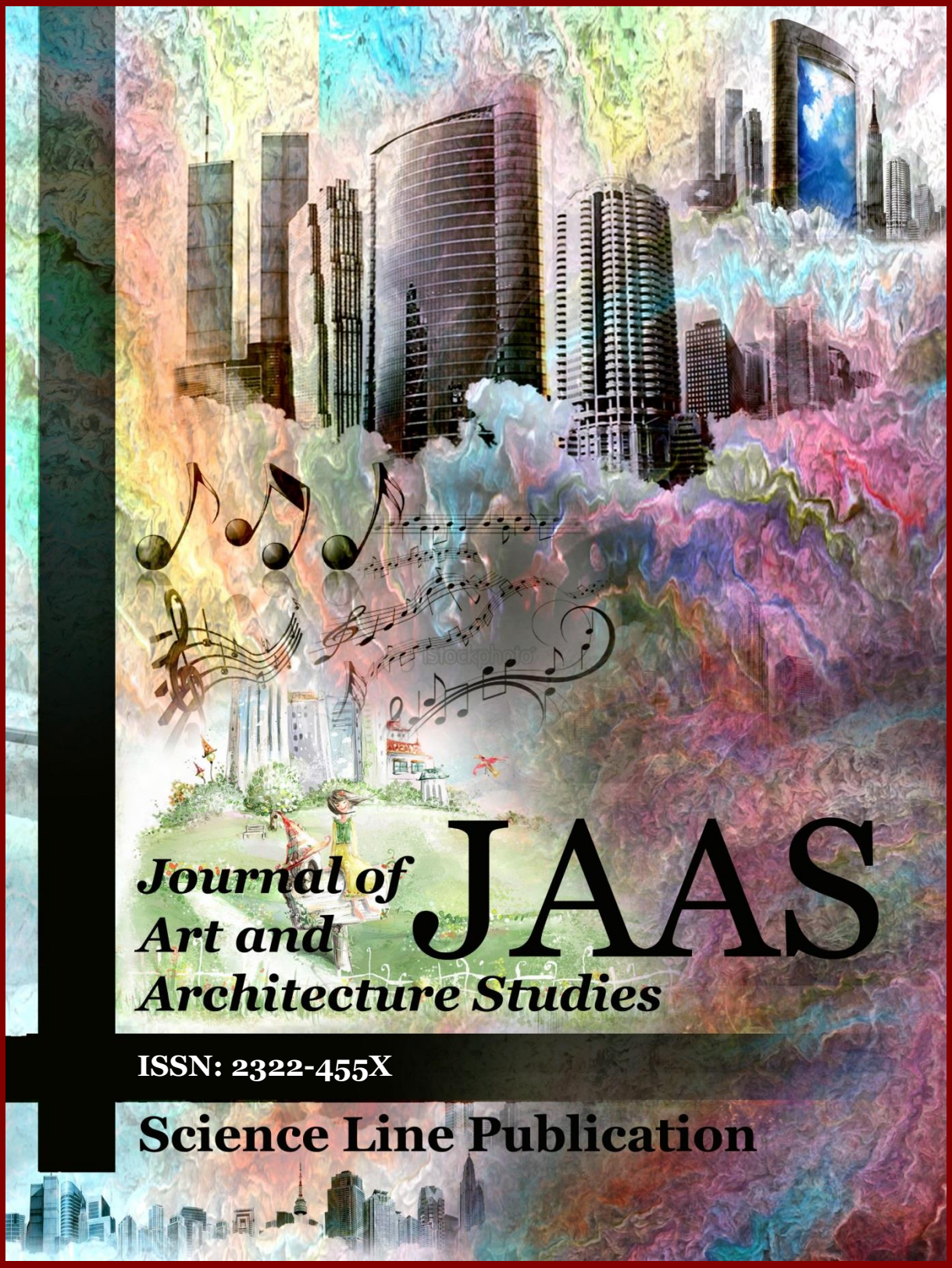
In the Name of God



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Research Paper

The use of the naturalism approach in designing the Tabriz carpet museum.

Rishi Jegheh A and Karimi A.

J. Art Arch. Stud., 7(2): 21-27, 2018;
pii:S238315531800003-7
DOI: https://dx.doi.org/10.51148/jaas.2018.3

ABSTRACT
Culture and art have come from the very beginning of mankind, along with human life, in order to calm down humankind, and what comes out of mind in different arts and in different ways. With the advancement of mankind in various arenas and sciences, art, in turn, was subject to change and in various parts of the earth's human races, the craftsmanship of buildings and handicrafts was made in caves. Meanwhile, art in the Middle East from ancient times was the cradle of human civilization and the creator and developer of human beings in various fields, including art. From ancient times, especially after the arrival of Islam, Iran has witnessed progress in various fields of literary culture, especially art and architecture. In addition to the art of building and architecture, the creation of motifs in the tiling of mosaics etc. Handmade carpet art is one of the characteristics of recognizing the art of the land of Iran, especially the territory of Azerbaijan. Tabriz is a Persian carpet garden with the texture and development of a variety of carpets in different designs with a fringe in the range and worldwide name in different parts of the world. It is worth mentioning that this ancient city has an exhibition or museums in which architecture along with art witnesses the display of authentic Iranian and Islamic art and architecture. In the post-industrial and post-modern era, we are studying and designing the spaces needed for the place. In addition to an indicator for the city of Tabriz, we have a very small footprint in reducing the heating of the earth and using indigenous and nature-friendly materials.
Keywords: Museum, Carpet, Naturalism Architecture, Architectural Design

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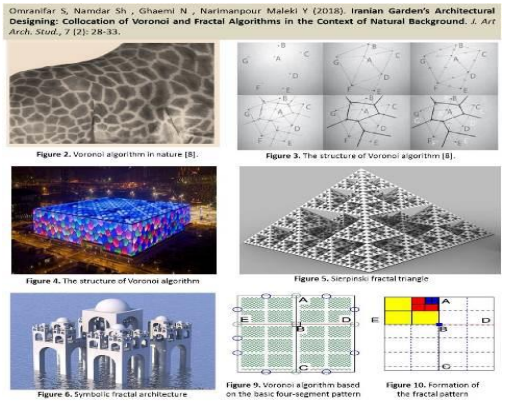
Research Paper



Iranian Garden's Architectural Designing: Collocation of Voronoi and Fractal Algorithms in the Context of Natural Background.

Omranifar S, Akbari Namdar Sh , Ghaemi N , Narimanpour Maleki Y.

