A THEORETICAL BASE FOR URBAN MORPHOLOGY: PRACTICAL WAY TO ACHIVE THE CITY CHARACTER

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ABSTRACT

The new cities form rapidly and usually follow many unconnected concepts that cause confusion in urban spaces while in historical cities formed gradually according to accepted patterns and corrected rules. Moreover, many non-local agents influence on the form of new cities while the forming of traditional urban spaces depends on the morphology of the site, the historical background and the culture of local people. In literature of urban design, character is synonymous with the concept of physical identity. Meaning is differences between physical traits of a city from other cities. Urban morphology has focused on urban physical studies, and provides a conceptual framework for urban character study. This process can be use, as the part of the urban spaces that have physical properties of the entire city instead of analyzed of the whole city. In this way, we were looking for some of the important researches by focus the urban morphology. We also had chosen the analysis literature review for our methodology. In this article, we were going to achieve a method for analysis cities by looking to characters (physical identity). Subjects of this paper were about the theoretical framework of content urban morphology with emphasis on methods and different perspectives about analyzing them. That also provides definitions about a quality of visual elements, aesthetic form, physical analysis and cognition of space, urban public spaces, physical characteristics that influence a clear image of the city, and finally townscape significance to give urban environment identity. Indeed, we are looking for comprehensive process and analytical model to suit their particular environment and conditions for urban character study, instead of using conventional analytical models. The method for each city can be distinct and unique, because it cannot be a comprehensive method to analyze and present understanding to all cities. This paper had argued the Kropf's method is one of the best instrument to introduce the main research indicates and general approach for historical cities.

Keywords: *City Character, Theories, Urban morphology, Italian school, German school*

INTRODUCTION

Urban morphology is the study of the form and shape of settlements. Appreciation of morphology helps urban designers to be aware of local patterns of development and processes of change. Initial work in the field focused on analyzing evolution and change in traditional urban space (Carmona, 2003).

According to Koberg & Bagnall (1974) recognition step in the process of planning and design environment includes several steps; however, the activity analysis is based. Analysis process consists of two main "Question" and "Comparison" in the data that a combination of divergent and convergent thought processes leads to.

As highlighted by Molavi (2005) it is no doubt an objective perspective on beauty overcome the mental aspect. She expresses this content on urban spaces: historic cities with numerous camping tourists are obvious evidence of objective and aesthetic beauty of consensus about them. In addition, aesthetic pleasure that the plaintiff is any historical cities indicates acceptance of these cities and places as cities and beautiful spaces. A beautiful is external and objective that outside visitors` mind. Some studies have found a philosophy for search general acceptance on admission through and remove this ambiguity.

In recent years, there has been an increasing amount of literature on primarily for the effective role those appropriate urban spaces; active, dynamic and live in the community are

production, strengthening and development (Geddes, 1915; Cullen, 1995; Lynch, 1987; Munford, 1961; Bacon, 1973; Rapoport, 1977; Bentley, 2002). These following reasons are successful restoration efforts and strengthen the urban spaces of expression: a. overcome the originality in recognizing, analyzing and designing urban spaces, b. unilateral tendencies of psychological growth of low paying attention to social context, c. Lack of effective social agents to identify the exact content and form of urban space, d. Insufficient definition of the existing urban space (Parsi, 2002).

In today's world, one of the main conflicts of nations is trying to preserve identity, and elusive being considered experience of place, memories and their affiliation (Mirmoghtadaee, 2004). Moreover, the important factor that makes a different place and it gives meaning "Own" is physical identity. Physical identity means differentiation of the city shape that in every city are variety and unique (object is related only to the city body).

Physical approach to the concept of identity is an approach has been less noticed that means identity or differentiation of physical elements and palpable (Mirmoghtadaee, 2006). The significance of this approach is that reduced complex and ambiguous points of identity, so it is simple, tangible and measurable.

The aim of this paper was to achieve the practical way to assess the physical character of cities: First, analysis of the decision-making process for physical environment. Second, formal analysis of urban space based on the philosophical framework. Third, look at the urban content theoretical framework. Forth, search criteria to measure and maintain its physical identity theories in the field of architecture and urban design. Finally, we find acceptable method for character recognition in the field of urban morphology (purely physical solutions).

