

City Marginal Park

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Abstract | The purpose of this research is development the role of entrance gateway of cities according to the existing facilities at the margins with emphasis on marginal parks; the case study is Sorkh-e-Hesar Forest Park. According to this, different role of gateway for Sorkh-e Hesar Park was examined via distribution the questionnaire and LIKERT spectrum. In order to stablish the gateway Based on the bionic structure, two limited areas were chosen at the margins of Sorkh-e Hesar forest park that the area of its establishment in south side is 90442 m2 and in north side is 15422 m2. The total design of gateway plan is similar to a bird with wide wings and the design of gateway is similar to a fantasy pattern of a ram. The spaces for establishment of gateway are the spaces that are related to camping, rest and accommodation, residence, workshop, gas station, sidewalks, restaurant and security.

Keywords | Park, Marginal Park, City gate, Sorkh-eh Hesar Park, Bionic.

Introduction | From the past, crossing one external space and inter one internal space is the basic concept of entrance gate. In the past entrance gate was linked by the concept of arriving. These days entrance gate may not show the feeling of arriving; but induction of this feeling from the outside of one complex form gradually and increase the safety of passenger, so nowadays entrance gate is not as the general meaning and include an special feeling that transfer the arriving feeling to people, this feeling can show by color, smell, elevation wall, one special space, one symbol and....

According to theoretical basics of entrance gates in Iran, this research consider Sorkh-e Hesaar Park as an entrance gate for Tehran and by creating some spaces in park's margin and in access ways that cross this park. Basic formation of one entrance gate take by the way of one path, and according to consider this park as a margin in general and detailed plans of Tehran, Sorkh-e Hesaar Park is an entrance gate for east of Tehran.

According to Sorkh-e Hesaar Park as an alive space, the style of designing this project is bionic, bionic is a science that include all alive systems. In fact designing of this project is by the inspiration of nature.

The purpose of this research is paying attention the role of entrance gate according to the facilities of their margins by the focus on margin parks; somehow the new space is created as the park-gate. Park-gate is a topic especially for the margin parks that are as an entrance gate of the city that in this research we consider their proof of Existence.

Research's Purposes

The purpose of this research is paying attention the role of entrance gate according to the facilities of their's margins by the focus on margin parks. Considering park as an entrance gate has environmental aspects in addition to the visual beauty. Domain of influence for this research is in level of urban and national.

Hypothesis

Sorkh-e Hesaar Park in margin's east of Tehran can has the role of entrance gate and for this park can use the title of park-gate.

Research's Methodology

General Approach of this research is qualitative and quantitative and as descriptive-surveying that is done in two part of Documental and squary studies. The basic of second part is sampling. Statistical Society of this research are beneficiaries (Pedestrians, Residents and employees) of Sorkh-e Hesaar Park. The tools that are used in this research include two part that first one relates to the collecting content that in this research is as a questionnaire. The second part is analyzing content by Likert method. The

Likert spectrum forms of five equal part, and researcher give them some items that specify their trend. The spectrum of trend is agree on or opposite of.

Entrance

"Entrance of cities provides entrance to the cities through motor vehicles" (Ablaghi & Poorjohari, 2006: 66). "How to enter any space, Or, in other words, the entrance of any space, It always has a special place in people's minds; the entrance of any space, the first place that by attending in it discovered general features of space, customs, being private and public and the other features. In other words, the entrance of one space, that space is identified and marked for its inhabitants" (Alexander, 2008: 711). "In the past the first image of every city in the minds of travelers, was their entrance. After a long time passing through the desert or mountains, by getting to the fields and gardens around the city little by little, he felt close to a biological complex. By passing them, the passenger arrived at the gate that city entrance was considered. The presence of the gate was more symbolic and the feeling of entering the city had long been evoked in the passenger as soon as the city's literacy and farms and surrounding gardens were displayed. In fact, where the trace of the central focus of mankind was drawn in the natural environment, the arrangements for entry were provided and the city outside of its gates was welcomed by the traveler" (Pakzad, 2006: 9). "Nowadays, however, due to the development of technology, growth of communication networks the ease of communication between different regions has been largely provided. But in terms of providing a suitable environment for the people, the concept of the city's entrance and exit to solve traffic problems has been largely obscured" (Zaheri, 2001).