J. Art Arch. Stud., 7(2): 28-33, 2018;
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DOI: https://dx.doi.org/10.51148/jaas.2018.4

ABSTRACT
In the present article, the collocation of the Fractal Geometries and Voronoi Algorithm has been proved in line with the designing of garden's digital architecture and it was made clear that the designing of the ancient four-segment gardens is considerably matching with the contemporary architecture which has come about subject to the effect of computers and software. The present study is a qualitative research of descriptive-analytical type and it has been conducted with a glance at the history of Iranian gardens' designs and their delineated geometrical analyses concerning the structural philosophy of Voronoi and Fractal algorithms. The primary goal of the researcher is showcasing the timelessness in the designing of the Iranian garden so as to prove that the prior designing has been in accordance with the novel patterns of the contemporary architecture and it can get the paradise manifested like before in a corner of the earthy ground in today's machining world. It can be stated as a part of the obtained results that the idea of exhibiting water in the garden and the system of water transmission to the most distant spots in the garden tries depicting the ancient imaginations of the previous architects about Voronoi algorithm considering the use of the shortest path which is a perpendicular line drawn towards a dot on a straight line. Moreover, the use of four-segment garden's basic module and its division in an internally descending manner displays Fractal geometry in each of Voronoi levels of the garden's plots.
Keywords: Iranian garden, Geometry, Voronoi algorithm, Fractal, Water
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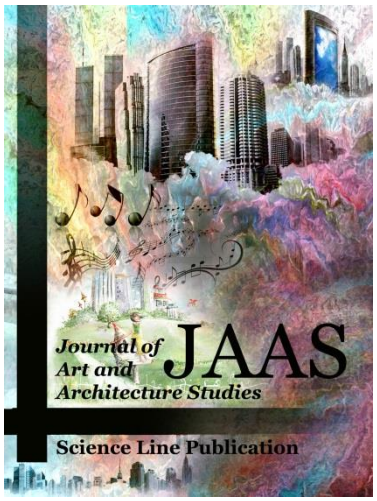
Journal of Art and Architecture Studies



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THE USE OF THE NATURALISM APPROACH IN DESIGNING THE TABRIZ CARPET MUSEUM

Amir Rishi Jegheh and Ardalan Karimi

Ilkhchi branch, Islamic Azad University, Ilkhchi, Iran

Research Article

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ABSTRACT

Culture and art have come from the very beginning of mankind, along with human life, in order to calm down humankind, and what comes out of mind in different arts and in different ways. With the advancement of mankind in various arenas and sciences, art, in turn, was subject to change and in various parts of the earth's human races, the craftsmanship of buildings and handicrafts was made in caves. Meanwhile, art in the Middle East from ancient times was the cradle of human civilization and the creator and developer of human beings in various fields, including art. From ancient times, especially after the arrival of Islam, Iran has witnessed progress in various fields of literary culture, especially art and architecture. In addition to the art of building and architecture, the creation of motifs in the tiling of mosaics etc. Handmade carpet art is one of the characteristics of recognizing the art of the land of Iran, especially the territory of Azerbaijan. Tabriz is a Persian carpet garden with the texture and development of a variety of carpets in different designs with a fringe in the range and worldwide name in different parts of the world. It is worth mentioning that this ancient city has an exhibition or museums in which architecture along with art witnesses the display of authentic Iranian and Islamic art and architecture. In the post-industrial and post-modern era, we are studying and designing the spaces needed for the place. In addition to an indicator for the city of Tabriz, we have a very small footprint in reducing the heating of the earth and using indigenous and nature-friendly materials.

KEYWORDS

Museum, Carpet, Naturalism Architecture, Architectural Design

INTRODUCTION

One of the phenomenal phenomena in recent years is the growing trend of globalization. Our country is also seeking to join the World Trade Organization (WTO) in order to expand its non-oil exports and presence in global markets and is currently a member of the Organization's oversight body. One of the important industries that should be studied for this purpose is the handmade carpet. The export competitiveness index of handcrafted carpet 65 Isfahan silk rings is equal to 0.88, indicating that the 65 handcrafted silk rings of Isfahan province are in competition with the current conditions in the global markets. Relative benchmark index is equal to 0.79 based on unit cost, which is the actual competitive advantage in free competition conditions after the accession of Iran to the WTO, and represents the relative advantage of the province in producing the carpet [1]. In the meantime, Tabriz has a special popularity. Tabriz Carpet is one of the types of Iranian carpets. This carpet is woven in the city of Tabriz [2]. This city is one of the most important centers of carpet weaving in Iran and its carpets have a lot of variety and variety. Tabriz is currently selected by the World Council for Handicrafts as the "World Carpet City" [3].

Undoubtedly, the existence of a museum as a cultural institution in the community is essential. The culture of every society is a general concept and embraces all the spiritual values and findings of the peoples of that society.

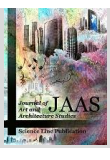
So the heritage culture is any ethnic group that has been taken from its predecessors and has been transformed into it and has been transmitted to subsequent generations. Cultures and civilizations, like humans, have three evolutionary stages:

They have a childhood and adolescence. They reach perfection and reach old age and eventually disappear. It takes the form of dynamic and necessary cultures and civilizations, takes over from other cultures, and throws away what is redundant.

Maribota Speaks in Iran:

My first attempt at designing and working on the project understands the subject. For example, when it comes to the museum, first of all I ask myself: "What is today's museum?" For me, there is an institution with a strong intellectual character.

Citation: Rishi Jegheh A and Karimi A (2018). The use of the naturalism approach in designing the Tabriz carpet museum. *J. Art Arch. Stud.* 7(2): 21-27. DOI: https://dx.doi.org/10.51148/jaas.2018.3



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People go to the museum to ask artists and artwork. Therefore, the issue of spirituality is the spirituality that follows the forms of aesthetics [4]. At behind these forms of aesthetics is a moral tension that must be transmitted. For me, the museum today has the same function as the ancient cathedral, as the cathedral of contemporary world non-religious.

Such a reflection within the museum creates two heroes. The first hero is the visitor, and the second is the artwork to be discussed at the museum, so I will divide the space with this view into two seasons:

The space on which the visitor moves.

Mellow atmosphere in which the work of art is placed (and it should not be influenced by architectural artwork).

In the next step, while I have not yet done any lines, I try to search the site for a question. The earth and its condition respond well to us. I ask the earth what it's like to be? After that, the relation to the ground meets the concept, not the architectural form. And what matters to me is the relationship between architecture and the environment, not the form of architecture [5].

Humanity has evolved from the earth and has developed on Earth and in nature. Human handicrafts are inspired by nature and creation. The combination of art and architecture with the use of naturalism can create a natural art by combining the architectural mind. To emphasize the role of nature in the carpet with a construction that reflects this role along with the creative architecture of nature.

So at the beginning of the life, by studying the naturalistic approach and converting them into signals, we can see a general view of the subject.

The main question now is what is naturalism in architecture and how can it be used in designing the Tabriz carpet museum?

The overall aim of this research is to investigate naturalism in the design of the carpet museum.

In this research, it is tried to analyze the documents using comparative and analytical descriptive methods, and compare them with the similar designs and adapt the weaknesses and strengths.

Methodology (data collection in this research)

In this method, we examine the land in terms of its area and its gradients and its topography.

In the method of analyzing information, we try to quantitatively and qualitatively examine the content in terms of descriptive analysis, comparison, cause and effect, and to better design the subject.

Define a museum or display house

So far, no comprehensive theory of how the museum is described as a place is not expressed, of course, this does not mean that there is no proper understanding of what the museum is, because the museums that were built and the designs presented by the various designers each It can be argued that a museum without a definite definition can properly address all of the museums, and can be found, and each of its specific museums will be discovered and made available to republic [5].

Types of museums

Museums are categorized in a variety of ways, including historic and archaeological museums, outdoor museums, anthropological museums, palaces of museums, science and historical museums, regional museums, museums (Circulation), park museums, museum of weapons (military), museum of thinkers (house of artists) historical and archaeological museum: Historical view, representing historical dynasties. Most of these works are derived from archaeological excavations, representing the culture and the past of the past and integrating the science, art and knowledge of a nation or a nation. Such museums are also called mothers. The National Museum of Iran (Ancient Iran), the National Museum of Versailles in France, and the Museum of History in Washington are of this type.

