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The Comparison between the Meaning Structure and the Physical Structure of the City

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ABSTRACT

Structure is a total consisting of division units, connectors, joints and boundaries which are formed by transformators, around regulators and in adherence to principles. Such a structure has meaning. Meaning is a subjective which is perceived by the reader through a word, sentence, paragraph or text. The meaning structure is a network of semantic units which are formed by transformators, around regulators and in adherence to principles. Likewise, the physical structure of the city is a total, consisting of physical components which are formed by transformators, around regulators, and in adherence to the principles. The study of the meaning structure can be performed on various dimensions of the city context: since the physique is the most tangible and most stable dimension of the city, the meaning structure research is performed in the context of the physical structure of the city, and it seems that the meaning structure is in accordance to the physical structure of the city. In order to approve the above-mentioned hypothesis, levels, components, constituents and aspects of the meaning structure and the physical structure were compared, and a correspondence has been established between them. This study has been performed by descriptive and comparative methods.

Keywords: *Structure, Meaning, Physique, Meaning structure, Physical structure.*

INTRODUCTION

The manner of the style, order and arrangement of the component`s shape of different phenomena, leads to the phenomenon called structure. These components are consisted of division unit, connectors, joints and boundaries (Noormohamadzad and Behzadfar 2011). Constructivism is a current of the thought that was very popular from the 1960s and early 1970s. This thought is further appear to linguistics, anthropology, and literature (Partovi 1999). Saussure was the pioneer who obviously applied the constructivism on language, and then by focusing on the importance of relations and the system which is formed based on, has cleared anything that previously were latent in the mind of thinkers in form of silence whisper, and implicit and hidden concerns. Hence, everything which has been developed by Saussure, was converted to a theoretical school, and then branches were arisen from the school which affected many of Human sciences majors, so that the main concerns of thinkers were studying in the theoretical context of constructivism. The fundamental issue in the constructivism discussion is the human subject and priority of the structure compared with the agency. The common point of all constructivism schools including linguistics, anthropology, mythology, and structural Marxism, is the negation of human subject and giving value to structure, instead of agency (Aslam javadi and Nikpey 2010).

Meaning structure is a network of meaning units and the relations between these units (Larsen 2008). Conclusion of studies showed that the relation of meaning of morphemes, words, sentences, paragraphs and texts, and their intersections with each other, and the confluence of their intersections with each other, by the increment, replacement, and removal transformators and using the regulators in adherence to hierarchy, identity, and referring principles, create the meaning structure.

The physical structure of the city is a total consisting of division units (shapes of physical of particles, blocks, superblocks, sectors), connectors (shapes of deadlocks, alleys and boundaries), joints (shape of entrance, boundaries, crossing points, intersections, and squares), and boundaries and their relationship in the city.

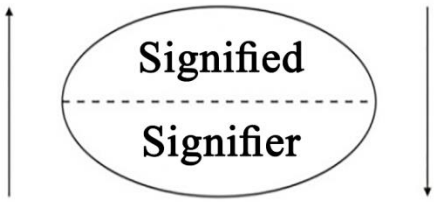
People react against the environments based on the perceived meaning from the surrounding environment, and their responses against the environment are based on the meaning of environments for them. Accordingly, the study of environment meaning is important. Since the main audiences of meaning are humans and also most important goal of cities' design is the human relationship with his felt environment, necessity of addressing the cities' design by emphasizing the meaning will be cleared. The study of meaning structure in the context of city can be performed in various dimensions: since the physical dimension is the most tangible, most stable, and most objective dimension of city, the study of meaning structure has been done in the context of physical structure of the city. In this study, the issue that particularly has been tracked is the comparison between meaning structure and physical structure of the city. This issue has been addressed through the correspondence of hierarchies, components, constituents, and the aspects of meaning structure with the physical structure, and also establishment of their relations. In this study, descriptive and comparative methods were used. "Structure", "meaning", and "physique" are three concepts have been illustrated first, and then, their relations have been established using the comparative method. Based on general theory of structure, first, the "meaning structure" model was created. Then, the "physical structure" model was created and provided. Finally, the comparison between meaning structure and physical structure has been performed.

Article layout

1. Theoretical Model of Structure

When relatively constant and stable relations are established between components and elements of a set that its generality is considered, the structure concept is achieved (Tavasoli 1991, 125). Ferdinand de Saussure, a Swiss linguist, familiarized the term "structure" as an important term in the Linguistics and other fields of knowledge. He considered language not as in its historical development, namely diachronic study, but as in the specific time, namely synchronic study, and as a system (Meghdadi 2014, 258). Saussure suggests a "dual" or two-part pattern for structure of sign. He considers the sign consisting of a "signifier" and a "signified", by focusing on linguistic signs (e.g. words). Contemporary commentators intend to consider the signifier as a concept that the sign is attributed to it, and the signified as a concept that the sign refers to it (de Saussure 1999). Saussure shows the difference as follow:

Figure 1. Saussure pattern of sign (Chandler 2008)



After Saussure, constructivism was appeared in studies of Claude Lévi-Strauss, a psychologist, in the best form (Partovi 1999). From the viewpoint of Strauss, constructivism is the manifestations of intrinsic structure of human mind, either in linguistic arena or language arena (Aslam javadi and Nikpey 2010). Strauss assimilates the mental and social structure to geological layers where each layer covers older layers. From his viewpoint, the social world is consisted of at least three overlapping layers (Fakoohi 2007, 187- 188)

Figure 2. Constructivism layers (Fakoohi 2007, 187)