Bionics (biology)

"At a congress in Ohio, for the first time, the word bionic was made. The word bionic and its proximity to biology in our minds make this a thought that science is related to living things. Bionics is the science of systems based on living systems. Man is the discoverer of nature and the cause of its continuity and sustainability" (Bavandian, 2008 a: 1).

"One of the best-known designs of bi-science was the famous painter Leonardo da Vinci that the bird's car was designed based on the body structure of the bat and this was his logic that the bat has a completely covered wings that do not pass through the air and the wings of the bat are covered with a curtain-like skin that reinforces it. (Ibid). "The great importance of bionics is due to its interdisciplinary nature. In this context, researchers benefit from the exploitation of biological and nature ideas and use them for engineering solutions for all

sciences (Mansourian, 2003: 3). “Bionic or Biologically the use of bodily organs, was used for the first time by Jack. A. Still the American scientist in 1959. He considers bionic the science of systems that are the basis of all living systems (Bavandian, 2009; 3(b)). “Bionic or science of living systems, today it has been introduced as one of the world’s top science (IT, Nano, Bionic). One of the first uses of natural creation in architecture, It dates back to 1851 at the London Crystal Palace building by Joseph Packstone” (Naleini, 2008: 11).

Pic 1: Cactus Rotterdam Holland Tower Inspired by cactus.
Source: <http://www.archiportale.com/news/11/2006/architettura>