METHODOLOGY

We had chosen the analysis literature review for our methodology. In this way, the literature review method is one of the more practical ways of urban spaces studies, and going to achieve a method for analysis urban spaces by looking to characters (physical identity).

a) Physical Environment Analysis
i.   Identification Role and Physical Environment Analysis

Human society as a capacity to think and reason, foundation the manufacturing system value with time to the community and knows then it's bound together. Physical system, the mental and real, are in this category. Accordingly, a man made physical environment`s features is continuing its function in valuable system space of physics, that will be achieved the construction of social relations (Hillier, 1989).

Barghjelveh (2004), considering the general systems' theory, offers experimental systems (real) including: non-living and living, and abstraction system (subjective). In addition express value systems have two types: single and physical. As a result, the role of physical environment is essential in defining ongoing assessment of community`s values foundations.

ii.   Theorization role in Identification and physical environment analysis

When the specialist physical environment can intuitively understand the level of awareness, it can be to study much more complex "identification approaches and physical environment analysis" include: descriptive, analytical, modelling (functional simulation), and assessment. Thereby the studies "saw illuminated of environment" to order "abstraction assessment of environment ".

Three key elements in reference to the identified subject are research environment, available theoretical resources, and physical samples studied. A researcher to express on the way of scientific understanding; first, necessary the sample, then personally sets the range of resources related theoretical subject. In the next stage, identification subject to definitive and to "explain" attributes it, and after that defines a theory. Finally, to the extent "recognition" and solution offers (Islami, 1998).

According to Barghjelveh (2004) to explain "research program" offers table 1 to promote large-scale identified projects. In line with structural analysis, communications analysis and strategic information analysis, thus is characterized: specific planning, strategy planning and strategy framework of case study physics. To conclude "research theory of design" will explained correct diagnose of the problem.

Table 1: Understanding of macro/development stages of Q & A macro research/analysis and identify macro

Macro Identify		Select Information	Contact System Information	Structuring Information	Manage Information	
			The Ultimate Goal			
	Macro Identification	Strategy in identification large-scale project	Strategy Planning in identification large-scale project	Scientific planning in identification large-scale project	Study Program	
			Structural Analysis of Information	Communication Analysis of Information	Strategic Analysis of Information	Manage Information
	Macro Analysis		Macro Identification of Physics Net Plan	Macro Identification of Physics Strategy Planning	Macro Identification of Physics Strategy	Study Theory

Sources: Barghjelveh, 2004.

b) Philosophical Foundations and Formal Analysis of Urban Space
i.   Objectivity of beauty
One of the external reality influence a joint effect in the minds, and its judge will be functioning as common standards. For knowing these criteria, we need to philosophy of art, and the main aesthetic theory include: representation, expression, and form. Comments form and formalism have more links aspects of urban form that have been Kant`s beauty comments (Molavi, 2005).

ii.   Formalism and formalism criticism
As highlighted by Sheppard (1999) any criticism of art is consider the main issue and study: how being built the effect that will face with form features? These are form features in urban: closed rate, exist axis, peak and down rate and skyline shape, exist or not exist of congruence and similarity in the building facades' regenerator urban space.

In urbanization not only is considered the relationship between the components and elements of urban space, but also is more important the relationship between mass and space. A visual element of this interaction depends on: how to achieve symmetry or balance between themselves? What the certain rhythm can be found in some elements repeat? What are the ruling relations in proportions between the components?

If we know physics of urban space is its form, and operation in space is its content. We see that is not feasible absolute separation of form and content in the urban space.

iii.   Gestalt theory

According to this theory, the whole thing is the different close algebraic sum of its components (Arnheim, 1974). The legacy of this theory had influence on psychology and environment design. Approach aesthetics oriented form, which focused on role patterns form in aesthetic experience, is indebted Arnheim`s views.

c) Urban Space Content
i.   Formal physical analysis of urban space

To find common standards of aesthetics should refer to the physical sector of urban space and its form features. If we break the physics of urban space for analysis of form features can reach to its constituent elements. We will achieve to influence the desired help such a cognitive, adding or reducing some attributes in a composition. We also will be discovered them laws governing (Molavi, 2005).