Constructivism which is emerged for the first time in early 1950s through discussion between Siam and TeamX as a method in architecture and urbanism was corresponded to Strauss's thought. With the development of constructivism in architecture and urbanism, the two other currents of thoughts had won the special position: Brutalism and formalism (Partovi 1999). Then, by theory of his language, Noam Chomsky continued current of thoughts which had been performed by earlier scholars such as Ferdinand de Saussure and Louis Hjelmslev (Lotfi 2005). Chomsky criticized the linguistic data-based constructivism and has introduced the language grammar as a set of certain rules which can produce all possible sentences in a particular language (Porafkari and Kianpor 2006). Chomsky has considered two levels in transformational grammar for language sentences, namely, deep structure and surface structure, and also grammatical transformators. Transformator applies necessary changes on deep

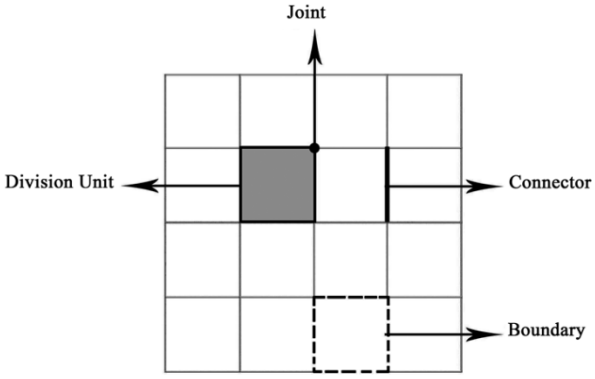
structure of sentence to become surface structure (Meshkatodini 1994, 35- 38). In fact, transformation rules act on a chain with specified elemental structure and give a new chain with new elemental structure (Dabirmoghadam 2007, 95).

Figure 3. Language Structure (Chomsky 1983)

Structure of a system is the resultant of horizontal and vertical structures resulted from one-to-one, one-to-many, and many-to-many internal and external relations of shapes of a phenomenon subsystems. Division units, connectors, joints, and boundaries are the components of this system's structure and also its subsystems. Connections are formed with each other in the environment due to the various structural relations between the system components. System structure and its subsystem are in adherence to the hierarchy principle (Noormohamadzad and Behzadfar 2011).

Among all theories related to the structure, the above-mentioned theory was chosen as the basis of this study. This theory comprehensively addresses structure components, functions which create structure (transformators), regulators which regulate the structure and principles which form each structure and are foundation and basis of each structure.

Figure 4. General model of connection of physical structure (Noormohamadzad and Behzadfar 2011)



2. Theoretical Model of Meaning Structure

Meaning has the structure. Meaning structure is a network of meaning units and their relations (Fakoohi 2007, 29). Structure is one of the concepts that can be followed in meaning. Meaning is a vast and complicated issue. In order to compile the meaning structure, structure theory was used. Based on this theory, components of a phenomenon (including division units, connectors, joints and boundaries) are related to each other by transformators around the regulators and in adherence to principles, and then create the structure of phenomenon. Therefore, in order to model the structure of a phenomenon, 4 points have been considered: ingredient components which give existence, transformators that have creative role, regulators that have ordering role and principles which are foundation and basis of meaning structure formation (Noormohamadzad and Behzadfar 2011).

2.1. Components of Meaning Structure

Dr. Korosh Safavi in "introduction to Semantics" has asked "Semantics specialists are related to what unit or units?", and expresses that morpheme as the smallest meaningful unit of language, certainly is one of the working units of semantic experts. This is due to that in many cases, if we know the meaning of morphemes, sum of their meaning can illustrate the meaning of the word or sentence (Safavi 2004, 31-32). Word is one of the fundamental units of semantics (Palmer 1987, 72). Some people have considered word as the most important meaning unit (Mokhtaromar 2006, 36). Blomfield believes that the word is the smallest free form of language, namely the smallest form which can be appeared in the speech chain (Palmer 1987, 74). In some cases, sum of words` meaning can illustrate the sentence meaning, but in some other cases, maybe it is not possible. Therefore, we need a greater unit named sentence (Safavi 2004, 32). The word meaning must be considered corresponding to the other words or all of a sentence (Palmer 1987, 73).

Sentence should be considered as one of the units of meaning study (Safavi 2004, 32). Some semantic experts consider sentence as the most important unit of meaning, and even some others consider it more important compared to the word. From their viewpoints, an independent meaning is not achieved from the word, but the word meaning is in the involving sentence

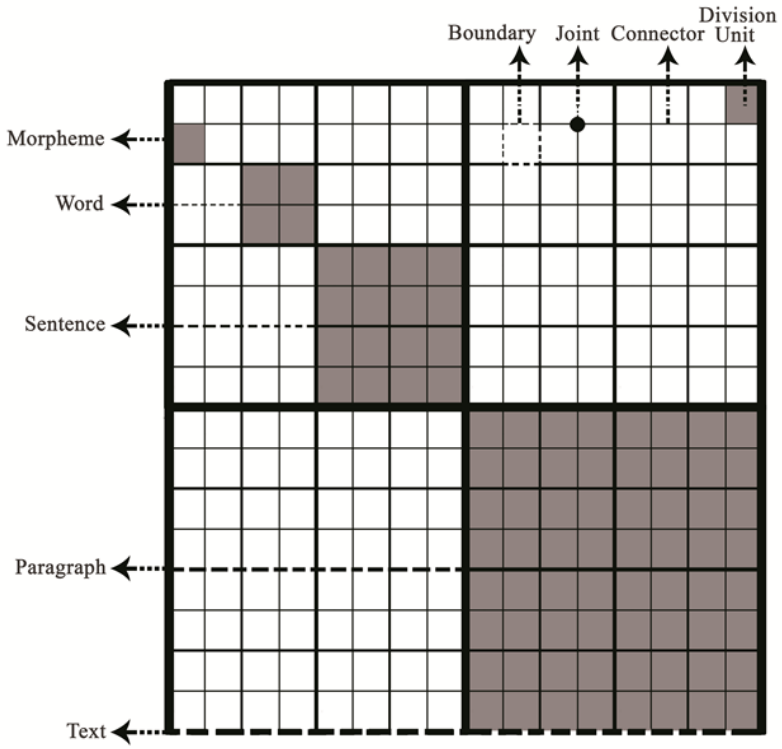
(Mokhtaromar 2006, 37). Words are related to each other through applying the transformational rules and then, sentence is created (Palmer 1987, 198). From the ancient time, paragraph unit was clearly considered as the main component of meaning hierarchy. Paragraphs are a group of sentences which illustrate a thought. Paragraphs are independent and separate units same as chain rings that create the word string by connecting with each other (Amini 2010).