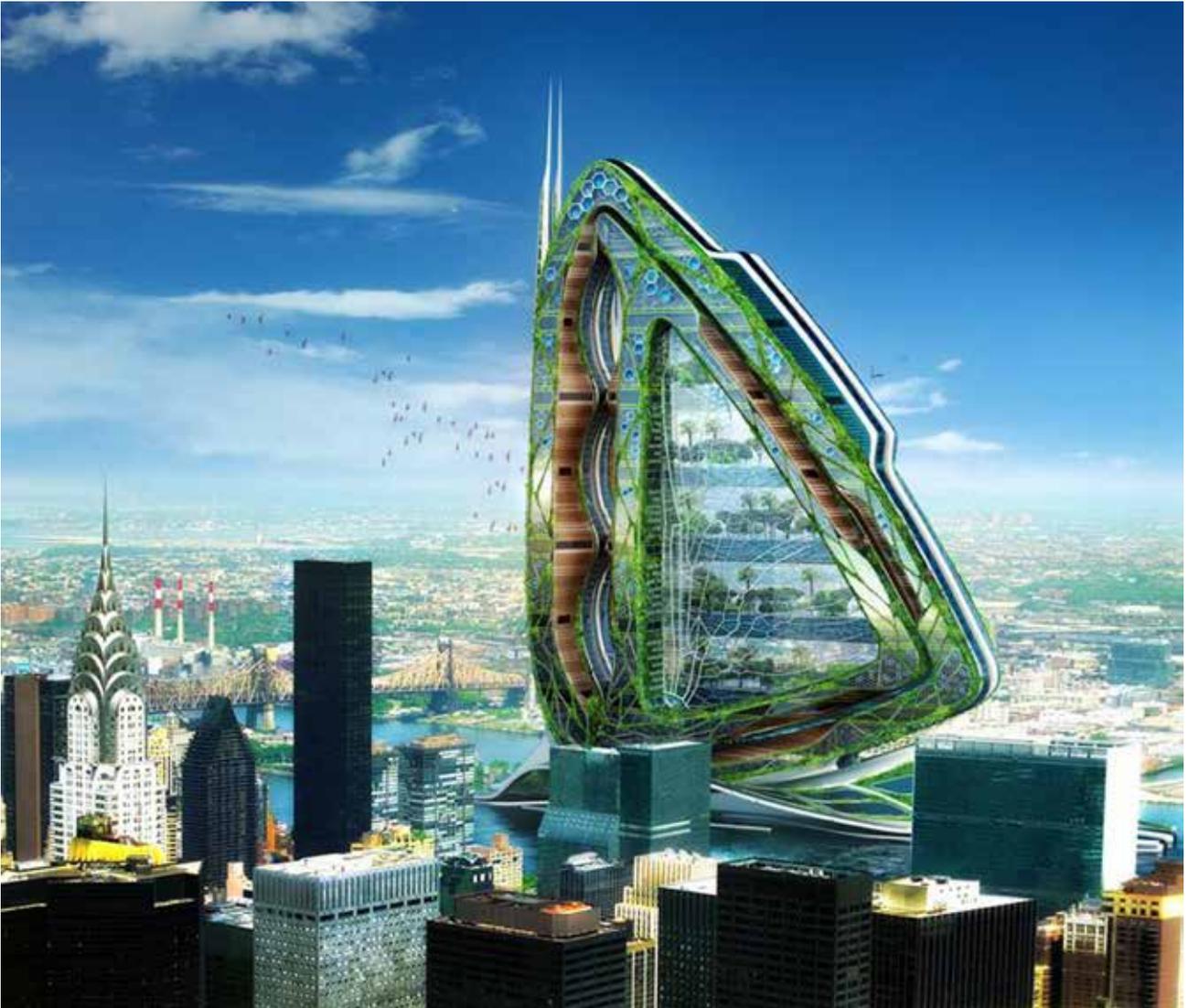
Bionic architecture

“Bionic architecture is a scientific discipline that focuses on technical inspiration from the various buildings, behaviors and relationships of the universe. In the field of architecture and construction of buildings, architects and engineers have also taken advantage of the natural world that mentioned these include the inner helical form of a shell called Konus used to design homes. Buildings are built in bionic architecture or natural architecture or using fragile and unstable materials or from a natural location formed on the ground or rock” (Iraji, 2010: 1-4); (pic 1). “Bionic architecture is a branch that is more in harmony with the natural form of the earth. In this branch, the traditional rectangular shape and the straight lines and parallel lines are neglected and instead take their designs from the curved lines of biological structures and nature” (Rahat, 2011: 6-7); (pic 2).

Case study and Research Findings

“Sorkh-e Hesar Forest Park is located in Tehran city of Tehran province. This park is one of the forest parks in Tehran that is located in the area of 13th area of 22 areas of Tehran municipality and 4th district of this region. The study area is located in the eastern part of Tehran and within the geographical boundary between 30 51 to 35 51 is eastern and 42 35 to 44 35 is the northern latitude. The area of the studied area, taking into account its catchment basins, is 17.31 km and the area of the park is 5740.1 ha, and its maximum height is 1881.9 m and the minimum height is 1288.6 m. The average weigh height from the sea level is 1477/600 meters. Map 1 shows the location and its surroundings” (Jahad Tahgigat Ab & Abkhizdari, 2008: 5). Defined roles for entrance of Sorkh-e Hesar Park

After analysis of various aspects of Sorkh-e Hesar Park as gateway, following the distribution of 30 questionnaires at the park level and its margins, the roles of Sorkh-e Hesar Park were tested from the viewpoint of ordinary people. Questionnaires were distributed on Friday, 2014/06/03, from 11 to 16. Respondents were randomly selected. The results of extraction and analysis of the questionnaires were extracted in Table 1 based on the “Likert model”. After extracting and analyzing the distributed questionnaires and their arrangement in Likert tables, we can take such a conclusion that the multiple roles considered for the entrance gate of Sorkh-e Hesar Park is The total number of agreed and fully agreeable \times coefficients is equal to 4942 points, the unobserved positions \times coefficient equal to 285 points, and the sum of opposite and totally opposite terms \times the coefficient is 790 points. Therefore, Sorkh-e Hesar Forest Park has the rest of the expected features of an entrance gate apart from a few items that remain in the table in white.



