

Compilation of the sense of place components in the model of Charbagh of Isfahan and prioritizing the components in order to present a solution in the design of modern streets

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Abstract

The street can play the most important role in the vitality and liveliness of urban spaces by suitable establishment of exchanges and key communications, spatial and social spaces of the city. Charbagh is a broad and direct street which was one of the main elements of the development and improvement of cities in Safavi era. "Sense of place" is one of the most important concepts associated with the place, which give rise to the creation of high quality environments. Therefore, in this research, one of the most important current issues, that is compilation of the components of sense of place in the model of Charbagh of Isfahan and prioritization of the component in order to provide a solution in the design of modern streets. To do this, the criteria of Charbagh Street were extracted and by integrating the dimensions of the sense of place (physical, functional, social, and perceptual) efficient criteria of the sense of place in the Charbagh pattern was obtained. In this study, the results were obtained in the framework of the results of the network analysis process. Finally, the status of sense of place in Charbagh Street in Isfahan was determined regarding their internal and external criteria. Based on the final weight of the options, in the physical criterion, the atmospheric options and the row of plantain trees were placed in the first and second priorities respectively. In the functional criterion of the sustainability option, in the social criterion communicative use and in the perceptual criterion water basins and rivers had the highest score.

Key words: Sense of place, Charbagh of Isfahan, Modern streets, ANP.

Introduction

In general, a community is defined as a group of people who interact with each other and share a common culture, values and interests based on social identity and/or territory (Noori et al., 2016). The significance of society in sustainable planning is linked to neighborhood communication and the development of social networks that enable collective involvement in community operations and, for example, stabilize and safe the level of crime and disorder (Eizenberg, Tappert, Thomas, & Zilans, 2016).

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The Street is a communicative space that is the director, divider, and reinforcer of the city's structure. Those who care about the perception of the environment consider roads as the most important organized factor in the mental mapping of human (De Jong 2013). Because the street can play the most important role in the vitality and liveliness of urban spaces by suitable establishment of key exchanges and communications, spatial and social spaces of the city, but this cannot be possible unless the street space is physically stable, consistent with nature and away from contamination (Aminzadeh, 2002). In the history of Safavi urbanism, among symbolic elements are wide and direct streets (charbaghs), which have been the main elements of the development and improvement of cities in this era (Gholipour, 2014). Since Safavi era, when the development of Iranian cities began outside of ancient texture, the road was also introduced as a designed urban element. A characteristic feature of the new ways of this period is the placement of a polar element at the end of the axis with an orientation towards itself. In such ways, access mainly was terminated to the polarizing element. In this period, vast and long streets such as Charbagh Street have been constructed in many cities, including Isfahan, which was surrounded by many gardens and used as a public walkway (Sharif Zadeh and Golestani, 2011). In the Dehkhoda dictionary, Charbagh, has been defined as "four gardens are located side by side that are separated from each other with the streets or surround a mansion. Two streets parallel to each other, with trees on both sides and separated in the middle by a series of sidewalks or walkways". Another similar definition, while believing in the ideological bond of the Charbagh pattern with religious and Iranian thought, sees the Charbagh structure as two streets which have arboriculture on both sides as well as two strands in the center, creating a very pleasant and refreshing space (Mansouri and Haydarnetaj, 2009).

Therefore, it can be concluded from this pattern that the human environment has a tremendous impact on human behavior and identity towards hidden values inside her/him (Mokhtari Malekabadi, 2013). Paying attention to the concept of place in the human-built environment and the relationship between man and place will be of great importance because it calls for the role of design sciences, and especially urban design in filling the dimensions of human experience in dealing with the category of space. The "sense of place" is one of the most important concepts associated with the place, which leads to the creation of quality environments (Lak and Gholampour, 2014).

Background

Seyed Javad Habibzadeh Koozekanani and Akbar Abdollahzadeh Taraf (2016), in an article entitled "Urban Design of the Street to Promote the Sense of Place; A Case Study: Shabestar Raz Golshan street", based on the recognition of the visual elements of the perception and mentality of the people from the street and the factors affecting the sense of place of the street and based on the field observations and the addresses, examined the people's descriptions, and then analyzed the data using the SWOT table, and eventually found that on the urban streets existing salient elements in space and view of these elements as well as the type of activities performed in that space have direct relationship with the sense of place.

Morteza Mir Gholami and Masoumeh Aisham (2016), in an article entitled "Conceptual Model of Assessment of Sense of Place Based on the Physical, Perceptual, Functional, and Social Components, Case Study: Imam Street in Urmia", tried to answer this question that whether a urban united axis in internal Small spaces, such as the sequence, also provides a unified picture of the concept of the sense of place? Imam Streets of Urmia were sequenced and based on descriptive-analytical method and case-study and through collecting library, documentary

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information and field observation, questionnaires and interviews, they concluded that the sequences of the studied axis have not worked the same in the creation of the concept of place for people.