Some people also, considered text as the meaning unit. Text can be considered as a fundamental unit in the language meaning (Mokhtaromar 2006, 35). From the semantic viewpoint, everything that can be found and perceived can be considered as the "text". In fact, each person's interpretation is performed around something called text. The semantic considers text as a set of data and phenomenon that can be analyzed. Hence, here the text is considered as an inclusive interpretation involving all the works and everything that can be read (Sojodi 2003, 155 - 161). The term "text" implies a woven or woven texture (Barthes 1991). The text meaning is a mental issue, but its existence is a material issue. Text is an endless source of meaning. The whole and detailed components of the text can be interpreted in different ways (Neshat 2011, 124 - 125). Texts, as a set of sectors, make a whole having a meaning. Readers extract this meaning from the texts. Extracting the meaning from text is called reading or gloss (156).

Other factors such as rhythm in the sentence, speed in speech and sound intensity are also involved in change and implications of meaning and can be considered as a unit for the study of meaning (Safavi 2004, 33 - 34). But due to some reasons which are not necessary here, some semantic experts believe that semantic (meaning) expert does not discuss about the meaning study of these characteristics and those are related to other areas of linguistic expertise (Palmer 1987, 28).

Based on the structure theory on the meaning structure, division units are including the meaning of morpheme, words, sentences, paragraphs and texts. The intersection of meaning of morpheme, words, sentences, paragraphs, and texts create the connectors. The confluence of meanings of morphemes, words, sentences, paragraphs, and text create joints. The most outer limit of morphemes, words, sentences, paragraphs and texts, form the boundaries.

Figure 5. General model of meaning component (Safavi 2004; Palmer 1987; Noormohamadzad and Behzadfar 2011)

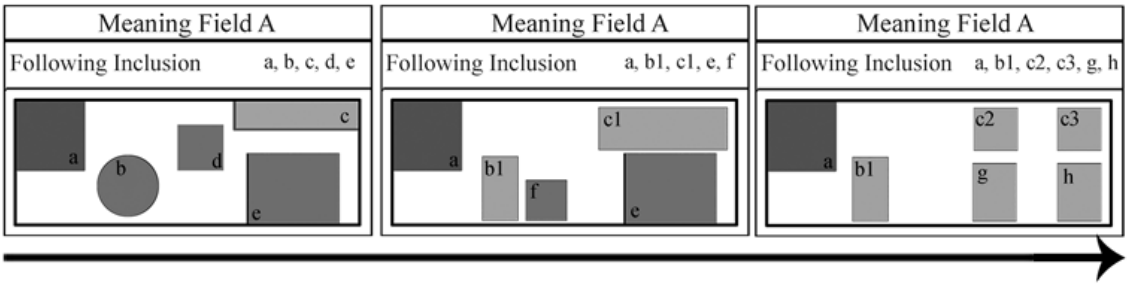


2.2. Transformators in the Meaning Structure

Grammatical transformators are functions which are applied on division units (morphemes, words, and etc.) in the generator role to generate the structure (Meshkatodini 1994, 36). The first phoneme, word or … (division units and …) act as the generator in any level which second division unit is formed by applying specific transformators. Then, the second division units, as the generator, form the structure of third level by applying certain transformational rules. This process will be continued to obtain the desired structure. In any language, specific transformational rules are formed based on the performance of the main transformators (71). There are three main transformators which can be applied in determining the certain transformational rules:

increment, replacement, and removal (Meshkatodini 1994, 72). In the example below, meaning units in a meaning field "A", as the generator are converted to the other units by applying three main transformators, increment, replacement and removal.

Figure 6. Converting the generator to structure by applying main transformators (Authors)



a	Unchanged	a	Unchanged	a
b	Replacement	b1	Unchanged	b1
c	Replacement	c1	Replacement	c2 , c3
d	Removal	--	--	--
e	Unchanged	e	Removal	--
--	Increment	f	Removal	--
--	--	--	Increment	g
--	--	--	Increment	h

The grammar issue is the investigation on sentences' structure and describes how to connect words in sentences. This connection is done by applying transformators (21). Having role, emphasis, feeling, perception, relating, learning, reception, and creation are the sub-transformators in the meaning structure which are formed based on the performance of main transformators: increment, replacement, and removal.

2.3. Regulators in the Meaning Structure

Regulators are the rules which have the arrangement role. The grammatical processes that convert the generator to the structure through applying the suitable changes, is called transformational rule (or grammatical transformators) (67). In order to reach the structure from generator, a transformator is needed which is done by some rules. A specific change is applied on generators through the transformational rules to generate the suitable structure (38). In some cases, it is necessary to apply several transformators on generators chain one after another in order to build the desired structure (67).