Knowing these rules can be created or strengthened urban space character, or created a new style by using measures. These groups are effective in the composition of visual elements: organizing principles (for example, Gestalt law), structural factors of composition (for instance: scale, proportion, rhythm, etc.), and regulatory components of the composition (as a hierarchy and based scheme).

ii.   Conceptual framework of urban space content

Previous studies have done great researches for keeping alive the urban space concept such as Sitte, Geddes, Mumford, and etc. Their inference was: urban space is a part of city construction that had a harmonious whole, continuous, and enclosed poster of the framework (physical respect). This space should be including discipline and beauty, and organized for urban activities. In addition, have a social environment that is containing a set of relationships between people. Urban space studies not only through its features of form cognitive beauty, but also through its features like content.
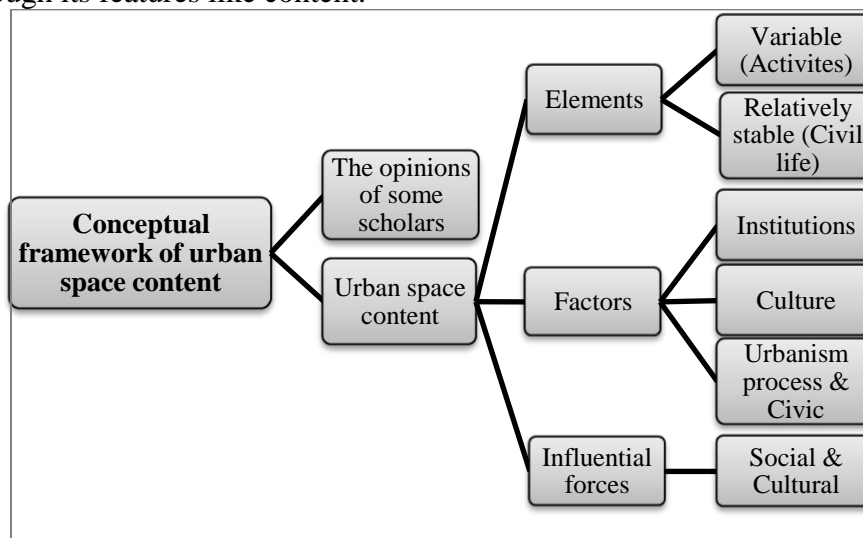

Figure 1. Content knowledge in urban space (Author)

Urban activities' system is the most important aspect character element and content of urban space. It can be analyzed only by recognition of a discipline pattern and fundamental links between them, and used to production planning in urban space. These can give to a space character and spirit: components, specific elements, and human activity (Figure 1). In conclusion, urban space form is an incarnation, manifestation of attitudes, and people`s civic beliefs. So it cannot be the specific geometric format.

d) Town Character
i.   Defining character and identity
According to Kropf (1996), "Cities have described with character as adjective. The researcher is concerned, also what is observed? What gives character to the city? Character is the same features that different it by others. Therefore, character and identity are two words for express one concept". Character understanding is not intuitive, and is more concrete tools for analysis and description. Its physical aspects are superior, and mainly. It is concerned to city shape (particularly in historical city).

Meaning of identity in a specific semantic domain (architecture and urban design) has three views: difference/similarity, continuity/evolution, and unity/multiplicity. Identity has highest degree of standards in urban physical quality. In any place that you need to maintain identity through internal change (Schulz, 2002). Christopher Alexander in his book "The timeless way of building" has attention to the formation a "Total". Total comes of millions practice building, and its physical crystallization is "Anonymous quality".

ii.   Defining physics
Town's shape (form) can be considered by urban physics in the specific semantic domain (architecture and urban design). Lynch (1960) in "Image of the city" expressed: city form is physical manifestations and observable of the city. He also (1987) in "Theory of good city form" declared: the biological complex (physical environment) is a spatial pattern concept of large physical elements, static, and continual in a city, as buildings, streets, equipment, hills, rivers, and maybe trees.

iii.   Defining physical identity
Mirmoghtadaee (2004) explained a physical identity as attributes that decentralized the city object and will unfold similarities with his own. These attributes must be a way in which the city object is changing, evolution with time and lead to genesis of a total. Three conditions for attributes the physics of the city with good identity are including: 1. Distinguishes it from other and similarities with its own (the main principle) 2. Maintain continuity through change 3. Maintain unity through multiplicity.

e) Urban Morphology
Morphologists showed that settlements could be seen in terms of several key elements, of which Conzen (1960) considered land uses, building structures, plot pattern and street pattern to be the most important. He emphasized the difference in stability of these elements. Buildings, and particularly the land uses they accommodate, are usually the least resilient elements. Although more enduring, the plot pattern changes over time as individual plots are subdivided (Carmona, 2003).

i.   Defining urban morphology
Urban morphology is one of the most important physical approaches to the city. Morphology is meant to form science that it works as investigate of form, shape, external structures, and arrange the manner. Furthermore, morphology is investigated of systematic form, shape, map, structure, and approaches of synthetic tissue in cities over time (Madanipour, 2000). In recent years, Moudon (2000) argued that urban morphology focuses on city studies as a physical environment, but will establish to implicitly link between the space elements, material, social, and economic forces of the city.