Morad Kaviani Rad and Ali Azizi (2011), in an article entitled "The Role of Place Identity in Appearance of Political action, Case Study: Enghelab Square and Street in Tehran", using field findings, found that space, structure and the spatial functions of a specific region can suggest a form of place identity for political currents that other areas cannot Provide their aspirations and demands.

Fatemeh AliNia and Fatemeh Jebarian (2014), in an article entitled "Investigating the sense of belonging to the place in Charbagh of Isfahan with a phenomenological approach", studied the components of Rolf in Charbagh in Isfahan, and strong aspect of spatial belonging to the place to this street considered to be due to its design as a long garden that provides the characteristics of the garden space and presents it in an alive, dynamic and urban way.

Somayeh Zabihi (2015), in a paper entitled "The role of street landscape in promoting sense of place" using descriptive-analytical method and content analysis and assessment of sense of place, with the aim of achieving the principles and criteria of the landscape in promoting the sense of the place of the streets concluded that in order to reach a qualitative component, such as the sense of place in an urban space, it was necessary to create a large number of other components or, in some cases, to limit a component. Therefore, since the components are interconnected in a chain, then in the design of optimal places, the important and influential components of the target must be analyzed and investigated.

Theoretical Foundations of the Research

The concept of sense of place

In examining the relationship between man and the environment, the recognition of physical elements, the tangible characteristics of the environment, and the meanings and messages driven from it is important. A better understanding of the environment becomes more valuable when, in addition to examining the elements and physical characteristics of the environment, the meanings and concepts derived from it, and perceptions of actors also be considered. The sense of place is one of the concepts that more knowledge of it can help researchers and planners in various fields and ultimately lead to the development of the environment. The sense of place means to receive the semantic characteristics of the environment and personality of the place by the users of the environment. A sense received by the perception of people from the environment and getting their conscious or unconscious emotions of the environment, and places the user in a close contact with the environment. The sense of place creates a sense of satisfaction in the user and insists on the notion of the identity by reminding the culture or history of a community or past mental experiences of the individual, and improves the quality of the space built for the audience (Razvian et al., 2014). In the phenomenological domain of the sense of place, the truth is place, and more often refers to the immaterial features and characteristics of or place-character, which has a meaning close to the place-spirit. That is, some places are so attractive that induce a kind of indescribable feeling and make him lively, happy and interested in attending and returning to those places. Thouan, instead of the term "sense of place", uses the term "place-loving", and sees it as a link on kindness and effective among people and places that can be aesthetic, sensory or emotional. From an environmental psychological point of view, the main thing about the sense of place is that people place their activities in a particular place, and specializing is one of the most important human activities

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and experience. The basis of behavior in a particular place is in the person's sensation that is a behavior is appropriate in one place and inappropriate elsewhere. Kounter believes that the place cannot be independent of the individual (Cassidy, 1997). According to the Kounter's model, a place is a natural place or artificial place that is conceptually or materially have specific domain and results from the relationship between the three factors of human behavior with its corresponding concepts and physical characteristics. Adopting Counter's view, it can be said that the quality of the environment is the result of these three components, each of which is responsible for providing one of the environmental qualities. The human needs a sensory, emotional and spiritual experience relative to the life environment. These experiences can be realized through intimate engagement and a kind of "Identification" with the place in which it resides. This intimate engagement and "Identification" are called sense of place (Falahat, 2005)

Sense of place and different views

Place is a space that is meaningful for a group of people. This definition is expressed as "Place = space + meaning" (Harrison & Dourish, 1996). Rolf states that "the place is a combination of space, landscape, religion, path, other people, personal experience, home care and protection, and a ground for other places." He believes that understanding the place can lead to the restoration and maintenance of existing places and the creation of new places (Relph, 1976).

A place will be place when the human is placed in relation to the other layers. These layers can be revealed and turned on by collaborating with other people, standing in relation to nature, or standing in the corner of the artificial environment. In this way, the human gets to know other layers of his existence, which are also present in the external world, and thereby his understanding of his environment and himself increases. Rolf believes that understanding the place can lead to the restoration and maintenance of existing places and the creation of new places. Without a comprehensive understanding of the place that involves human characteristics, it is difficult to explain the reason for specificity of some places (Mirgholami and Aisham, 2016).

Christiane Norberg Schultz considers the sense of place to be a general phenomenon with structural, spatial, and atmospheric values that man achieves through the perception of orientation and identification. Over time, Sense of place, remains a living fact. The sense of place becomes more apparent when the usual rhythm of life disrupts, for example when the place changes because of occurrence of war or natural disaster. The concept of the sense of place defines the nature of the place and is found in places with specific and distinct character (Partovi, 2008).