2.4. Principles of Meaning Structure

Among the principles of meaning, the identity and referring principles, provided by Frege for meaning, Could be mentioned. Frege believes that principle of identity is only used for objects and its condition is that when we say "object A is the object B", if A is the instance of any concept, B is also instance of the same concept and vice versa. Referring principle means the availability of source and reference for everything in the mind. The mind has the ability of addressing the other (Saliminaveh 2010).

The other principle of meaning structure is the hierarchy principle. Generators are increasingly grouped into larger units such as hierarchies with grammatical structure. Morphemes are united to form the word. Words are connected to each other to form sentences. Sentences are collected into paragraphs and this union is to form a text, a letter, preach or other things. The smallest unit is a meaning component. Meaning components are connected to each other and create the concepts. Concepts create the issues, and issues create the meaning paragraphs, and then meaning paragraphs are united in order to form the larger unit, speech (Larsen 2008, 33). The symmetry between the meaning components and meaning hierarchies is as follows:

Table 1. The symmetry between the meaning components and meaning hierarchies (Authors based on (Larsen 2008))

meaning hierarchies	meaning component
meaning component	Morpheme
concept	word
issue	sentence
paragraph	paragraph
speech	text

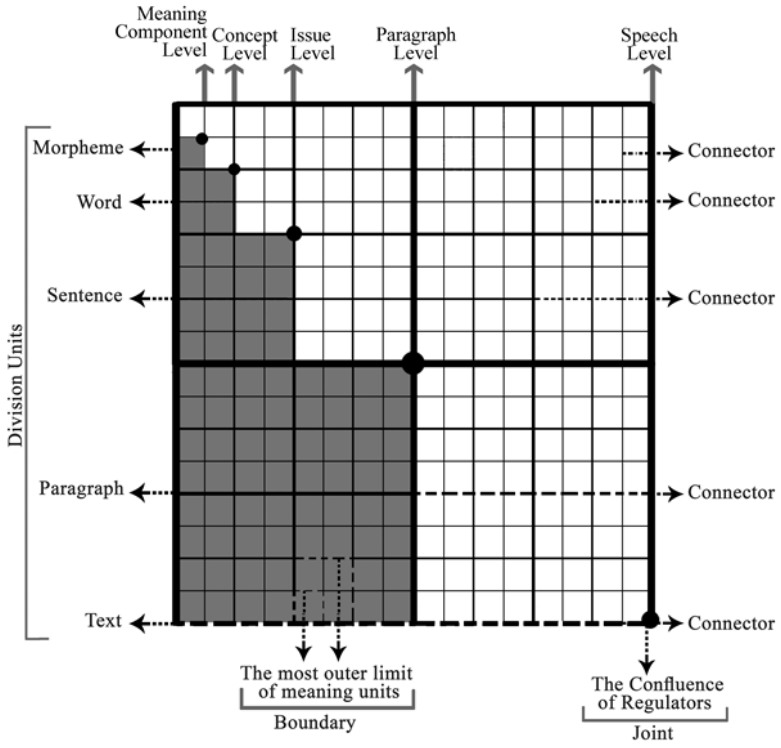
2.5. Model of Meaning Structure

Conclusion of studies showed that the relation of meaning of morphemes, words, sentences, paragraphs, texts and their intersection with each other, and also the confluence of their intersections, by increment, replacement, and removal, using the regulators and in adherence to the hierarchy, identity, referring principles, form the meaning structure. The meaning structure is the resultant of structures of various levels of speech, meaning paragraphs, issues, concepts, and meaning components and their relations with each other.

Table 2. presentation of meaning structure (Authors)

meaning hierarchies	Meaning structure			
	meaning component	Transformators	Regulators	Principles
meaning component	Morpheme	Increment replacement removal role emphasis feeling perception relating learning reception creation	rules	Identity principle Referring principle hierarchy principle
concept	word			
issue	sentence			
paragraph	paragraph			
speech	text			

Figure 7. General model of meaning structure (Authors based on Noormohamadzad and Behzadfar 2011; Larsen 2008)



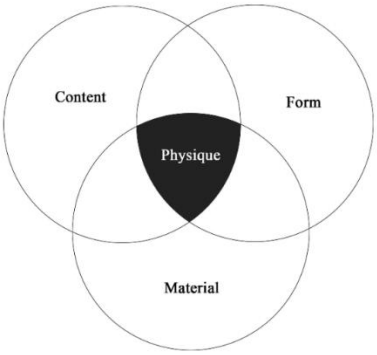
3. Theoretical Model of Physical Structure of the City

Physique is the frame of (Dehkhoda 1994). The physique means the frame of everything, body of human, and exemplary (Moein 1974). The physical structure of the city is not only consisted of various elements, but also represents the relations of these elements with each other and the attempt to adapting themselves to the general shape of the collection (Bazrgar 2003, 54). In this study, general theoretical model of physical structure of the city has been created and provided given the general model of structure. As previously mentioned, shapes of components of the city physique (including: division units, connectors, joints, and boundaries) are related to each other by transformators, around regulators and in adherence to principles, and create the physical structure of the city (Noormohamadzad and Behzadfar 2011). Later, shapes of the components, transformators, regulators and principles are investigated.