Outdoor Museum: By creating these types of museums, important findings of the biostatistics can be made. The time of one scientific excavation of archaeology leads to the successful results and the discovery of valuable immovable works and cannot be transferred to museums, by providing the necessary conditions and facilities, they provide the place for public visibility. This is known as the Outdoor Museum. Among these, one can mention the Persepolis in Shiraz and the Hegmataneh-Historical Site in Hamadan.

These museums are also common in other countries such as China, Greece and some other countries. In the province of Khorasan, the history of "Ghatyan" in Goz, which has very beautiful stylistics from the Sassanid period, as well as the historic site of "Shaykh" of Neyshabur, can be a good place for this.

Anthropological museums: culture, customs, beliefs, clothing, and social traditions prevailing in society. Tehran Museum of Anthropology and Ganjali Khan Bath are of this type.

Chamber of Commerce: The building is a historical monument that has come from our

ancestors, and it expresses the status and manner of life of its owners. There may be historical objects as well as works of art, including painting on the wall, plastering, etc. The palace of the museums is usually created at the governmental centers, the purpose of which is the establishment of these museums to showcase the history of the museum as well as the study of Sadabad's palaces in Tehran and the Malek Abad Moshhad Gardens of these museums.

Art museums: There are a variety of visual and aesthetic arts exhibitions and usually have a lot of visitors, the Museum of Fine Arts in Tehran and the Museum of Decorative Arts in Isfahan.

Museum of Science and Natural Exhibitions: Scientific experiments are based on the evidence, and the natural and historical works and instruments that cover various plant species, especially avian species. The Natural History Museum of Isfahan and the Museum of Natural Sciences and Science of Mashhad are of this type.

Local or regional museums: represent the culture of a region or a particular neighborhood and only exhibit historical works and objects of the same area. The Museum of Susa, Persepolis and Tous Museum in Khorasan are of this type.

Mobile museums: To quickly advance cultural goals and due to the lack of opportunities in deprived areas and cities. These museum's exhibit diverse cultures in different places. If this kind of museum is enough, it will be very impressive.

Park Museums: Because of the various dimensions of science and culture, recreational and educational attractions, as well as entertainment, they are of great importance because they display natural and biological issues closely to the people. The important feature of these museums is that the general public can benefit from them. There is no museum park in Iran, but it is common in countries like China and North Korea.

The cultural, national and historical places like Ferdowsi's Tomb in Mashhad, the tomb of Attar and Khayyam in Neyshabur can be a good place to do so.

Museums of the Military: The historical process of the use of all kinds of military and military weapons is open to all. These types of objects include combat uniforms, guns and other combat gear.

The Museum of the Artists (House of Artists) is intended to offer artists, writers, inventors and inventors of the community, usually after their inception in their own homes, and includes personal belongings, tools and works of art, mostly in European countries It is common. Shakespeare's home is the famous English writer and Edison inventor of electricity in the United States of this type. In Iran, the large community of people, "Master Abolhassan Saba", has become a museum and includes paintings, publications and personal belongings [5].

Carpet or rug

Carpet or rug is a woven base from cotton, wool and, in some cases, silk, which is usually used to cover the earth. Since carpets and rugs have always had beautiful robes, today they are also considered to be decorative.

Tabriz and carpet art

With regard to the history of carpet in Tabriz, it can be said that according to the historic history of this city, the art of carpet weaving is in fact before the Safavid era. In the second half of the fifteenth century and during the Safavid period, the carpet turned into a state-of-the-art rural courtyard. Another important development in the carpet of this period was the designs created by the artists of the court of Tabriz and Herat. Ian Bennet's book "Rugs and Carpet of the World" finds another comment on the carpet of Tabriz during Safavid times, which is quoted here: "A large number of medallion or medley chunks that were in the early years of the 16th century under the rule of Shah Isma'il I And Shah Tahmasb are woven, have a Slavic design and animal and human designs. "In this book, the author has tried to attribute a number of carpets in the world's museums to the first half of the sixteenth century to Tabriz workshops from the 17th century. Subsequently, after the Iranian carpet was found abroad, the artisans of Tabriz, with the taste of the people of Europe and the United States, began to weave carpets that were very interesting and took the markets of those countries [6]. Tabriz is one of the most important knitting pillars of Iran in carpet weaving. Carpets, whether those that adorn the world's prestigious museums or are in an enthusiastic set of collectibles, or those that are on a large scale, in the quality of the market, are well-liked and well-liked. Compared to the statistics in Tabriz and its suburbs, in 1966, 16,000 carpet workers worked on 32,150 weaver workers. Plus Several workshops have been working on carpets since many years ago. In recent years Tabrizi knitters have been turning to the production of extremely delicate silk carpets with a range of 50 and 60 on a large scale. Such carpets, some of which are silken, are woven in mostly lacquer and bergamot designs, often with beige and light beige colors, and

are used in coloring flowers and patterns of magenta, twig and olive [7]. Tabriz Carpets have been woven from the smallest to the largest possible size with potted designs, trees, almonds, gardens, animals, hunting grounds, Herat, horns, leafs, harpsichord, hangings, craftsmanship and geometric roles. The side texture and the flower is not very pleasant to Tabriz [2]. Nowadays, Tabriz is known as the main focus of the supply of marble carpets in Azerbaijan, and the main focus of the naming and naming companies is the Azerbaijani carpet. It is one of the most important knitting pillars of Iran in carpet weaving. Carpets, whether those that adorn the world's prestigious museums or are in an array of enthusiastic collectors, or those that are on a large scale and in a commercially viable market and four-way, are always lucid and customer-friendly [8].

Naturalism

Naturalism or naturalism is usually referred to as a philosophical belief that only the laws and forces of nature (not the laws and forces of the supernatural) are active in the world and are beyond the natural world. The followers of this idea are naturalistic or naturalistic, and themselves naturalistic or naturalistic. They believe that the natural laws that govern the structure and behavior of the natural world, and the creature universe is the same rules, and is intended to discover and disseminate the natural laws. Note that naturalists are also referred to those who engage in scientific research (or education) of nature and the natural world (especially animal and plant sciences), to distinguish those with particular philosophical functions. In this sense, "naturalist" and "eccentric" are synonymous with each other. The philosopher Paul Currents says the best way to describe the nature of the application of material principles, including the crime and other physical and chemical properties accepted by the scientific community. Moreover, the meaning of naturalism is that the spirit, the ghost, and the gods have no reality. Nature is not a goal. Usually this meaning of naturalism is called metaphysical or philosophical naturalism. God is an aversion to the idea that whatever nature is and no longer. Believe in gods or gods who have created nature. In theology they are also located and they are considered to be disabled by secondary causes. In the twentieth century, W. W. Kevin and George Stena, along with other philosophers, argued that the success of naturalism in science meant that scientific methods should be applied in philosophy. From this perspective, science and philosophy form a continuum [9].