In 1996, Kropf pointed to city is as a whole (building and its residents), a process, and is balance between human and their environment. Suitable method for recognition of process character is studying the physical aspects of the city that can be built general character image on it, because a physical aspect is the most sustainable aspects. Morphological theory

describes the historical process of development in the city form and spatial consequences of it. This theory tried to present institutions and social forces that give shape to an environment (Rofe, 1995).

ii.   German school of urban morphology

As characterized by Larkham, Kristjansdottir, and Rafe`s views were influenced by the Canzen`s view about describes the development of the city form. Canzen believes that management of historical landscape in cities considers three divisions: building forms, city map, and land use. These divisions create hierarchy frame work, and this hierarchy can make the city map (Figure 2).

On the other hand, Canzen mentioned that these three aspects with a site at the most local level combined and make the smallest homogeneous areas of morphology (urban landscape cells). Urban landscape units arise with putting together these cells. They are together in different levels, and make the hierarchy inside the city. These are all effective in the crystallization of physical and historical of the city (Larkham, 1998).
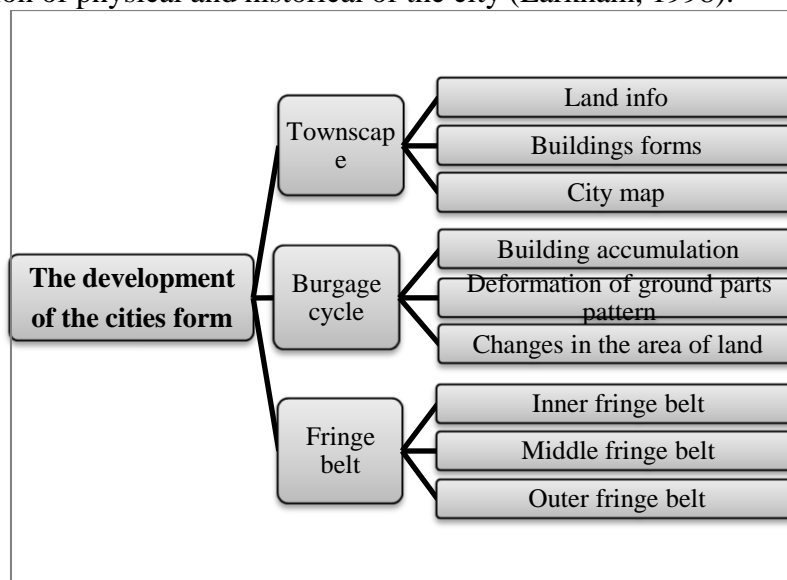

Figure 2: Larkham, Kristjansdottir, and Rofe`s views influenced of Conzen (Author)

iii.   Italian school of urban morphology (Muratori)

A subject of their study was a typology of houses and its location in the city. The hypothesis that they following were city is a physical embodiment of cultural development, also their tool was Cartography. Cartography is including two aspects: cultural-historical map (Typical features of a period) and reconstruction of structural - historical houses (Koster, 2001).

The land uses, building structures, plot pattern, and street pattern expand on Conzen's four morphological elements. Caniggia has done researches with the aim of understanding the built form through the historical process of shaping cities, including: elements (buildings), element construction (urban tissue), construction systems (regions and territories), and system organism (whole the city). These components make a hierarchy for spatial relationship research through synthetic elements (Kristjansdouir, 2001).

iv.   Defining of type and urban tissue

In countries and regions with a long history of incremental urbanization, most urban grids are 'deformed' (Figure 3). They are often described as 'organic'; their layouts having been, or appearing to have been, generated naturally rather than being consciously man made. Generally based on pedestrian movement, and strongly influenced by local topography, they were built as integral parts of the immediate area rather than as through routes, and evolved and developed with use (Carmona, 2003).

Figure 3: Aerial photo of Boshrooyeh, Iran (1964). In a 'deformed' grid, the structure of the space deformed in two ways. First, the shaping and alignment of the buildings islands (i.e. urban blocks). Second, as one passes along lines, the spaces vary in width. (General Organization of Surveying, Iran)

Type is known through special morphological composition that supported internal organization, and relations with the structures and adjacent spaces. Individual buildings (even rooms), streets, blocks, and total city area maybe pertain to a type (Scheer, 1998). As shown in figure 4, Kropf's method is a combination Canzen and Caniggia's views based on research about urban character.