3.1. Components of Physical Structure

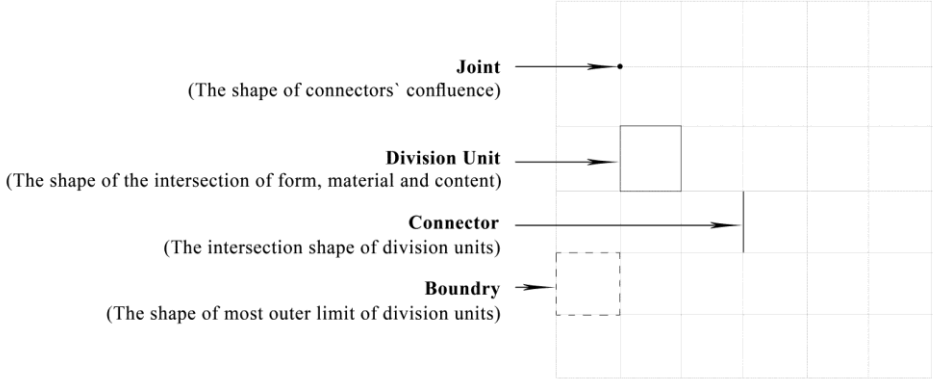
As mentioned, the physique is a frame. Frame is a set of things which create the body. In other words, a set of everything which is placed in the body, creates the frame. Physique is formed through the flexible material In other words, flexible material reveals a form of nature and truth in each of its appearances. Material is simply a thing that is potentially flexible, in other words, is formable. According to Aristotle, form is considered as the material organizer that shows his emphasize on the role of form (Nowrouzitalab 2010). Form is the intuitive and obvious manifestation of a phenomenon that exposes itself to judgement (Grutter 1996). Form is the appearance, structure and growth pattern of the content and its expression. Cagan (as quoted in Pakzad 2010, 96) Form is affected by the content (Grutter 1996, 276). No form can be imagined without content, and no content can be imagined without form. Content is an issue, a meaning, and a concept which is lied in a phenomenon (Pakzad 2010, 96). Accordingly, physique is formed in material and also form is affected by the content. Therefore, the intersection of form, material, and content, create the physique.

Figure 8. The general model of physique (authors)



Based on the structure theory on physical structure, division units are defined as the shape of the intersection of form, material and content. The intersection shape of division units (intersection of form, material, and content) creates relations. The shape of connectors' confluence (intersection of division units) creates joints. The shape of most outer limit of division units (intersection of form, material and content) forms the boundary.

Figure 9. The general model of components of physical structure (authors based on Noormohamadzad and Behzadfar 2011)



3.2. Transformators in Physical Structure

The main transformators of physical structure of the city are generation, arrangement, style, order, and deployment, which are applied on structure components in various levels by sub-transformators including repetition, adjacency, compost, connection, appearing, relation, forming, provision, organizing, and creation. The first component is considered as the generator, that by generation, structure components are produced, and then, structure is formed by applying other transformators on it.

3.3. Regulators in Physical Structure

Three major organizing types can be considered for systems: central organization, linear organization, and free organization. Pure and main organization is rarely possible; in most cases, either we are facing with similar types or combination of these systems (Grutter 1996, 552). In addition to three above-mentioned types, radial, collective and network systems are also considered (Ching 2006, 205). The order of considered system is the effect of these regulators: center, axe (line) and assumptive factor (line, surface, and volume).

3.4. Principles of Physical Structure

Physical structure is in adherence to principles, in other words, principles form this structure. Each principle plays a specific role in forming the physical structure. Several principles including hierarchy, proportionality, preferential patterns, continuity, repetition, proximity, arrangement, and limitation are various principles of physical structure (Noormohamadzad and Behzadfar 2011).

- Levels of physical structure

Physical structure is in adherence to hierarchy. Physique is created of various levels. These levels are consisted of physical structure of particle, blocks, superblocks, sectors, and their inner and outer relations in the environment (Noormohamadzad and Behzadfar 2011). These components in the particle level are physical shape of particles, deadlocks, boundaries, entrances, crossing point of boundaries, physical boundary of particles. In block level, these components are physical shape of blocks, alleys, boundaries, intersections, squares, points and boundaries of physique of blocks. In the superblock level, components of physical structure are physical shape of superblocks, secondary passes, boundaries, intersections, points and boundary of physique of superblocks. In the sector level, components of physical structure are physical shapes of sectors, main passes, boundaries, intersections, squares, crossroads, and boundary of physique of sectors.

Hence, components of physique (which were enumerated in part 3.1) can be tracked in each of these levels that are presented in table 3.