The sense of place components

According to the concept of sense of place in different perspectives and features of the Charbagh pattern of Isfahan, one can place the sense of place components into two groups: 1- Perceptual and cognitive factors and 2- physical factors (Falahat, 2006).

Perceptual and cognitive factors

As it was said, sense of place is a complex combination of meanings, symbols and qualities that a person or a group perceives consciously or unconsciously of a particular space or region. The meanings and concepts that are decoded after being perceived by the individual are factors that make sense of the place. In this case, the sense of place does not just mean a feeling, or

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emotion, or any relationship with a particular place, but a system and a cognitive structure through which one belongs to things, persons, objects and concepts of a place (Lynch, 1997).

Physical factors

According to Fritz Steele, the most important physical factors affecting perception and sense of place are those of Table 1:

Table 1. Physical factors affecting perception and sense of place (Norberg Schuls, 1997)

The size of the place	Degree of confinement	Conflict	Scale	proportion	Human Scale
distance	Texture	Color	Smell	sound	Visual diversity

Studies show that the physical characteristics of the environment are effective in creating a sense of place by creating meanings and providing specific activities. Providing specific activities is effective in creating a sense of place. Providing activity from space comes to being with the satisfaction of variable environment features such as temperature, sound, and the ability to carry out individual activities and social interactions through the static elements of the environment, such as dimensions, proportions, and forms. Recognition and affection relative to space is achieved by understanding the meanings, symbols, formal and semantic aesthetics of space and having identity with it. In short, we can say that the sense of place is the result of the inner connection of human, his mental conceptions, and the environmental characteristics (Falahat, 2006).

According to the points stated about the sense of place, the components of the sense of place can be shown in the following picture:

