art and are considered as basic elements. The effectiveness of repetition and frequency depends on the appropriateness of the subject and the skill of using them. If the repetition of an element gradually changes, the strength of the work of art grows and expands. The direction of emission can be upwards, downwards and obliquely. The evolution can be seen in the change of size (small and large), in the change of shape (from square to circle, etc.) and in the change of color (from pale to rich color). If the viewer's attention is drawn to a certain part of the work by downplaying the components of a composition and distinguishing one of the components, that part is called the emphasis point. Emphasis can be created using color and texture. Identical visual components weaken the emphasis point of the work. Creating unity in the environment: Unity gives coherence to everything. Without the element of unity, the components of a composition will appear scattered and unrelated. Unity attracts attention. Diversity is the result of difference and contrast. The difference between the shape of the color or the texture of the elements that make up the variety is considered. Different and different components make the eye look for the unifying factor in the whole work.

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