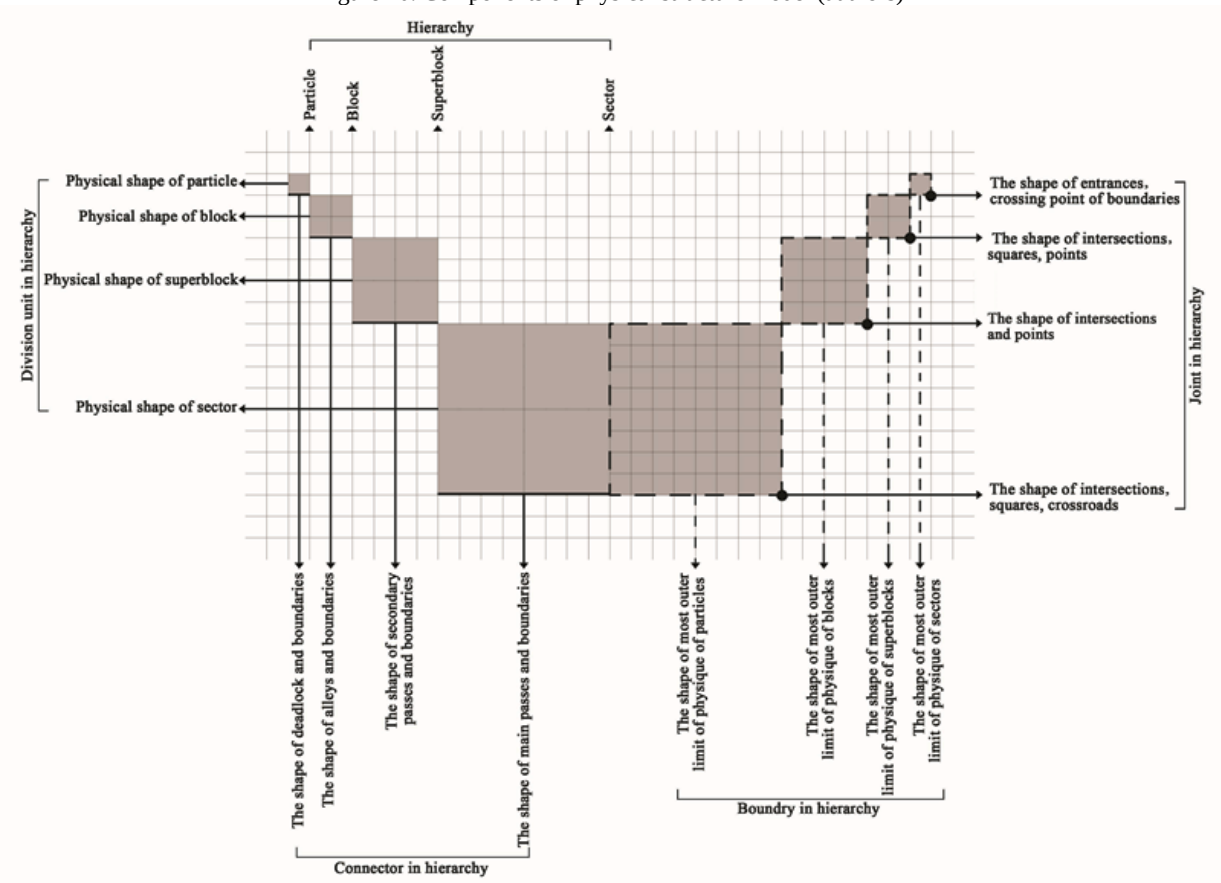
Table 3. Components of physical structure in hierarchy (authors based on Noormohamadzad and Behzadfar 2011)

Levels	Components of physical structure			
	Division unit	Connector	Joint	Boundary
Particle	Physical shape of particle (intersect of form, material and content)	The shapes of intersection of physical particles: the shape of deadlock and boundaries	The shapes of intersection of connectors: the shape of entrances, crossing point of boundaries	The shape of most outer limit of physique of particles: the shape of boundary of particle`s physique
Block	physical shape of blocks (intersect of form, material and content)	The shapes of intersection of physical blocks: the shape of alleys and boundaries	The shapes of intersection of connectors: : the shape of intersections, squares, points	The shape of most outer limit of physique of blocks: the shape of boundary of blocks` physique
Superblock	physical shape of superblocks (intersect of form, material and content)	The shapes of intersection of physical superblocks: the shape of secondary passes and boundaries	The shapes of intersection of connectors: : the shape of intersections and points	The shape of most outer limit of physique of superblocks: the shape of boundary of superblocks` physique
Sector	physical shape of sectors (intersect of form, material and content)	The shapes of intersection of physical sectors: the shape of main passes and boundaries	The shapes of intersection of connectors: : the shape of intersections, squares, crossroads	The shape of most outer limit of physique of sectors: the shape of boundary of sectors ` physique

3.5. Model of Physical Structure

In the physical structure of particle level, the shapes of particles` physique are division units; the shape of deadlocks and boundaries are connectors. The shape of entrances and crossing points of boundaries are considered as joints. They have created various structural links. In the physical structure of block level, the shape of each block`s physique is considered as a division unit. The shape of alleys and also boundaries, are the connectors. The shape of intersections, squares and points are considered as the joints of this structure. Blocks are separated from each other by boundaries. In the structure of superblock level, the shape of each superblock`s physique is a division unit. The shape of intersection of superblocks, are connectors of this level. Connectors are shapes of secondary passes and boundaries of superblocks. The shape of intersections and points are considered as the joints of this structure. Superblocks are separated from each other by boundaries. In the structure of sector level, the shape of each sector `s physique is considered as a division unit. Division units are related to each other through the connectors. The shape of main passes and boundaries, are the connectors of the sector `s structure. The shape of intersections, squares, and crossroads are joints of this level. Each sector has its own specific boundary (Noormohamadzad and Behzadfar 2011).

Figure 10. Components of physical structure model (authors)



Based on the above-mentioned the physical structure of the city is presented in Table 4.

Table 4. presentation of physical structure of the city (authors)

Levels of Physique	Physical Structure				
	Components of Physique	Transformators		Regulators	Principles
Particle	Physical shape of particles, deadlocks and boundaries, entrances, crossing point of boundaries and the shape of boundary of particle`s physique	Generation Arrangement Style Order Deployment	Repetition Adjacency Compost Connection Appearing Relation Forming Provision Organizing Creation	Center Axe Assumptive factor	Hierarchy Proportionality Preferential patterns Continuity Repetition Proximity Arrangement Limitation
Block	physical shape of blocks, alleys and boundaries, intersections, squares, points and the shape of boundary of blocks` physique				
Superblock	physical shape of superblocks, secondary passes and boundaries, intersections ,points and the shape of boundary of superblocks` physique				
Sector	physical shape of sectors, main passes and boundaries, intersections, squares, crossroads and the shape of boundary of sectors ` physique				