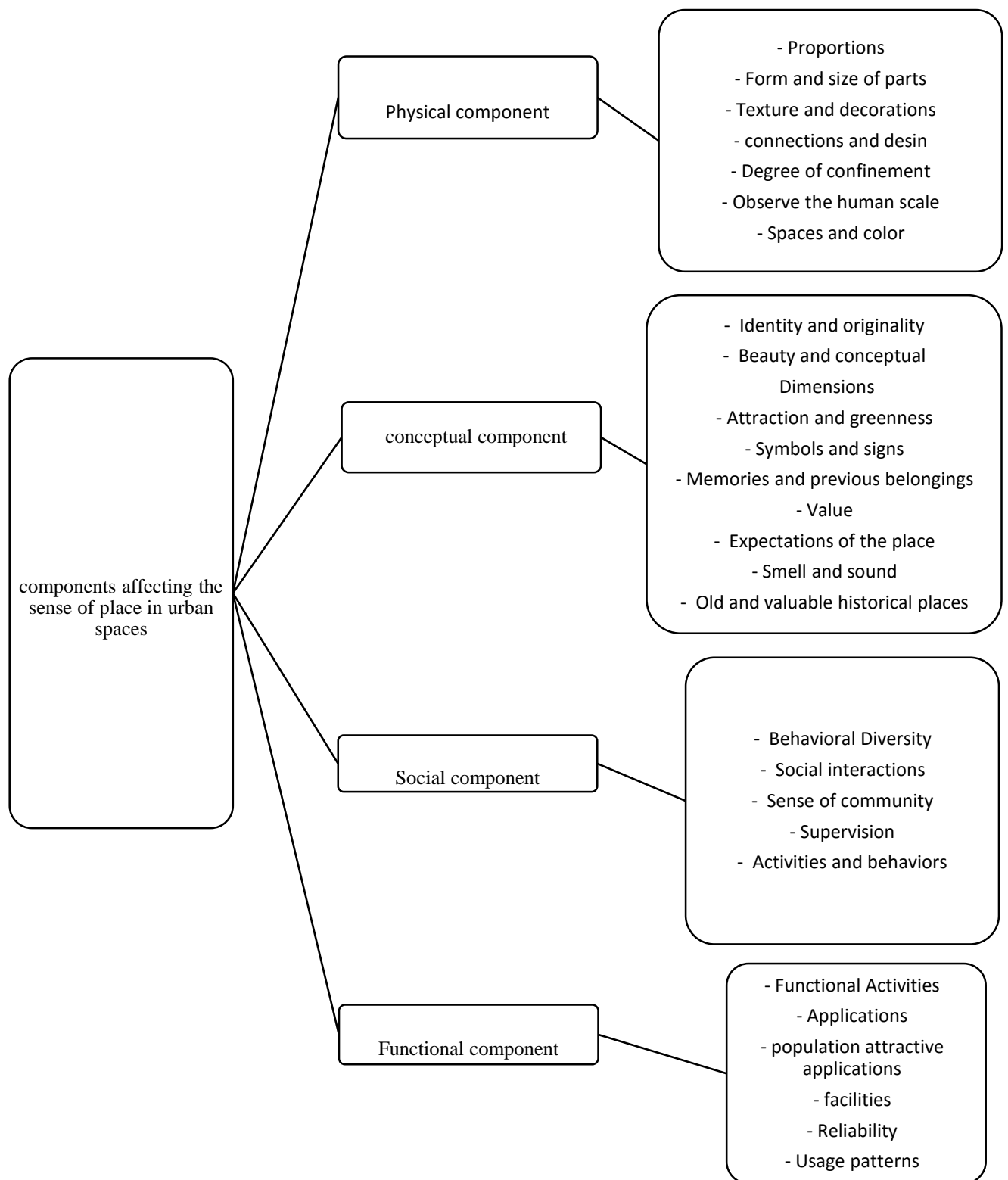


Figure 1. Criteria to measure the sense of place in urban spaces (Mirgholami and Aisham, 2011)

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Description of the Charbagh pattern of Isfahan

The formation of the Safavi government and thereby the school of Isfahan can be compared with the organization of central and powerful European governments after the Renaissance and the formation of Baroque style (eighteenth century AD). By this comparison, organization of the Safavi government and its artistic style (in the field of urbanization) in relation to the governmental organization and artistic style of European countries (in the field of urbanization) during the Renaissance period (the historical period in the same age with Safavi government) is still a step forward. While the renaissance intellectuals and innovators of the Renaissance seek to organize the European medieval city and realize their "utopia", Isfahan's style implements its ideal model and offers a clear and accurate compilation of what is existing and desirable.

In this combination, the two methods of organic (Lendamin) and rationalist designing are interconnected, and they present a new concept of spatial planning and design in agreement and harmony with each other. In Isfahan, without any serious interference in the physical context and the ancient space organization, the direction of the city's development and extension is defined logically reasonably. The Charbagh axis, as a linear hinge between the old and the new spatial organization, passing through the Zayandeh Rood river axis (as a natural axis and an ornament), presents a combination of natural and artificial, arithmetic and rational, order, and irregularity, and so on (Ahari and Habibi, 2012).

Concepts and Ideas of Isfahan School in Urbanization

In the school of Isfahan, the city is in full agreement with its surroundings nature. In this school, the prosperity and boom of the city is not followed by the restoration of the ancient city, but by creating new collections causes coordination in urban spaces (Roger Cyuri, 2006). Urban planning and design in the school of Isfahan is in a way that a unit collection is created that is a single unit is created in such a way that each component expresses unity in its plurality, and the whole in its unity indicates plurality by itself. In the school of Isfahan, urban architecture and spatial organization are increasingly based on the principle of equilibrium and balance. This school always seeks to create magnificent spaces that are extremely popular. With such mental concepts and objective examples, the school of Isfahan can be recognized as a basic school in the evolution of urbanism and urbanization prior to the beginning of the contemporary era. This school, even after the fall of the Safavi reign, retains its mass and theme, and reappears on sometimes and some cases. These principles and rules makes us to confront a language and statements in this school which in spite of the different dialects of the place, follow a special grammar. This order is based on the four physical (earthly) orders, water, soil, plant and air, and a semantic order (heavenly, cosmic); the holy order. Just as each of the four earthly orders is a shadow of the holy cosmic order. Upon the same belief, architecture and urbanization will also be the manifestation and presence of these four orders to notify that cosmic order. The school of Esfahan has succeeded to state different examples with unit concepts considering environment, location and time. In such a way that the space constructed in the good order and consistent with surrounding nature (Ahiri and Habibi, 1391).

The advent of the street in the Safavid era

What has been added to the earlier concepts in the field of urbanization and is invented clearly is the emergence of the concept of "street" in front of "desert", which either takes the way to the main city square or is drawn parallel to it. Depending on climatic conditions, this street has

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countless trees, which are named "Chahar Bagh" (in the case of Qazvin) or "Chhnaristan" (in the case of Tehran) depending on the way it places in the external environment. (Habibi,1996). In front of the word street in the dictionary of Dekhoda also it is stated that: Rosary, a way that there are trees, flowers and gardens in the two sides. Since Safavi era, as the development of Iranian cities began outside of ancient texture, the road was also designed as an urban element. A characteristic feature of the new ways is the placement of a polarizing element. In this period, large and long streets such as Chahar Bagh, Isfahan, have been constructed in many cities, around which there were many gardens and was used as a public access point. These streets were constructed in Safavi period, especially Shah Abbas, in some cities such as Isfahan, Shiraz, Mashhad and Qazvin, and the people were allowed to use gardens on his orders. The concept of the street continues consistently with the concepts and characteristics of the Safavi streets during the Qajar age (figure 1) And during the Pahlavi era, like many other elements of architecture and urbanization, couldn't resist against, and had no time to harmonize itself with, the rapid process of changes caused by industrialization and the arrival of cars and was forgotten.