Nature-oriented architecture

Nature-oriented architecture is not an imitation style, but an interpretation of the principles of nature for the creation of natural forms. Designers and architects have been inspired by nature to create their works. Or organic, not an imitation style, but an interpretation of the principles of nature to make natural forms. Engineers, designers and architects have inspired nature to create their work. An elaborate organic architecture is nature and principles that literally means the connection between the building and its surroundings, so that the building is combined with the site. In other words, the naturalist-oriented philosophy represents the harmony and adaptation of nature, man and place of residence, and the overall composition of the size of the architecture is such that the space inside and outside are integrated and integrated with nature from nature. Forms are a reflection of the landscape and features of the site, for example, buildings that are in the form of mountains and structures that are in the form of rivers and clouds. Architects are interested in imitation of nature not only to find new construction methods but also to find new inspirational sources for expressing aesthetics [4, 10].

The word "organic" is a natural word for something to happen, but in architecture it has a new meaning. Nature-oriented architecture is rooted in romantic philosophy, and romanticism is literally an artistic and philosophical movement in the late nineteenth and eighteenth centuries in the northwest of Europe that was transmitted to other parts of Europe and America. This movement is a response to the rationality of modern wisdom. In this context, all natural forms are dynamic. Organic architecture can be defined in nine stages: nature, organic, function, elegance, tradition, decorations, spirituality, and the third dimension of space. According to Frank Lloyd Wright, organic means the combination of the entire collection, and on organic buildings it is believed that architecture should be constructed based on the conditions of time, place, environment and purpose. Consider the Johnson Office Center Wax Designed by Frank Lloyd Wright, the pillars that climbed upward, beautifully expanded, and the upper portions of the rocks such as the lily float on a semi-transparent surface, create a realm underwater and a memorable atmosphere has created [10].

The nature-oriented architecture comes from a cultural tradition that is understandable through British romantic naturalism. The complete development of such a British culture in the United

States has been characterized by the organic architecture of Frank Lloyd Wright, which gradually brings about a new idea of the relationship between humans and the environment The way in which architecture should manage relationships is also a way of striving for the ultimate sense of comfort and ease that lies in organic simplicity. In the contemporary era, the use of natural elements in residential spaces has become commonplace, for example, the presence of water and plants that provide a climate that is formed on the basis of regular geometries or the use of natural and native materials to reduce the cost of making and achieving Contemporary sustainable design has been effective [10-12].

Throughout his life on earth, man has recognized nature as a vital and mysterious source. And he always tried to discover all its dimensions, including the expression of nature in art. Nature has always been one of the most important inspirational sources of history throughout history. For example, the first remains of art in the caves. Aristotle; an ancient philosopher was one of the first people, who referred to nature as an inspirational source. Architects have used natural patterns in different ways in the process of designing a naturalistic architecture. The application and appropriate selection of native and natural materials and their application have caused. Those distinct architectures are created with the idea of naturalism. Frank Lloyd Wright, Alvarelle, Louis Kahn and Richardson are good examples of architects. This has optimized the quality of the use of natural materials in their projects [10].

Man's relationship with nature in architecture

The relationship between nature and man in architecture is based on architectural design in interaction with nature. Nature means comfort and tranquillity. If we design a building that has a nature-like behavior that is calm, then we can say that we have come to interact between architecture and nature [13].

Natural restrictions

Nature, despite its beauty and attractiveness, provides two limitations for humans:

Material constraints: Human beings cannot withstand all the conditions of nature and must separate from nature and refer to a different environment.

Theoretical limitations: Human insights and thoughts about defining the place of nature and its relation to humans define it above or below the human level.

Both of these factors create the architecture of different environments in the nature of nature [13].

All kinds of ideologies related to nature

Ideology of Controversial Nature (Facing Nature) (ideology of Confrontation)

Ideology of nature (indifferent) (separation from nature)

Nature-oriented ideology (becoming one with nature)

Naturalist ideology (Fragile Theory) (Completion Theory)

Ideology of Controversial Nature

The experience has been observed, when one uses a tool to overcome nature, the tool opens up against him and endangers him until the stage of destruction. The best example that can be mentioned is the use of nature tools to protect humans from natural hazards, to achieve more prosperity and to mechanize modern life, which in the same way irreversibly destroys human life through incidental audio, visual and the environment [13].

Naturalistic practices in carpet museum architecture

In our world, every new idea is rooted in the discovery of a number of hidden aspects of nature that are strikingly apparent through observation and revelation of natural variations.

1- Optimal use of materials

2. Maximization of structural power

3. Maximize the volume of enclosed space

4- Create the highest ratio of strength to structural weight

5- Use of stress and strain as the basis for structural performance

6. Creating efficient, energy-efficient, well-insulated and convenient environments without the need to use external energy.

7. Creating forms to improve the airway colonization

8. Use of materials available on site to build

9. Use of curved shapes to disperse multi-directional forces

10. Increase aerodynamic efficiency by structural forms

11. No toxic and harmful substances to the environment

12. Designing structures that can be built by a single organism

In the early part of the 20th century, when Wright's ideas were gradually shaped in its buildings, technology was rapidly expanding in America and America. This advancement in the field of architecture was, in theory, very evident. Despite the fact that Wright was opposed to modern technology did not, but he did not consider it to be the ultimate goal. According to Wright, technology is a means to achieve a higher-level architecture that, to her mind, was an organic architecture. On May 20, 1953, he described Organic Architecture in Taliesin square-paper with the following statement [14]:

1. Nature: Only includes outside environment like clouds, trees.

2. Organic: means the integrity and integrity of the components relative to the whole and the whole component.

3. Functional form: Functional performance is not correct, but the combination of form and function, and the use of the invention of human thought in relation to the operation is essential. Form and function are one.

4. Thoroughness: Human thinking and thinking must form the hard materials of a building in a pleasant and humane form. As the tree and the trees cover their branches, the building must be

It is in the hands of man, and not in the opposite.

5- Tradition: Adherence and non-imitation of tradition is the basis of organic architecture.

6- Decorating: An integral part of architecture. The architecture of the detail is like the flowers to the branches of the plant.

7. Spirit: Soul is not something that is induced into a building, but it should be in it and it extends from outside to outside.

8. Third dimension: Contrary to popular belief, the third dimension is not width, but thickness and depth.

9. Space: An element that must be constantly expanded. The field is a putative foundation in which all rhythms of the building should come from it and flow therefrom.

Wright defines the term "organic architecture" with other terms such as dynamic, vital, intricate, and all-embracing, and identifies with these synonyms the term "organic", which is equivalent to the Persian "organ". Wikipedia English)

9. Design of the Carpet Museum of Tabriz with Naturalism

Design should create the bridge between nature and man. The design of the Carpet Museum of Tabriz with a nature-oriented approach is a completely climate-oriented and nature-oriented construction commensurate with the culture and identity of Tabriz. The computing design approach of this complex is such that the building is considered as part of nature and the surrounding area, taking into account the context of the formation of the angles and axes of the building, in order to create a complete harmony with the nature and history of the area.

The interaction between humans and space and nature is emphasized in the design of this collection to create a direct impact on the enthusiasm of visitors in feedback with this collection. The form and pattern of nature retain the type of visual power structure. The facade of the building is made up of indigenous materials whose pattern and form make a familiar sense of the cult of the visitors of the local traditions. With the interpretation and connection between the building, nature and man, the concept of "man and nature" is considered.