After introducing typology, detection method and types grouping, historical character, and historical tissue these are important factors for creation of urban character: 1. Physical background of city 2. Specific and perspective view of city 3. Symbolic means of city. This finding is in agreement with Karl Kropf's method (1996) which can be used for small historical cities that have equal social fabric and physical. If our goal is ordering to develop of comprehensive approach, these are weaknesses: 1. It did not dispute to details of the facade, including: materials, texture, divisions, etc. 2. It did not introduce how to communicate urban tissues in shaping of a total city.
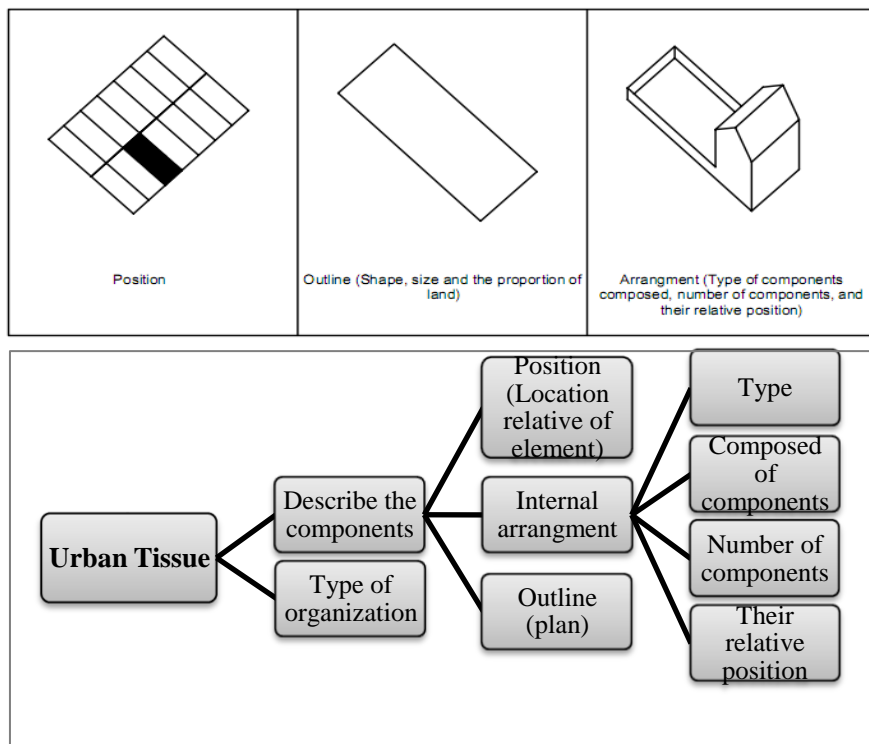
Figure 4. Characteristics that are used for describe urban form elements (Author),
And in this example, features has been introduced a piece of land (Kropf, 1996)

CONCLUSION

It is a concept paper based on literature review by looking to characters (physical identity). The role of physical environment is essential in defining ongoing assessment of community`s values foundations. We know physics of urban space is its form, and operation in space is its content. Hence, that is not feasible absolute separation of form and content in the urban space. Meaning of identity has three views: difference/similarity, continuity/evolution, and unity/multiplicity.

The significant of urban space researches are features of form cognitive beauty and content. This paper has focused on acceptable method for character recognition in the field of urban morphology. This finding is in agreement with Karl Kropf's method which can be used for small historical cities. This method is a combination Canzen (German) and Caniggia's views (Italian) based on research about urban character.

The purpose of the current study was to determine the important factor that makes a different place and it gives meaning "Own" is physical identity. The aim of this study was to achieve the practical way to assess the physical character of cities. Formal analysis helps us to measure and maintain physical identity based on criteria of philosophical and theoretical framework.

The most obvious finding to codify a method for assessment the physical identity is concluding:

1.   Defined region and its physical properties (climate, land forms, architecture and urban design values, etc.)
2.   Components in determining physics (based on urban morphology).
3.   Assessment in determining physics (belong to the realm of "other" and "own" - despite the continuation and evolution).

4.   Assessment ability to communicate physical components (with the aim of forming a coherent whole).

After these steps, comprehensive information will be available about the physical properties of the whole city that they are only identified, and they have not certain direction. The method for each city can be distinct and unique, because it cannot be a comprehensive method to analyze and present understanding to all cities. This paper has argued that Kropf's method is the best instrument to introduce the main research indicates and general approach. However, these method needs will be complete and accurate the features - characteristics of each city.

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