Figure 2. Painting of one of the streets of the Qajar age (Bob Homayoun or Laleh Zar) with coherent walls of Mahmud Khan Malek al-Sha'ra (Habibi, 1996)

Isfahan Charbagh Street

The first European who saw this street was Peter Delawale, who described Charbagh in 1617 (1083 AH) as: Another spectacular place in Isfahan, a street that is currently outside the city, but when the new neighborhoods join each other, it will be in the middle. The length of the street is two to three miles and its width may be twice as high as the Ponte Molele in Rome.

At the beginning of this street, from direction of Isfahan, there is a small quadrangle house which have with many verandahs and windows and is decorated with interesting pictures and illustrations. From the top of this house, the whole street can be seen well, and the same is the reason for building it, and a hallway connects the king Palace to it. Along the street, there are the same and neat walls inside which royal gardens are located and entering them is for free

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people` paseo. The pavement of the street is flagstone and is very suitable for human and horse passage and then flagstone is cut off and pavement is planted with different flowers (Delawale, 1996).

Shardin also wrote in his travelogue: "I begin from this point that it be called the public wooded promenade of Isfahan. This street is the most beautiful hangover I've ever seen or heard... The length of the street was three miles and its width is two hundred feet ... Around this street, there are large beauty gardens, each of which has two pergola buildings, one bigger and among the king`s garden... and the other is built on the head in the garden, and it is open on all sides, so that people can be seen on the street... Most of the walls of the gardens are latticework, and like the rows of clay that are crafted to dry, and its inside can be seen from the outside well... This street ends in the king`s amusement park, which is named Hezar Jarib due to a great occasion ... At the beginning of this pleasant beautiful street is a square, tall and large pergola mansion, located in front of the mansion of a Hezar Jarib, so that the two mansions are at the two ends of this street". (Shardin, 1983) (Figures 2 and 3).



figure 3. Garden Hezar Jarib Garden of Bervin (Ansari, 1999)

