

The Influence of Semiotics of Cultural Identity in the Urban Environment on the Historical Centers of Holy Cities

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ABSTRACT

Holy cities are defined by the complex interplay of material components, such as architectural landmarks and urban configurations, with immaterial elements like ritual practices and collective memory. These latter elements represent a city's cultural identity and can be understood as carriers of signs, meanings, and symbols in historical centers that determine a city's overall semiotic character. Yet, despite such richness of these urban environments, the urgent need remains to decode how the notion of cultural identity is semiotically constructed and how urban signs transform into profound cultural symbols. This study fills this gap by juxtaposing theoretical semiotics against the real physical experience of the urban environment. The study applies Cultural Semiotics as a conceptual framework, mainly referring to Yuri Lotman's view on the city as a cultural urban text wherein meaning is created from the dynamic interaction between structure and content. This is integrated with Kevin Lynch's way of thinking about urban perception, which focuses on the means by which identity, structure, and meaning coalesce through sensory and symbolic cognition to create the image of the city. The research designs a theoretical model for the mechanisms of cultural identity semiotics. This is applied in the analysis of the historical center of the two holy cities of Najaf and Karbala. The study explores how the ideological environment and historical background of the holy cities shape collective perception and transform the urban fabric into a readable text. The paper draws to a conclusion by establishing the comprehensive analytical framework linking urban-environmental components with the connotation of cultural identity. This framework presents the methodology for reading how sacredness is physically and symbolically encoded in the contemporary urban text of holy cities.

Keywords: Holy cities, semiotics of cultural identity, cultural semiotics, urban text, Yuri Lotman, Kevin Lynch, Najaf, Karbala.

1. Introduction

John Locke initially brought semiotics into the realm of philosophy at the close of the 17th century. Charles Sanders Peirce, 1914–1939, was the first to research it. Hence, he is considered the founder. His thought did not become widely known, however, until about the 1930s. Semiotics is derived from the Greek word "semeion," which translates into sign. These signs carry a communicative meaning, which can represent something else that one thinks of and/or perceives. (Broadbent, 1980) The realms of semiotics include the human, animal, and inanimate realms. Ferdinand de Saussure defines semiotics as a science that studies the role of signs as part of social life (Béliang, 2003). Furthermore, semiotics is a science that studies the structure, types, classification, and relations of use of signs in society. Thus, semiotics studies the relationship between these components and the society of users [1]. Lotman laid the foundations of contemporary semiotics and is one of the pillars of the Tartu-Moscow School (1922-1993), opening for the first time a line of research which has focused its stereotypical study on the culture, i.e., the semiotics of culture. This branch discusses the concept of the cultural text and the cultural value which is attributed to it. The material aspect of the sign can be used as a carrier of

meaning and has a semiotic function. The cultural text is connected to a material structure for its expression and has a particular contextual value which constitutes the textual semantics [2]. Lotman defines culture as a non-hereditary collective memory. It is not just a series of fixed values but rather a dynamic process of construction and renovation of memory via social interaction. As a process, it is in constant evolution. Its purpose is to establish a conceptual framework between the material and the immaterial. Culture, as memory, does not only involve the content of the memory, but also the process whereby the memory is constructed from information gathered that is exchanged, stored, and formed by interwoven processes constituting a specific and coded cultural world [3].

In the conceptual framework of Lotman, semiotics is considered the work of deciphering and interpretation inside the cultural system, with particular consideration given to the symbol as an intellectual creation. The symbols define the boundaries of possible meanings of signs. Therefore, they represent the dynamics of meaning creation inside the multi-layered structure of phenomena, a fundamental pillar in the shaping of cultural identity. This semiotic space, produced by such dialogical movement, presents a multiplicity of contextual and spatial components that make up the integral knowledge of the sign, its semantic richness, and functional importance within the cultural system [4].

Yuri Lotman defines deep-structure analysis of meaning by the analysis of cultural systems as signs, symbols, icons, and visual and linguistic means of symbolism. These are means for cognizing and accessing the mechanisms of society in the flesh through deep meanings and symbolic, anthropological, philosophical, and ethical dimensions. Culture seems to be the totality of texts creating a structure and biosphere around humanity, according to Lotman [5].

In Lotman's terminology, the semiotic field is a spatially conceptualized model of culture. According to such a model, a field begins to take shape around a dominant structure filled with dilemmas, the abundance of concealment, through intersections, and diversity that is homogeneous in certain ways. In such a way, physical space has become transformed into a symbolic sign. Indeed, on this level, the semiotic field has undergone, in a manner of speaking, a shift from a structuralist conception of culture to a post-structuralist one [6]. Hence, cultural textual meaning is a product of the encounter between the product and the recipient, generating a communicative dialogue based on deep meaning and interpretation where approaches participation takes place through Semantic hermeneutics in deconstructing these texts with regard to structure, meaning, and intentionality. Lotman tackled this in his book "Universe of the Mind: A Semiotic Theory of Culture" through a set of mechanisms which generate meanings, analyzing functions, signs, and semiosis. This advances the meaning of it all to the deeper meaning implicit in texts such as itself as a text, the interpretation which occurs between text and reader, the image as part of the analysis of visual signs to arrive at iconic rhetoric, the act as part of the text analysis and the interaction between them, and the emotion which seeks to analyze the symbols in an imaginative way and is linked to mechanisms through emotional tension [7].