In the design of the interior, the continuous flow feature is evident from the design approaches with the concept of nature and naturalism. Crossing up the winding paths and guiding visitors to the arena, the showroom, the history hall, the art hall and carpet galleries create a variety of experiences. The nature, enthusiasm, and exploration of the building forces inspire visitors to fully understand the building, and this sense is functional in the body and set of plans.

CONCLUSION

There is no doubt that the art of designing and knitting carpets in Iran has become the full mirror of most of Iranian artistic insights throughout history. Nowadays, we know that the first sources of carpet art have been flooded from the foot of this frontier and, in the history of history, has swept across the universe from its delicate artifacts. The Iranian dialect, including the Tabriz carpet, as a manifestation of the paradise of an unbreakable bond with customs, traditions, The culture and religion of the people of this land have been and has been and throughout history, along with the cultural and social changes of the people of this land has grown and has grown. Here it is worth mentioning from the master of art of carpet weaving of Iran, the late Razam Arabzadeh in the Quarterly Journal of Art We promise them; an oath that whispered the Mahjouri's art of carpet weaving; All, the mother of

all the traditional arts of this land, with all the words of his fertility and survivor, and the great hadeeth of love hidden in his womb, is so obscure and obscure. Tabriz, as a carpet garden in Iran, deserves a museum to showcase this art to the world. Beside this exhibition, attention will be given to naturalism and inspiration from our nature in the design of nature. By studying design records, we need to come up with a general conclusion about the design and creation of such a space.

DECLARATIONS

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Competing interests

The authors declare that there is no competing interests.

REFERENCE

[1] Yousefvand S (2016). The Islamic Republic of IRAN Accession to the WTO. Accession to the World Trade Organization. Ashgabat, May 206. https://www.wto.org/english/thewto_e/acc_e/iran_sesssion1_e.pdf

[2] Jafari F (1999). Tabriz Carpet Museum, Thesis, Master of Architecture, Islamic Azad University, Tabriz Branch, Tabriz.

[3] http://hamshahrionline.ir (accessed: 2018)

[4] Parvizi M and Karami I (2015). Principles of Islamic aesthetics in the physical and spatial structure of Iran's banana (Case study: Tehran carpet museum), National Iranian Architecture and Urban Planning Conference, Rasht, Payam Noor University of Guilan Province.

[5] Safari T, Acharya S, Urano S (2011). Inventors; Kubisys Inc., assignee. Processing requests in virtual computing environments. United States patent US 7,962,620. Link , Google Scholar

[6] Goswami KK (2018). Developments in handmade carpets: Introduction. Advances in carpet manufacture (pp. 213-268). Woodhead Publishing. https://doi.org/10.1016/B978-0-08-101131-7.00011-3 , Google Scholar

[7] Karimi Azari AR and Obshdar A (2014). Analysis of the role of color and light in the transfer of architectural concepts of carpet museums as the Persian carpet identity, International Conference on Civil Engineering, Architecture and Urban Infrastructure, Permanent Conference Secretariat . Tabriz.

[8] Nasiri M (2010). Immortal legend of Iranian carpet. Mirdashti Cultural Center Publication, Tehran, Iran.

[9] Retrieved from Persian Wikipedia website, (2018)

[10] http://4sooarc.com

[11] Breheny M (1993). Planning the sustainable city region. Town & Country Planning. 62(4):71-5. Google Scholar

[12] Smit J and Nasr J (1992). Urban agriculture for sustainable cities: using wastes and idle land and water bodies as resources. Environment and urbanization. 4(2):141-52. Google Scholar , https://doi.org/10.1177/095624789200400214

[13] Bahrain, SH, (1997), Urban Development and Sustainable Development, Approach, No. 17

[14] Wright FL (1953). Language of an Organic Architecture (Book). [Spring Green, Wisc.] Series: Taliesin square-paper, 16. Google Scholar , Worldcat

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IRANIAN GARDEN'S ARCHITECTURAL DESIGNING: COLLOCATION OF VORONOI AND FRACTAL ALGORITHMS IN THE CONTEXT OF NATURAL BACKGROUND

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ABSTRACT

In the present article, the collocation of the Fractal Geometries and Voronoi Algorithm has been proved in line with the designing of garden's digital architecture and it was made clear that the designing of the ancient four-segment gardens is considerably matching with the contemporary architecture which has come about subject to the effect of computers and software. The present study is a qualitative research of descriptive-analytical type and it has been conducted with a glance at the history of Iranian gardens' designs and their delineated geometrical analyses concerning the structural philosophy of Voronoi and Fractal algorithms. The primary goal of the researcher is showcasing the timelessness in the designing of the Iranian garden so as to prove that the prior designing has been in accordance with the novel patterns of the contemporary architecture and it can get the paradise manifested like before in a corner of the earthy ground in today's machining world. It can be stated as a part of the obtained results that the idea of exhibiting water in the garden and the system of water transmission to the most distant spots in the garden tries depicting the ancient imaginations of the previous architects about Voronoi algorithm considering the use of the shortest path which is a perpendicular line drawn towards a dot on a straight line. Moreover, the use of four-segment garden's basic module and its division in an internally descending manner displays Fractal geometry in each of Voronoi levels of the garden's plots.

KEYWORDS

Iranian garden, Geometry, Voronoi algorithm, Fractal, Water

INTRODUCTION

The thing that is currently seen in the Iranian cities as buildings and urban spaces and elements has not been able to crystalize the fruitful background of Iranian architecture and garden-building and it is, instead, depicting a sort of distinct identity lack and self-alienation. Lack of paying attention to the social and cultural values and hasty movement towards modernity without the real perception of what is being constructed and processed have led to visual, cultural, social and identity unrest in the level of Iranian cities and architecture [1].

Iranian garden has always endeavored since long ago to stay in accord with a philosophical and contextual-functional concept and it has been embodied as one of the specifications of Iranian architecture. Considerable differences were brought about in the context of Iranian architecture and garden-building with the beginning of the foreign advisors' trip to Iran from Safavid Era and the blending of the Iranian architecture and decorations with what has been offered as art and technique to Iranians. The architectural context and garden-building methods lost their performance and beauty of their geometrical ground and their connection rings were broken in such a way that the performance occasionally led to the discarding of beauty and the paying of attention to the visual beauties resulted sometimes in the creation of insensible cases in the gardens' grounds. Therefore, the researchers have been coerced to subtly contemplate about the functional and visual designing of the Iranian gardens so as to identify the meanings latent in them beyond the plan of Iranian four-segment garden thereby to figure out the missing rings of the function and beauty; it is by the perception of the concepts existent behind the functional and visual designing of the gardens that solutions can be found for logical attachment to the contemporary mankind's psychological needs. In the present study, the author proves the basics existent in fractal geometry and digital Voronoi algorithms within the former geometrical context of the Iranian garden and shows that the nature's flexible spirit has been portrayed in the meaning-oriented designs by

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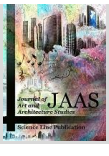

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the imaginative ancient architect in such a way that it has been able to absorb the psychological states and satisfy the needs of the today's mankind in the area of the contemporary naturalism.