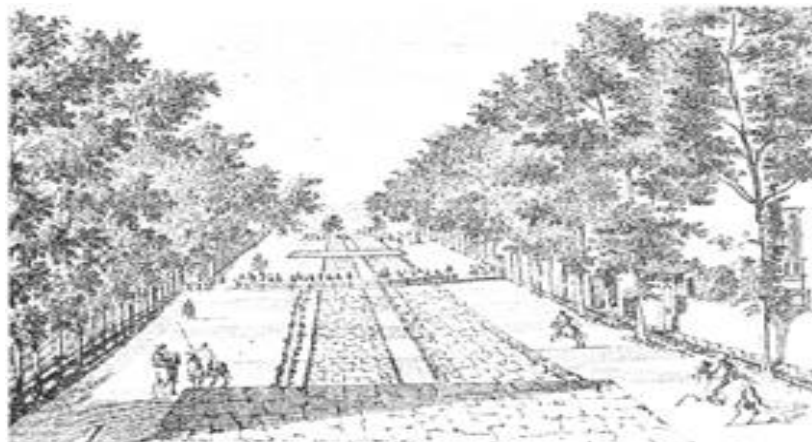
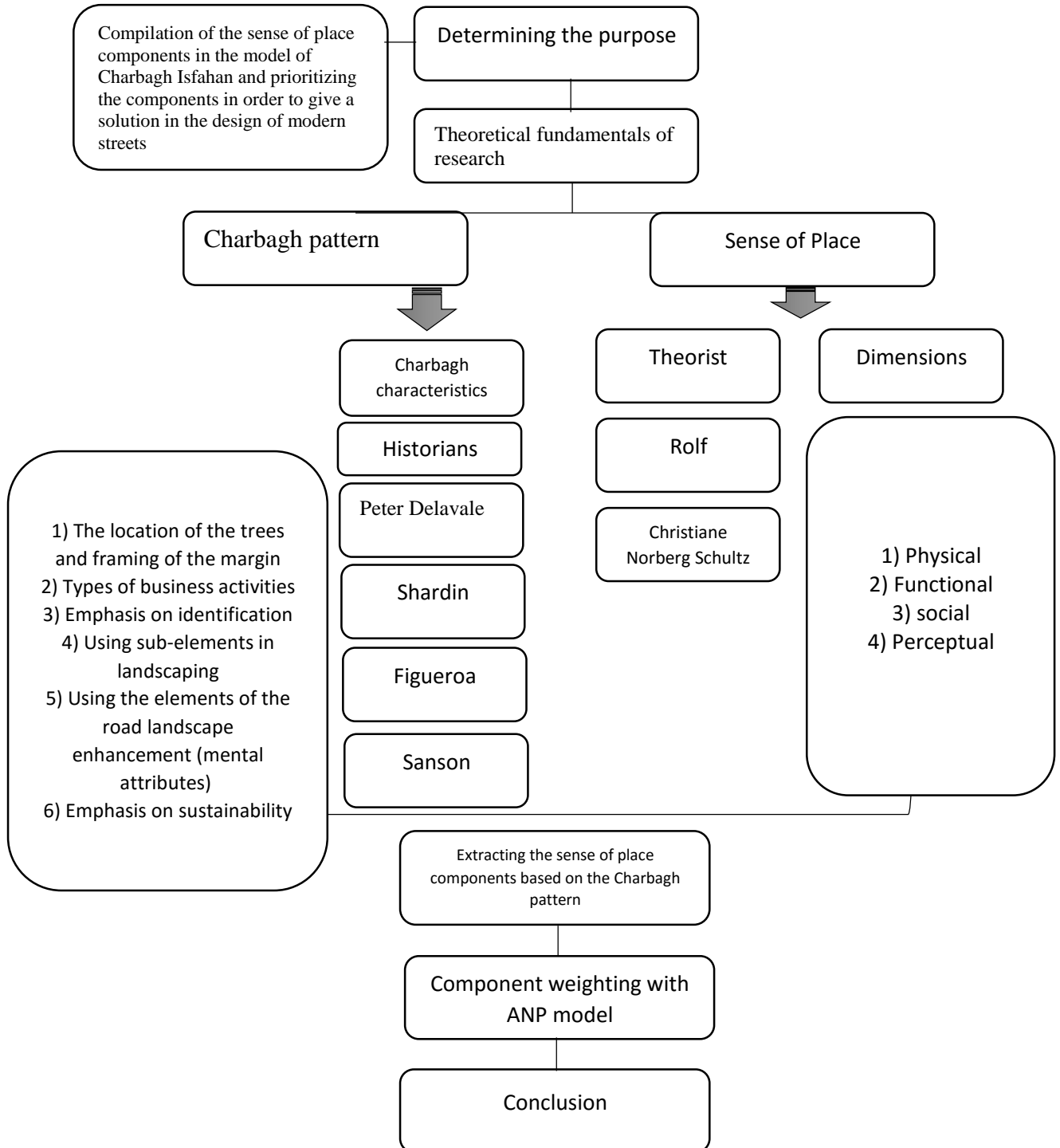


Figure 4. The beginning of Charbagh Street and the Garden of Hezar Jarib at the end of it , Browne (Ansari, 1999).

Method



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Network Analysis Method (ANP)

Following the limitations of AHP and the inability of this approach to include dependencies between criteria and factors, Professor Sa`ati in 1996 developed another approach that is known as the Analytical Network Process (ANP) approach and has this advantage over AHP that it takes into account the dependence between the criteria (Ihsan Yu`ksel and Metin Dagdeviren, 2007). In this process, the dependence is mutual that is the weight of the criteria depends on the weight of alternatives and the weight of alternatives depends on the weight criteria, so the issue is freed from the hierarchy mood and forms a "network" or a nonlinear system or feedback system (Kurttila and Mauno Pesonen, 2009) which in this case, hierarchical rules and formulas cannot be used to calculate the weight of the elements. In this case, the theory of networks must be used to calculate the weight of the elements. (Saaty and Takizawa, 1986; Robinson, 2004). The Analytical Network Process (ANP) considers each issue as a network of criteria, sub-criteria, and alternatives (all these are called elements) that are clustered together. All elements in a network can, in every way, be interconnected. In other words, in a network, feedback and interconnection between clusters are possible (Garcia-Melon, 2008). Therefore, ANP can be divided into two parts: control hierarchy and network connection. The control hierarchy involves the relationship between the goal, the criteria and the sub-criteria and influences the internal connection of the system and involves a network relationship between the elements and the clusters. The Analytical Network Process (ANP) can be summarized in the following four steps : (Carlucci and Schiuma, 2008; Lee et al, 2009).