Pic2 : New York dragonfly tower design based on bionic architecture.
Source: <http://www.tuvie.com/dragonfly-a-metabolic-farm-for-new-york-city-in-the-future>

Proof of research hypothesis

According to the quantitative results obtained from the above tables, it can be admitted that the purpose of this research is not only "design" but also to prove the "gateway" of Sorkh-e Hesar Park. All the theoretical foundations of this research have had a new approach to the role of "urban marginal parks" In fact, based on this research, the look at urban marginal parks has been changed and the park is not just a place for recreational activities. At a new glance at urban fringe parks, Park is a new intellectual park for people and authorities in order to maintain and use the context in which they become urban signs. . Therefore, the authors are demanding that people and authorities look at the macro of urban fringes in the form of parks. It means that they should be able to make changes to their roles. In this research, the goal is expressed in the form of a problem. It means to use the park for its own survival.

Based on the quantitative results regarding the role of Sorkh-e Hesar Park Gate and score 4942 in favor of 790 points, it can be concluded that Sorkh-e Hesar Park can now take the role of the gate and the initial hypothesis is presented in this regard.

So:

The Sorkh-e Hesar Forest Park on the eastern edge of Tehran can accommodate the entrance gateway, and the Park-Gateway can be used as a park.

Locating the site's scope for deploying the gate

After the necessary examinations, it was decided to create a site in order to create a gate and space for the establishment of gate activities in the direction of the park-gateway to Sorkh-e Hesar Park that According to the calculations done in the eastern part of Sorkh-eh

Table 1: Analyzing the rocks of the entrance gate of Sorkh-e Hesar based on the Likert spectrum. Source: Ghavam poor, 78 ,2010. Results in relation to Sorkh-e Hesar Park: Findings of the research.

Number point	Way-Phrase	Completely agree	agree	No comments	opponent	Completely opponent
	Points	Coefficient (5)	Coefficient (4)	Coefficient (3)	Coefficient (2)	Coefficient (1)
1	Input, emphasis on transition and transfer	50	45	0	3	2
2	Input as transmitter of knowledge and information	10	5	15	50	30
3	Entrance as stoppage	61	33	2	3	1
4	Input as an interface between two different spaces	59	28	8	5	0
5	Entrance to the suburban boundary of the city (the beginning of the city and the outskirts of the countryside)	73	24	0	3	0
6	Input as the guiding element	44	41	4	8	3
7	Entrance as a city sign	80	18	0	1	1
8	Input, the starting point of the spatial organization of the city (starting point of the skeleton)	65	30	5	0	0
9	Input as a safe area	23	12	11	45	9
10	The entrance of the active point of the city in terms of social and the place where collective memories are formed	26	38	4	19	13
11	The input is defined as the entry hierarchy	42	18	8	10	22
12	Input, Spiritual Transmission	0	0	5	80	15
13	Entrance, major urban area	0	0	0	99	1
14	Local entrance for spending leisure time	57	38	4	0	1
15	Input, transducer space	32	23	27	12	6
16	Supplemental City Entrance	57	35	2	4	2
Total points		3390	1552	285	684	106
The total points of the people Completely agree+ agree= 4942						
The total points of the people opponent + Completely opponent = 790						
The total points of the people no comments= 285						

and parallel to the Shahid Yasini highway and opposite Damavand and Babaei highway. The site is currently within the scope of the East Terminal. The site is naturally bi-like and looks like a bird with open wings.