4. The Correspondence between Meaning Structure and Physical Structure

John's Gospel begins with sentence: "In the beginning, it was the word." (Berman 2002, 56). Victor Hugo said: "City is a stone book". He explicitly points out that by the advent of paper books and printing industry, the architecture which until then was considered as the greatest book of human, was killed. Choay 2001 (as quoted in Lotfi 2005) But Le Clezio in the twenty-first century, still wish to review this book: "On the street, I think everything is mapped. The city is a mapped architecture". Salgas 1985 (as quoted in Lotfi 2005) Then, city should be read and each of its word, sentence, and paragraph should also be understood. Perec 2000 (as quoted in Lotfi 2005)

In various writings, the city has repeatedly assimilated to a text; a text full of sings and meaning that should be decoded by the text reader. It is noteworthy that positions, traditions, customs, conditions and even memoirs can change meanings. Hence, meaning should be formed in the context, background, or according to the linguistics, "text" (Shole 2009). Therefore, we use the physical structure of city in our study as a text to reach the meaning: maybe it can be said that we further seek the meaning, since it is meaning that create the life and city is the location for life (Barthes 2003, 53).

In the urban semantics approach, city is defined as a meaning-symbolic reality that each of city elements can be considered as the meaningful and interpretable signs (Fakoohi 2004, 33). It seems that semantics can be extended to the territory of city recognizing queries and semantic approach to recognize, analyze and designing the city (Shole 2009).

Rapaport in the book "The meaning of the built environment", believes that the environment meaning can be studied at least in three ways: applying the linguistic model which is called semantic approach; the study of symbols in the environment which is called Semiotics approach; and applying the models based on nonverbal communication which is originated of anthropology, psychology and ethicists, and is called the nonverbal communication approach (Rapoport 2005, 35).

Hence, in order to compare the semantic (meaning) approach by the characteristics of "today city", a detailed and deep research is necessary (Shole 2009). We particularly seek the effect of meaning structure on the physical structure of city. Therefore, at this opportunity provided in this study, the physical structure of the city was recognized, analyzed and designed using the semantic structure approach. This issue has been done through the correspondence of the elements and components of meaning structure by the physical structure and establishment of their relations.

In this study, it has been tried to establish the correspondence between some major issues in the meaning structure and physical structure to reach a conceptual framework and methodology.

Findings

1. The Correspondence of Meaning Structure Levels by the Physical Structure Levels

It has been discussed that the city is a book. City is consisted of sectors, and the book is consisted of speech. Sector and speech are consisted of superblocks and meaning paragraphs, respectively. Blocks and issues have formed the superblocks and

meaning paragraphs, respectively. Blocks are consisted of particles and issue is consisted of some concepts. Finally, masses create the particles and meaning components create concept.

Table 5. The correspondence of meaning structure levels by the physical structure levels (Authors)

Levels of meaning structure	Levels of physical structure
Meaning component	Mass
Concept	Particle
Issue	Block
Paragraph	Superblock
Speech	Sector
Book	City

2. The Correspondence of Meaning Structure Components by the Physical Structure Components

City is a "text" and a mapped architecture. This interpretation can help us entering the text world in the city. One of the most important characteristics of text as a whole interconnected, with the certain beginning and ending, is that the text has parts which can be divided in smaller parts: parts that each of them has the intrinsic continuity and coherency. Extending this characteristic to the city [text] in form of principles of hierarchies, macro and micro and spatial continuity is clear and obvious (Shole 2009). In urbanism, Christopher Alexander has considered the city text to reach the words using the composition, completion, communication hierarchy principles and etc. Alexander 1977 (as quoted in Shole 2009) In the city, each building has the role of a word. A set of buildings form the sentence. Districts create the chapters and texts, and city is the book. The book can be read in general, without any disorder in the validity of text, sentence and word (Habibi 2001). The components of physical structure of the city can be corresponded to the meaning structure as it can be seen in the following table:

Table 6. The correspondence of components of meaning structure by the components of physical structure (Authors)

Levels	Components of meaning structure	Components of physical structure	Structure components
Article-sector level	Text meaning	shape of sector physical	Division unit
	Meaning of text intersections	Shape of main passes	connector
	Meaning of confluence of the texts intersection	Shape of intersections and squares and Crossroads	Joint
	Meaning of most outer limit of texts	Shape of most outer limit of sectors	boundary
paragraph-superblock level	Paragraph meaning	shape of superblock physical	Division unit
	Meaning of paragraphs intersections	Shape of secondary passes and boundaries	connectors
	Meaning of confluence of the paragraphs intersection	Shape of intersections and points	Joint
	Meaning of most outer limit of paragraph	Shape of most outer limit of superblock	Boundary
issue-block level	Meaning of sentence	Shape of block physical	Division unit
	Meaning of sentences intersections	Shape of alleys and boundaries	Interface (connector
	Meaning of confluence of the sentences intersection	Shape of intersections, squares and points	Joint
	Meaning of most outer limit of sentences	Shape of most outer limit of blocks	boundary
concept-particle level	Word	Shape of particle physical	Division unit
	Meaning of words intersection	Shape of deadlocks, … and boundaries	Joint
	meaning of confluence of the words intersections	Shape of inputs	Joint
	Meaning of most outer limit of words	Shape of most outer limit of particles	boundary

3. Comparison between Constituent of Meaning Structure and Constituent of Physical Structure

In order to evaluate the physical meaning, it is necessary to establish the relation between constituents and aspects of meaning structure and physical structure. The corresponding constituents between meaning structure and physical structure are including meaning intensity, meaning role storming, meaning primacy, identity, readability and order, from the constituents of meaning structure`s dimension and the components including size, shape and elongation from the physical structure`s dimension. The strength amount of superficial, functional and semantic information of a physical element is called intensity (Pakzad 2010, 121). Role storming is the quality of a phenomenon to form a memorable image of itself and the connector between its components in the mind of viewer (122). One of the factors of phenomenon effectiveness on the minds of citizens is their uniqueness. This monopoly can be existed in the shape of the phenomenon (Ghasemi esfahani 2004, 251) Supremacy is the domination of a physical element on other elements through the position, dimensions, intensity and shape (Pakzad 2010, 126).