Making the model and converting the issue / subject into a network structure

The subject / issue must be clearly and apparently converted into a logical system, such as a network. This network structure can be obtained through the brain storms and other appropriate methods, such as the Delphi method or nominal group method. At this stage, the subject / issue is converted into a network structure in which the nodes are presented as clusters. Elements within a cluster may be related to one or all of the other clusters (influence them or influenced by them). These relationships (external dependence) are indicated by arrows. It is also possible that the elements within a cluster be interconnected between themselves (internal dependence), where such connections are represented by an arc connected to that cluster.

-Create a binary comparison matrix and determining priority vectors

The decision elements in each cluster are compared two-to-two based on their importance in relation to the two-to-one control criteria. The clusters themselves are also compared on the basis of their role and influence in achieving the goal.

-Generate super matrix and convert it to limit super matrix

A super matrix (actually a classified matrix), shows the relationship between two clusters in a system.

-Choose the best option

If the super matrix is considered in the third step of the entire "network", that is, the options are also included in the super matrix, the general priority of the options can be obtained from the column of options in the normalized size of super matrix. If the super matrix only include that part of the network that is interdependent and the options are not considered in the super

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matrix, then the next calculation is required to obtain the overall priority of the options. The option with the highest overall priority is selected as the best option for the issue.

Mixing the appropriate weight to the criteria according to experts

The ANP technique has been used to measure and prioritize the criteria. Finally, the desirability of the criteria investigated in the study of the importance of the sense of place components in the pattern of Charbagh Isfahan according to the experts' opinion and geographic characteristics of Tehran.

Result:

Extracting the Characteristics of the Charbagh of Isfahan pattern

1. The location of the trees and the fringing of the margin

From the words of Figueroa, Shardin and Sanson, as well as the writings of Tavernie and Gemmic Carri, an Italian traveler who was in the year of 1694 AD In Isfahan, it can be guessed that there were two rows of trees on either side of the street (Ansari, 2007). Also, the body of the garden was composed of thirty gardens (Campfer, 1984).

2. Types of commercial activities

Commercial: According to historic documents, there were some temporary and constant business activities like a coffee house beside the street.

Tourism: Many travelers have mentioned this street as Isfahan wooded walkway. The sport of polo, horseback riding and ... have been among fascinating activities on this street.

Communication: In the Safavi era, the highway of the southern part of the Safavi government has been to the northern part of the city.

Education and Religion: Two gardens of Tekie Heidari and Nematollah dervishes who, according to Taverney, in his travelogue, were the place for maintenance of some of the sacred works (symbols) related to Imam Ali (as) and other imams, and the implementation of ceremonies, paintings, camels and ... has also had an educational and religious aspect.

Governmental: According to historical documents and stated descriptions, many sideway gardens were belonged to the state government and government officials.

Residential: Most of the gardens on the sideway of Chaharbagh, as well as the Abbas Abad neighborhood, have been residential on the western side of Chaharbagh (Haghighat Bin et al., 2009).

3. Emphasis on identity

Charbagh as the widest street of city, along with royal gardens and scenic sub-elements (water basins, middle-water stream and pavement paths, memorial elements including Jahannema tower and Hezar Jarib garden in the northernmost and southernmost part of the way) has been a special route and an important factor in the organization of visual identity of the new Safavi capital. Also, some of the characteristics of the route, such as breadth, using the middle water creek, the building-body by the gardens, the rows of trees on sideways, and so on ... in order to the creation of a special spiritual identity as a symbol of the paradise ways described in the Qur'an.

4. Using sub-elements in landscaping

In the landscaping of Chaharbagh axis, elements such as the water pond and the middle creek, flooring, symbols and memorial elements have been used to create a breathtaking and beautiful landmark in the new Safavi capital.

5. Using the path form enhancement elements (mental attributes).

-1Using the rows of plantain trees on both sides of the path and stream of water in the middle, following the common principles in the construction of body artificial elements, such as the doors, confining walls and the repetition of some artificial elements, such as seven middle ponds, enhances the continuity of the path.

-2The natural gradient of the ground toward the Zayandehrood River and the Sufeh Mountain are the most important natural factors that have led to the orientation of the Charbagh path.

-3The scale factor is provided by the main nodes of the path including Hezar Jarib Garden, 33-Pol, Charbagh school, Dervish Heidari and Nemati bases and the middle pools located in the sub-nodes.

6. Emphasis on sustainability

In the design and landscaping of the Charbagh axis, the sustainability was from the basic principles which has influenced the design and use style of the main elements in the street landscape. The rows of marginal trees, gardens, and running water, as the main landscaping elements of, have played a significant role in the mental and objective picture of this street .Landscape sustainability depend on sustainable water supply, which is provided by special measures (ibid.).

Extracting the sense of place components in the Charbagh pattern of Isfahan

According to the statements, the sense of place components in the Chahar Bagh model of Isfahan can be set in the following table. Sub-components are in their place with the supervision of the experts. Using these components, ultimately, the main internal and external factors are extracted and used in the SWOT table.