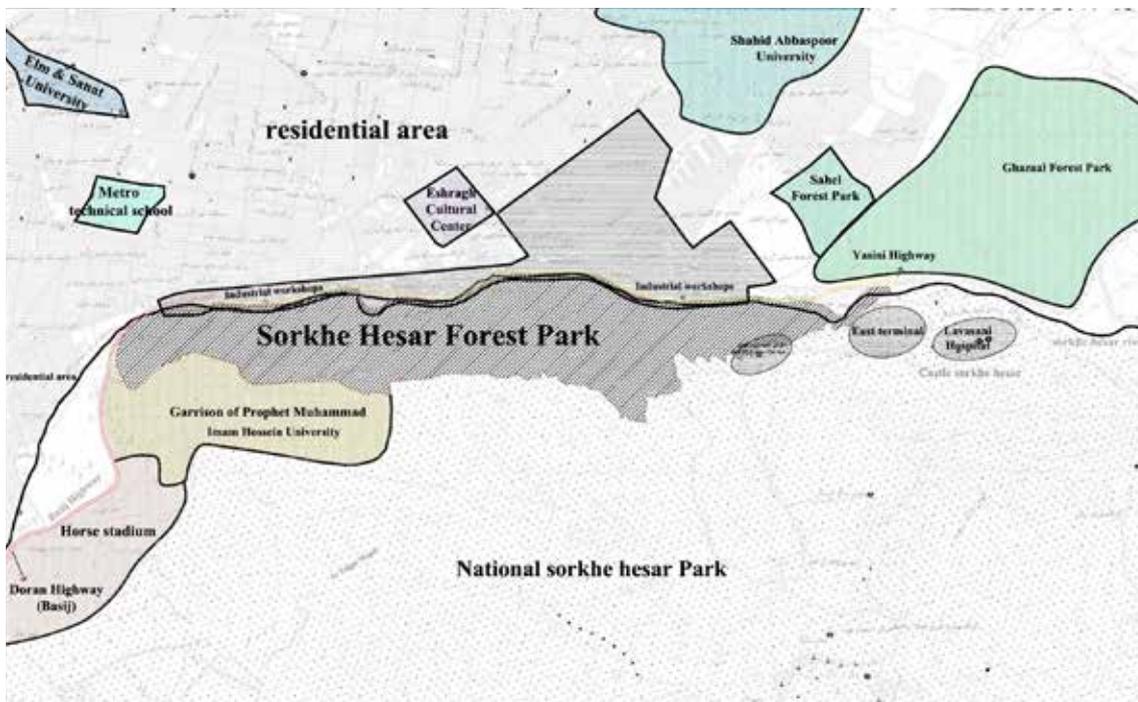
The area of the south side is intended for the deployment of 90442 square meters of gates, and the area of the northern side is 15422 square meters. It should be noted that the intended area for the northern side (wings) is the area for the establishment of soft vegetation and landscaping and the organization of highway margin workshops and for the purpose of linking the gate with it and the southern side is designed to create elements that are in agreement with the park, short camping spaces, alderways, entrance spaces, and more.

Map 2 shows the location of limited area in the aerial

image and in map 3 shows the location plan of elements.

Design of the Sorkh-e hesar park Gate Element on the basis of the Bionic

In order to connect the bionic with Sorkh-e Hesar Park, many interviews were held with the residents of Sorkh-e Hesar neighborhood, workers, proprietors, and people in the park and various organs in the park, especially the wildlife museum. According to verbal and written citations in the past due to the hunting ground of Sorkh-e hesar Forest and National Park, rams and deer animals have been considered as the main animals in Sorkh-e Hesar Park, So, for this reason, now the symbol of the ram's brass is placed abstractly beside the entrance door 1 of the park and also This symbol is placed in the form



Map 1: Location of the Sorkhe Hesar Park and its surroundings
Source: Water and Watershed Research Institute, 2008: 5

of two rams with wrapped horns in the entrance to the environment of the protected area of Sorkh-eh Hesar and Khojir. Also, all the streets of the park have been named and numbered with the symbol of a deer fleeing that below are the screenshots. Since this research is based on the Bionic school, the proposed Gateway project is an abstract scheme of rams.