The researcher seminally deals with the theoretical foundations and the concepts usually encountered regarding the Iranian gardens; then, the references of the Iranian gardens' patters are extracted. Next and after deeply studying the structural philosophy and theoretical foundations of Voronoi and fractal algorithms, the feasibility of adjusting the current theoretical foundations and their structural philosophy to the geometrical plan of the Iranian garden has been analyzed. All the analyses have been discussed geometrically and, considering the functionalist and human-oriented grounds of the contemporary architecture and garden-building, the existing functional factor has been displayed as a connecting ring.

The main question of the present study is that what is the primary functional factor that can, as a connecting ring of the garden's humanism and naturalism concepts, make the geometrical design of the garden approach the timeless concept?

How are such digital and naturalist geometries like Voronoi and fractal algorithms matched on the grounds of the Iranian garden? The author tries answering the above-posited questions in five chapters, namely the Iranian garden and formation process, Voronoi and fractal algorithms, Iranian garden and collocation of water-transmission function with Voronoi algorithm and Iranian garden and fractal geometry in the geometry of the plots.

Iranian Garden and Formation Process:

The concept of "garden architecture" reflects a "sense of place"; garden is defined as a space that has the perfect and utmost reflection of the world in it. This concept that fosters order and coordination might be expressed more tangibly by means of numbers, geometry, color and matter [2]. Based on the studies that have been carried out on the reference patterns of the Iranian garden, the primitive sample of the archetypes has been applied as the common contact surface between the patterns of Iranian gardens and it has also been crystalized in the Iranian carpets; it depicts a square-shaped area of a relatively vast land which is surrounded inside walls. The surface area of this land has been divided by two axes (two water streams) perpendicular to and intersecting one another with the main stream eventually pouring into four ditches and with trees finally surrounding the square. The most major building of the garden falls in the intersection point [3].

System of Geometrical Structure:

The geometrical structure of the Iranian garden is shaped in two substantial forms with one of the indices of its geometrical structure being the relationship between the interior and exterior spaces [4]: one is the creation of three stretches (in three axes) in parallel and along with the garden and the other is the consideration of two primary perpendicular axes and then dividing of the garden into squares that per se have their own regular geometrical divisions (Figure 1). In Iranian garden, special attention was paid to the geometrical shapes and square that showcased a simple and clear-cut distance between the garden's components enjoyed a particular importance [5].

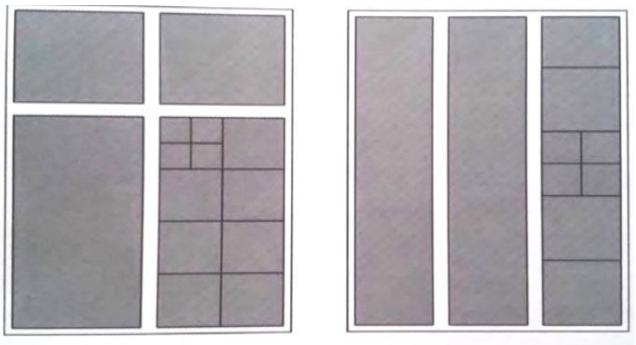

Figure 1. Geometrical structure of the garden [3].

Voronoi Algorithm:

Voronoi algorithm is a geometrical algorithm. This algorithm receives a series of points as its input. These points can be selected randomly and/or be certain points on a plane [6]. In this type of algorithm, the input points lead to the production of a series of regions on the plane and, problem-specifically, give the closest answers with the highest likelihood for the calculation of the region of a point by considering all the line segments between the given point and the other points. Then, the bisectors of these line segments are drawn and the regional bisectors are created around the given point [7]. In this case, the algorithm juxtaposes the given regions without overlapping. It has been recently proved that many of the structures follow this algorithm in nature (Figure 2), especially the micro-structures of the nature wherein the Voronoi schemes are abundantly found [6].

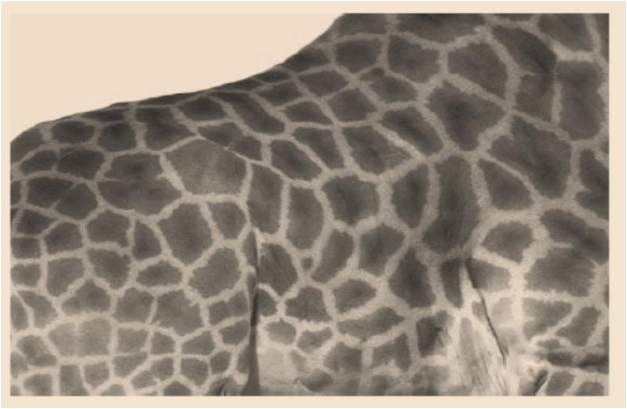

Figure 2. Voronoi algorithm in nature [8].

There are also more complex forms of Voronoi algorithms the regions of which are made by soft curves in lieu of the broken lines. Furthermore, there are also 3D images of this algorithm that receive the initial points in a given space and gives the area zoning by dividing of the spaces (Figure 3). In architecture, various Voronoi algorithms have been widely applied [8].

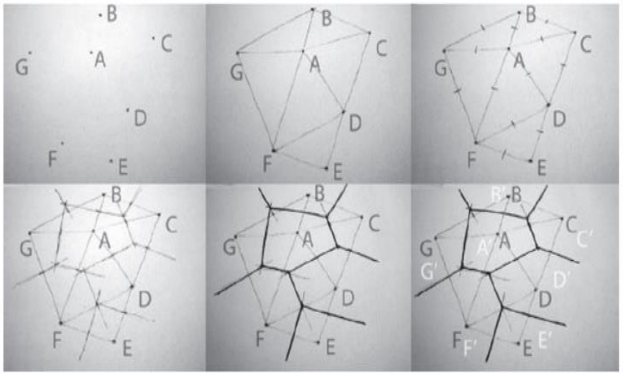

Figure 3. The structure of Voronoi algorithm [8].

Figure 4. The structure of Voronoi algorithm (http://arktourism.ir)

Figure 4 illustrates the unique and well-known example of Voronoi algorithm has been displayed in the cubic water building (the name that has been given to the stadium of water sports in Pecan, China). Besides having a lot of advantages in terms of the architectural form and creation of modern and innovative structures, this building is completely environment-friendly and it is enumerated, in other words, as a green and environment-compliant structure. The primary idea of this complex's designing has been the formation of a cube that has been brought to existence from the joining of water-filled bubbles and it is completely transparent [8].

Fractal

Fractal is a geometrical shape that is created with the repetition of a simple logic in a recursive manner. In a normal manner, the shape obtained from the fractals can be divided into several parts each of which resembling the overall shape. The other interpretation existent about the fractals is that they have indefinite components and/or they possess similar structures making them look identical in the various magnifications. The term "fractal" was first used by Mandelbert in 1975. It is derived from the Latin root "fractus" meaning broken [9].

In the process of a fractal's production, there are at least two primary shapes: one basic and one generative. In every stage of the repetition, the generative shape is placed in the position of every one of the basic shape's fundamental segment or line segment. From the theoretical perspectives, this repetition can be continued endlessly. The algorithm used for producing the fractal shapes is a basic process the job of which is placing one shape between two points. This process includes the size change, rotation and displacement of the generative shape for taking a position between the two presumed points or two ends of a line segment. Amongst the simplest types of the fractals are the Sierpinski triangle (Figure 5) and fractal cube [6].