Identity is the sense that an individual admits wonderfully when encountering with a place: It is the same. His subjective whether be the same thing that imagined or the thing that have observed its image, generally there is a one-to-one correspondence that wondering the person. Wonderment due to that how something can be similar to the thing in his mind. In this situation, the one can easily percept the meaning of environment (Entezam 2013). Evoke is one of the most efficient ways of identity which is done through recalling and completing the mental image. In many cases, identity can be possible by the space`s physique, not as its previous familiarity, but due to its latent evokes. Evokes and memories link the one to other times (Ghasemi esfahani 2004,

89). Each city is expected that most of particles forming its districts have a history proportional to the background of the city and its changing process. In facing with a new city, we expect new particles with perennial history, but in the districts of a city with longer history, the existence of particles with long history is normally expected. Due to these particles in the texture of historical cities, the possibility of evoking memories and formation of identity is increased (226).

Readability means the extent of a residential ability to establish the properly communication with each other through the physical-symbolic elements (Lynch 2008, 178). Physique`s of the city should help the audience through its appearance shape to form a clear image in his mind and city being readable to him. The distinctness of city shape, increase the ability to create mental imagery and also help the readability (Habib 2006).

The ability to predict a type of order to be easily perceptible, leads to clarity. Balancing is considered as one of the aspects of physical clarity. We can recognize the balance or imbalance of space physical through our intuitive perception. But the space that its physical is out of balance, has an ambiguous state which make the meaning induction impossible (Pakzad 2010).

Having order in form and deployment of masses and spaces leads to clarity. In the situation that the full and empty proportion of particles is balanced, it can be claimed that the physique` s space is clear (Ghasemi esfahani 2004, 142). The continuity and transformation implies that despite all changes and transformation, something continues and is Stable (Norberg-Schulz 2002). The continuity element is continued. Size, shape, and elongation are the constituents of physical structure. Size dimensions include length, width, and height. The shape dimensions are including length, width, height, and boundary. Elongation dimension is the direction and the position dimension is the coordinates.

Table 7. corresponding constituents of meaning structure and physical structure (Authors)

constituent of meaning structure	Aspect	constituent of physical structure	Aspect	correspondence of constituents Aspect
meaning intensity	prominent different	size	Length Width Height	Prominent and different Length Prominent and different Width Prominent and different Height
meaning role storming	unique	shape	Boundary	Unique Boundary
meaning primacy	dominant	size	Length Width Height	Dominant Length Dominant Width Dominant Height
		elongation	direction	Dominant direction
identity	memorable	shape	Boundary	Memorable Boundary
readability	recognizable distinct	Size	Length Width Height	Recognizable and distinct Length Recognizable and distinct Width Recognizable and distinct Height
		shape	Boundary	Recognizable and distinct Boundary
clarity	balanced	shape	Length Width Height	Balanced Length Balanced Width balanced Height
		Size	Boundary	balanced Boundary
continuity	continued stable	position	coordinates	Continued and stable coordinates

CONCLUSIONS

Structure is a total consisting of division units, connectors, joints and boundaries which are form by transformators around regulators in adherence to the principles (Noormohamadzad and Behzadfar 2011). Such a structure has meaning. Meaning structure is a network of meaning units and relationship between these units (Larsen 2008). The summary of studies showed that the relationship of meaning of morphemes, words, sentences, paragraphs, and text and their intersection with each other and also the confluence of their intersection with each other, by the increment, replacement, and removal transformators, using rules and in adherence to the hierarchy, identity and referring principles, create the meaning structure. The structure of city physical is a total consisting of division units (shape physical of particles, blocks, superblocks and sectors), connectors (shape of deadlocks, capping (valves), alleys, and boundaries), joints (shapes of entrance, crossing points of boundaries, intersections and squares) and boundaries and their relationship in the city.

In this study, in order to reach a conceptual framework and methodology, a correspondence has been established between several main issues of meaning structure and physical structure in order to reach a conceptual framework and methodology.

1. The Correspondence of Meaning Structure Levels by the Physical Structure Levels

It has been discussed that the city is a book. City is consisted of sectors, and the book is consisted of speech. Sector and speech are consisted of superblocks and meaning paragraphs, respectively. Blocks and issues have formed the superblocks and meaning paragraphs, respectively. Blocks are consisted of particles and issue is consisted of some concepts. Finally, masses create the particles and meaning components create concept. (As presented in table 5)

2. The correspondence of meaning structure components by the physical structure components

In the city, each building has the role of a word. A set of buildings form the sentence. Districts create the chapters and texts, and city is the book. The book can be read in general, without any disorder in the validity of text, sentence and word, and the components of physical structure of the city can be corresponded to the meaning structure as presented in table 6.

3. Comparison between Constituent of Meaning Structure and Constituent of Physical Structure

The corresponding constituents between meaning structure and physical structure are including meaning intensity, meaning role storming, meaning primacy, identity, readability and order, from the constituents of meaning structure` s dimension and the components including size, shape and elongation from the physical structure`s dimension.

Size, shape, and elongation are the constituents of physical structure. Size dimensions are including length, width, and height. The shape dimensions are including length, width, height, and boundary. Elongation dimension is the direction and the position dimension is the coordinates. (As presented in table 7)

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