One of the most important issues in today's society of Iran is the destruction of the environment, and especially the elimination of marginal green spaces and turning them into urban spaces. In addition, in addition to the environmental hazards of this change, in the urbanization of marginal parks, in most cases the narrowing of the arena, we see the marginal spaces after entering the cities. The presence of residential settlements created at the edge of Sorkh-e Hesar Park is evidence of this. Therefore,

maintaining the marginal parks with any title and in any way, in order not to let them enter the city and mold the urban spaces on them, is one of the most important and up-to-date issues in the metropolis and the "mother city of Tehran" specially. This research is based on the most important environmental issues in Tehran, one of which is protesting the new actions of the East terminal and its surroundings on the easternmost parts of Sorkh-e Hesar Park, as well as cutting the marginal trees of this park on the southern edge of the martyr Doran highway, It has been written. Perhaps the method adopted for this study is a strategy to maintain this vast macro space in Tehran's 13th district. By doing this research, a "new word" has been developed based on extensive research, and is the title (gate-park), which has not been mentioned in any scientific or research resource so far.

Conclusion | Park-Gates are used only for urban marginal parks that are worthy of survival for the future. This term is implicitly used in the context of the large margins of large cities. In fact, the marginal parks can be given new gateways through the injection of gateways, so as to create a stagnation over time, new urban signs are gradually created in marginal spaces. Since today's cities are moving towards the future in order to accelerate their growth, deployment of such spaces that are economically feasible is necessary for entering cities. Park gates prevent the rapid growth of the city and in addition to providing services, in the long run can become urban signs. Considering the marginal parks as a gateway to their survival and turning

these green spaces into a symbol, and creating and inducing a sense of place for them, is an excuse to keep these spaces. Considering marginal parks as a gateway to their survival and turning these green spaces into a symbol, and creating and inducing a sense of place for them, is an excuse to keep these spaces. Because of that the bionic school has been active as a modern method but full of engineering and art creativities, the purpose of this research is the creation of durability in architecture and traditional urban design. Maybe this research makes a situation that mix tradition and modernity and creates a mixture of human, life and beauty.

Reference List

- Ablaghi, A & Poorjohari, A. H. (2006). Formation of Principles and Criteria for Reconstruction of a Forgotten Urban Space. *Journal of Urban Planning and Architecture*, 16(53).
- Alexander, Ch. (2008). *Template Language*. Translation : Reza Karbalaei Nouri. Tehran :Center for Studies and Research on Urbanism and Architecture of the Ministry of Housing and Urban Development.
- Bavandian, A. (2008a). *Biology 1*. available from: <http://www.bashgah.net/fa/content/show/25834> (Accessed 24 May 2014).
- Bavandian, A. (2008b). *Biology 2*. available from: <http://www.bashgah.net/fa/content/show/25876> (Accessed 25 June 2014).
- Iraj, J (2009). *Bionic Architecture*. available from: <http://www.rasekhoon.net/article/show-28395.aspx> (Accessed 24 May 2014).
- Jahad Tahgigat Ab & Abkhizdari. (2003). *Chitgar Forest Park Development and Reconstruction Project*. Tehran: Report the project's theoretical bases.
- Mansourian, A. (2003). *Bionics Creativity Engineering and R & D*. Tehran: The 4th Conference of R & D Centers of Industries and Mines, derived from the Cognitive Science Blog: Creativity and Innovation.
- Naleini, C. (2008). *Bionic Architecture*. available from
- Pakzad, J. (2006). *Design Guide for Urban Spaces in Iran*. Tehran: Payam Sima Design and Publishing Company.
- Rahat, A. (2011). *Future skyscrapers - Bionic architecture*. Available from: <http://civiltect.com/?p=192> (Accessed 24 May 2014).
- Zaheri, M. (2001). *Investigating the Effective Dimensions of the Urban Landscape Composition from the Point of View of Urban Planning in the Main Entrance of the City of Qazvin (Qazvin-Tehran Expressway)*. Master Thesis of Science. Tehran: Tarbiat Modarres University.