In the traditional Iranian architecture, as well, the fractal pattern can be seen in Karbandi [geometrical and mathematical planning], Yazdibandi [roof covering] and ornamental corbel vaults. In these patterns, the basic module is iterated with a special order to create an integrated whole. The fractal pattern has also been inserted in the architectural form. This pattern is occasionally symbolic and it is sometimes inserted in the wefts and warps of the architectural function (Figure 6).

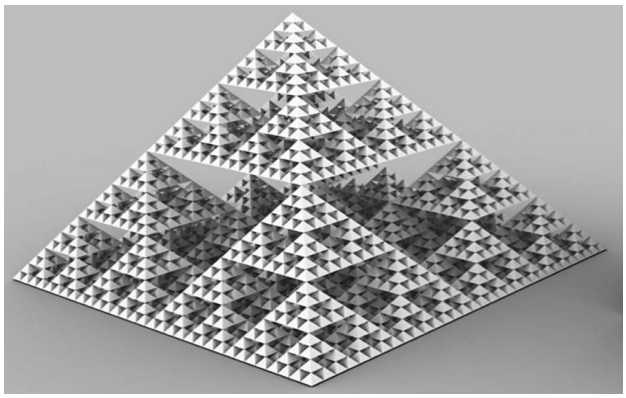

Figure 5. Sierpinski fractal triangle (http://spnueng.blogfa.com)

Figure 6. Symbolic fractal architecture (http://honartech.ir/product)

Iranian Garden and Collocation of Water-Transmission Function with Voronoi Algorithm:

Iranian garden is the geometrical embodiment of paradise in the context of a scorching desert with an extreme inclination towards water exhibition in every corner being one of its primary specifications [9]. That is because is considered as the symbol of dynamicity and life in the desert. The most original solution for showcasing it and taking a more appropriate advantage thereof is its management in the middle of the garden in such a way that the water starts flowing from the longest edge of the garden and proves presence in the entire garden while performing its duty of satiation. Concentration on the soil's natural slope has been the easiest solution in the previous gardens.

According to figure 7, points A and C are considered as the input points of Voronoi algorithm. Considering the use of square geometry for the easy recognition of the distances in the garden, point B is the place where the pond should be placed and its stretching gives the points E and D. this way, the preliminary pattern of the four-segment gardens is formed by dividing the land into four areas with two input points, an operator point and two result points.

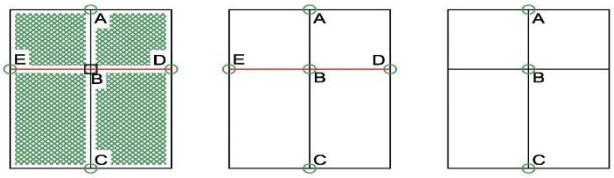

Figure 7. Functional formation of the basic four-segment garden (source: the author)

In order to accomplish the objective of water display and water transmission to all the garden's spots, preparatory measures should be taken so that the water can be transmitted to all the various spots of the garden in respect to the land's slope. In line with this goal, some other points have been considered as the input points of Voronoi algorithm and, considering the water-transmission function and water display, the shortest paths have been offered according to the philosophy of Voronoi algorithm in two states of the land slope.

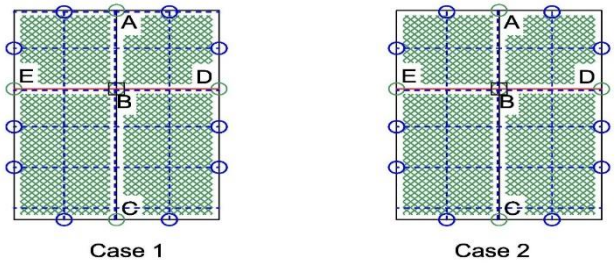

Figure 8. Formation of Voronoi algorithm in the garden's geometry (Source: the author)

As it is seen in figure 8, the first case pertains to gardens that have been positioned in respect to the land's natural slope in an ascending or descending form. In this type of gardens, water starts flowing from its source and is brought from a garden to another [5]. Water enters through the point A and reaches the point B from which it is distributed along the operator ED axis in the lower half of the garden. In order to transmit water to the upper plots, the upper axis includes water inlet as the secondary operator axis and water is subsequently distributed in the upper plots.

The second case shows the method of water transmission in the gardens that are usually irrigated by wells' water. In this type of gardens, the intersection of the two primary axes is considered as the water inflowing point and the land's slope is assumed to be towards the walls on the four sides of the garden [5]. In this state, only one operator axis is

considered for the garden. The gardens in the deserts usually make use of this method. The water line axis shows the water-transmission system.

Considering the Voronoi algorithm and according to the goal of transmitting water to the most distant spots in the garden, certain points are considered on the peripheral walls and vertical lines are presumed from the water's primary stream according to the mathematical principle recommending the selection of the shortest perpendicular route from the point onto the water stream following which the Iranian garden's water-transmission network/system is formed within the format of four-segment garden. It is by locating certain points on the wall that squares and rectangles are geometrically formed in respect to the amount of water required to be transmitted to the plots.

Considering the Voronoi algorithm, the thing that is effective in the shape obtained from the algorithm is the number of the points to which water should be transmitted in respect to water power and land's shape. If a garden is square in shape with large dimensions and the soil slope is not so much steep and/or if water is withdrawn from wells for satiating the garden, smaller Voronoi areas will be attained. However, if the surface area is considered similar to the previous example with a rectangular geometry, the resulting shape will be different and follows the land's slope following which the number of the plots will be reduced.

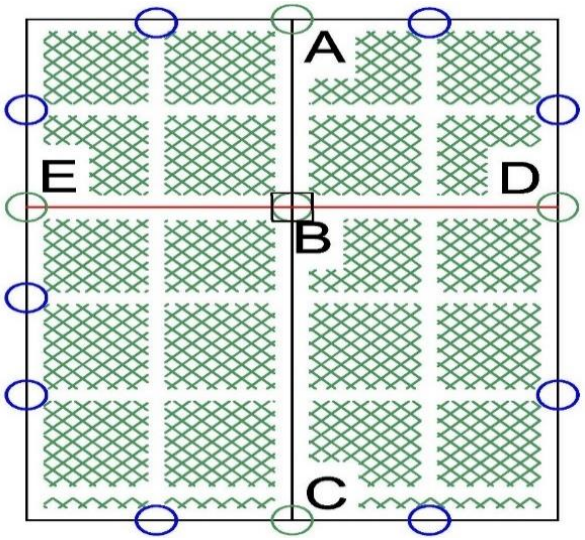

Figure 9. Voronoi algorithm based on the basic four-segment pattern (Source: the author)

Figure 9 exhibit the Voronoi algorithm in collocation with the water-transmission function in the garden and proves that the original pattern of the Iranian garden is adjusted to the contemporary digital architectural patterns drawn on Voronoi algorithm.

The stretch of the traditional market's body within the city limits of Tabriz and the prominent historical buildings like Dar Al-Fonun School, Darb Baghmishe, Haramkhaneh Complex, municipality building and so forth as well as the valuable business edifices like the large market of artefacts and the large bazar of Tabriz's leather have caused this region to be transformed into one of the tourism spots of the city. The adjacency of the unique tourism potentials to Tabriz County's trade pole, organized within the limits of Jomhouri Street, has caused the vehicles' access to the aforesaid centers to encounter considerable limitations and factors like excessive congestion of the region, lack of cargo-transportation infrastructures and blending of the industrial and tourism uses and heavy traffic on Shahid Madani Street and adjacent streets have caused the creation of problems in terms of urban tourism in the foresaid region.