Table 2. Extracting the sense of place components in the Charbagh pattern of Isfahan. Source: The author

subcomponent	Component
- Using the paths enhancer elements	Physical
- The rows of plantain trees	
- Stream of water	
- Enclosure using artifact elements	
- Rhythm in the path using physical elements	
- Following the same principle in building artificial elements	
- The natural gradient of the earth	
- Scale	
- Use sub-elements in landscaping	
- Emphasis on identity	Perceptual
- Pools and streams of water	
- Facade of the gardens and flooring the path	
- Memorial elements at the beginning and end of the path	
- Applications	social
- Commercial	
- Tourism	
- Communicational	
- Educational and religious	
- Governmental	
- Residential	
Emphasis on sustainability	Performance

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The desirability of the criteria investigated in the study of the importance of the sense of place components in the pattern of Charbagh Isfahan according to the experts' opinion and geographic characteristics of Tehran is given in the following table:

Table 3. Examining criteria-Sub-criteria and their ranking

Ranking	Sub-criteria	critereon	purpose
0.211890	Row of trees	Physical	
0.224618	Water stream		
0.073052	Enclosure using artificial elements		
0.084530	The existence of a rhythm in the path using physical elements		
0.122701	Following the same principles in building artificial elements		
0.159850	The natural gradient of the earth		
0.070993	Scale		
0.052365	Use of sub-elements in landscaping		
1	Emphasis on sustainability business use	Functional social	Investigating the importance of the sense of place components in the Chaharbagh pattern of Isfahan using the ANP method to provide a solution for the design of modern streets
0.174768	Tourism use		
0.152397	Communication use		
0.322703	Educational and religious use		
0.152397	Governmental use		
0.095538	Residential use		
0.102196	Ducts and streams	conceptual	
0.412602	Head in gardens and flooring paths		
0.259921	The memorial elements at the beginning and end of the path		
0.327477			

Investigating the importance of the sense of place components in the Charbagh pattern of Isfahan using the ANP method to provide a solution in the design of modern streets.

Conclusion

In this research, it has been tried to focus on today`s one of the most important issues, namely, to discuss the sense of place in Isfahan's Charbagh street and to be proposed as a solution for today's streets. To this end, the criteria of Chaharbagh Street have been extracted and the dimensions of sense of place (physical, functional, social, and perceptual) have been derived from the dimensions of the sense of place in the Chaharbagh pattern. Sub-criteria of raceway , enclosure using artifact elements, existence of rhythms in the path using physical elements, following the unitary principles in the construction of artifact elements, natural slope of the ground, scale, the use of sub-elements in landscaping in the physical and sustainability emphasis sub-criterion in the performance criterion and commercial use, tourism use, communication use, educational and religious use, governmental use, residential use sub-criteria in the social criteria and pools and streams of water, head of gardens and paths flooring, memorial elements at the beginning and the end of the path were placed in perceptual.

Then, the results were obtained in the form of results of the network analysis process. Tree rows .In this model, communication between the target, the criteria and the alternatives was established. At the same time, internal communication between the criteria as well as the relationships between alternatives and criteria was determined.

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After this stage, there was a scoring between communications. After scoring among the indices, scoring was made among the alternatives and indicators for each option. Then, with the achievement of supermatrix, the final score among the options was determined that finally the state of the sense of place in Chaharbagh Street in Isfahan was determined in terms of their internal and external criteria. Based on the final weight of the alternatives, in the physical criterion, the alternatives of raceway and the row of plantain trees were placed in the first and second priorities respectively. In the performance criterion of the sustainability option, in social criterion communicative use and in perceptual criterion water basins and the raceways have the highest score.

Therefore, these elements have been very effective in determining the sense of place in Charbagh Street in Isfahan. So they can be used as a solution in today's streets. These solutions are suggested below.

Suggestions

According to the principles of Charbagh Isfahan, in order to enhance the sense of place and vitality in today's streets, the following strategies are presented:

- Create vitality in space by increasing green spots
- Increase flexibility in space by reducing human-machine contrast
- Create vitality in space with emphasis on outstanding elements
- Decrease useless construction to enhance spatial order
- Reduce confusion in the environment by promoting green spots
- Create vitality in space with emphasis on the design of aquatic environments
- Combining organic and geometric space taking into account the natural gradient of the earth
- Consider the spatial nodes in the path for scale creation
- Creating a view corridor using landscaping subsidiary elements (openings, outstanding elements, etc.)
- Increase variety and vitality on the route with mixed uses (commercial, communicative, etc.)
- taking into account a variety of spatial organizations to enhance the flexibility and readability of space.

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