Iranian Garden and Fractal in the Plots' Geometry:

The most original factor in the formation of fractal geometry is the basic module and the scattering path and method of this module in the general format. Considering the functional system of the square-shaped geometry of the garden, the upper section is defined as the basic module in the garden and the entirety of the garden's surface area is covered through the arrangement of this module based on Voronoi algorithm and the primary geometry of the plots is formed in a descending (downsizing) trend in the module-dividing state. Figure 10 illustrates the plots' fractal process in Iranian gardens.

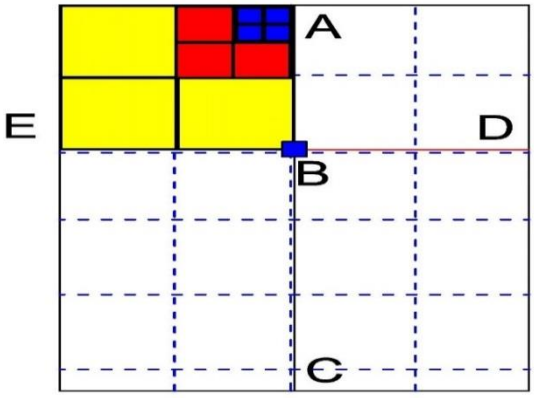

Figure 10. Formation of the fractal pattern (source: the author)

According to the pictorial information and their analysis, it was made clear that the four-segment garden's geometry that has been applied as the primary geometry in the architectural designing of the Iranian gardens follows and is matched with the patterns produced in Voronoi and fractal algorithms. In addition, the water-transmission function and the idea of water display is the ring connecting the garden's geometry to Voronoi and fractal algorithms. The former architect and garden-builder followed the nature to create a beautiful paradise in the heart of a scorching desert and getting the imaginary nature manifested in the grounds of the available land. It is worth mentioning that the naturalism ground in Voronoi and fractal algorithms as well as the geometrical designing of the gardens have created the aforesaid harmony and match.

CONCLUSION

In the present study and through more subtle study of the geometrical and functional systems of the gardens, the geometrical adjustability of the garden's architecture with the structural and philosophical patterns of Voronoi and fractal algorithms was proved in respect to the contemporary basics of the digital architecture and it was made clear that the idea of water display as a social value and power in the low-water regions as well as the carriage of water to the most distant spots of the plots is the ring connecting the concept of the garden and the digital algorithms to the garden's geometry and architecture. Depending on the system of water division in respect to the land's slope and water transmission to the plots in the shortest possible path which is the vertical line obtained from a given point on the destination line, the four-segment garden pattern is implemented in the entirety of the garden which is reflective of the structural pattern of Voronoi algorithm in the architectural designing of the garden. Additionally, the fractal geometry in the garden's architecture is showcased by the repetition of the basic module of the preliminary four-segment garden's pattern that has been formed in the upper section of the garden in terms of elevation and implemented in the adjacency of the water inlet with an internal-descending multiplication in the whole four-segment garden on the ground surface.

Competing interests

The authors declare that there is no competing interest.

REFERENCES

[1] Noghrehkar A, Hamzehnejad M and Ranjbar Kermani AM (2012). An introduction to the Islamic identity in architecture and urban engineering", Tehran, Payam-e-Simagaran, 487.

[2] Ardalan N, Bakhtiar L. (2011). Sense of unity, the role of tradition in Iranian architecture. Tehran, Scientific Research Institute of Royal Architecture. 2011: 40. Google Scholar

[3] Shahcheraghi A (2011). Recreating the Iranian Garden Architecture System, PhD Thesis in Architecture, Islamic Azad University, Science and Research Branch.

[4] Hekmati J. (2007). Engineering of the green spaces, designing of parks and villas. Tehran, Sepehr, 16.

[5] Farahani LM, Motamed B, Jamei E. Persian gardens: Meanings, symbolism, and design. Landscape online. 2016 Jan 31;46:1-9. Google Scholar ; https://doi.org/10.3097/LO.201646

[6] Spiller N. (2008). Digital architecture now: A global survey of emerging talent. Thames & Hudson. Google Scholar; http://gala.gre.ac.uk/id/eprint/9351

[7] Abolhasani, S M and Razazi, M R (2007). New algorithm for determining the status of point in convex polygons. 13th National Conference held by Iran's association of computer, Kish, Persian Guld, Iran, 1-4.

[8] Uddin, M. S. (1999). Digital architecture. Google Scholar

[9] Mostaghni AR and Alimoradi M (2016). Exploring the application of the fractal and the nature's geometry in the parametric architecture with an investigation of the interior decorations of the dome in Sheikh Lotfollah Mosque. Seasonal Journal of Architecture and Urban Engineering. (16): 103-121.

[10] http://honartech.ir/product.

[11] http://spnueng.blogfa.com

[12] http://arktourism.ir

[13] Bhatti SA and Firkins JT. (2008). See at http://www.forbesindia.com/printcontent/41571

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Following the abstract, about 3 to 8 key words that will provide indexing references should be listed.
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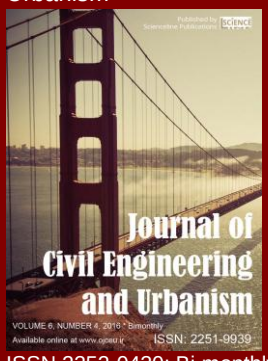

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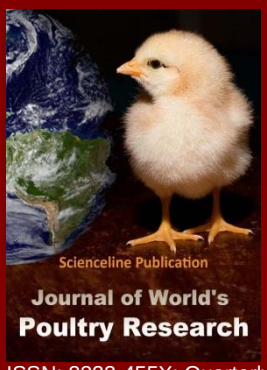

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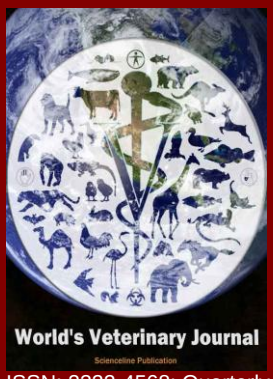

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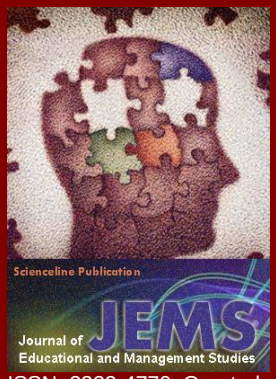

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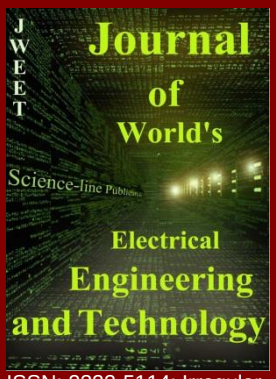

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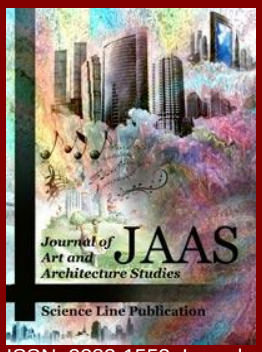

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