Lotman's understanding of the urban environment may be related to the spatial understanding of the field of signs. The development of this field is connected to specific historical conditions. The urban environment appears as a specific product of the effect of various factors on a city and then evolves and expands, becoming a factor that shapes the development of other fields of culture. Such an understanding may more likely be referred to as the semiotic-cultural strategy rather than the historical-cultural one, since the city is not incorporated as a single level of the hierarchical structure of existence, but rather as a territorial field of signs and transforms into a kind of dynamic outer boundary of the urban semiotic field [8].

From the perspective of Yuri Lotman, urban semiotics studies the city as a text wherein urban space is a syncretic text in which various texts on architecture, visuals, society, and culture are harmonized. These texts form historical-cultural semiotic layers; these signs do not produce a fixed meaning but are governed by the multiplicity of interpretations that users provide based on their cultural backgrounds, their physical and emotional experiences, and their temporal and spatial contexts [9].

The urban environment is the surrounding environment or spatial area that includes both time and space. It produces an integrated whole that reflects cultural and social values and represents a complex system characterized by civilizational continuity [10]. In his work, Lynch identified elements of urban environment at three levels of basic components, which he defined as follows (Lynch, 1960):

Identity: This pertains to the distinctiveness or uniqueness of the element within the city.

Structure: It embodies the spatial relations among the parts of the city, including its boundaries, sections, landmark features, and distinctive activities.

Meaning: This includes social values, individual values, as well as different cultural variables [11]. When referring to cultural identity, it can be defined as "belonging to a cultural group such as a national, religious,

political group, generation, or family, each with their own history that differentiates them in significant ways and guarantees their continuity over time.” Collective memories refer to the memories of common events that are shared with the community, i.e., the memories that are shared socially [12]

The cultural meaning of identity within the urban environment is considered to be its ability to construct mental images within the minds of their inhabitants, visitors, and observers based on their cultural features and symbols. The existence of cultural components within the urban environment is considered to have a great influence on the minds of individuals, thereby making a mental image and consequently impacting their view, as well as their sense of identity, belonging, and pride [13]

According to Lotman’s theory, the semiotic aspect of cultural identity in the city, as a cultural text, is not seen as a static system, but as a dynamic process brought about by the dialogue between the subject and the recipient as a result of their interaction, especially with the historic city layers, in a way that guarantees the fluidity and multiplicity of city identity without sacrificing its inner consistency [14].

The structure of cities is influenced by aspects of space, the material elements of which are matters such as historical buildings, and the non-material aspects, such as the cultural values and norms of the community. It is considered to be an integral whole, where the historical aspects of urban centers and their heritage are involved, and it is interpreted through the social meanings that are constructed in the context of diverse cultures and histories. It is facilitated by the signs and symbols that are contained within the space, which is used in the form of symbolic media involving aspects such as belongingness in terms of identity.

Meanwhile, akin to space as part of the structure, place creates a sense of belonging or identity that results from shared human experience and the relational dynamics of mutual proximities and interactions, thereby engendering a sense of existence. Collective memories are underpinned or associated with shared story, commemoration, and the symbolic components of ritual. Ultimately, from an anthropological perspective, places and space constitute some of the most culturally significant and historicized loci for the expression of culture, for social and political memory, and for communal engagement with each other in the urban milieu [15].

Urban semiotics is the study of meaning in the surrounding setting/system using signs and symbols in a way that incorporates the perception, feeling, and creation of the city. By this, it refers to a meaning that is related to ideas, authority, physical space created, and signs, going beyond the functional meaning. This is related to the five components of the city as described by Kevin Lynch, which relate to cognitive communication, visual clarity in the space, as described by the five factors: path, edge, neighborhood, node, and landmark [16].

Spatial semiotics can be construed as the geometric (tangible) dimension made meaningful, thus creating spatial images of signification. It is also democratic in character, since it attributes meaning to the structures and symbolic systems of urban societies, which have spatial character. In this way, it is also construed as carrying meaning related to collective memory, raising collective consciousness through symbols, myths, monuments, and landmarks. It is as well considered a signifier for raising cultural memory related to identity in the textual urban space, thus becoming the physical form of the visually apprehended image. Therefore, space is conceived of as being not just a carrier of meaning but also a creator of meaning, depending on daily lived realities and space-related concepts resulting therefrom [17].

The semiotics of place, hence, can be defined as the intangible element located within the material dimension/spatial element. It can also be culturally constructed and interpreted with reference to memory, narratives, and symbols. Thus, place gets constructed with reference to events and time itself [18].

On the basis of Yuri Lotman, the urban environment is a crucible where symbols and texts merge and unite in a specific entity of symbols and texts, a semiotic text, connected with memory and created by the dynamic interaction of all everyday experience, and dependent on the perceptual and mental perception of the environment and its specific components, such as identity, composition, and meaning, from the perspective of Kevin Lynch, resulting in a mental image of the urban text. This urban text, therefore, is comprised of both the perceptual dimension (how you see a city) and the semiotic dimension (how you read a city). Lotman has provided the theoretical basis to analyze the semiotic dimension in relation to symbolism and cultural identity, and Lynch has provided the theoretical basis to analyze how an urban text or city is perceived in relation to its specific components, as discussed in Figure (1), from the aspect of the symbolism and cultural identity of its components [19].

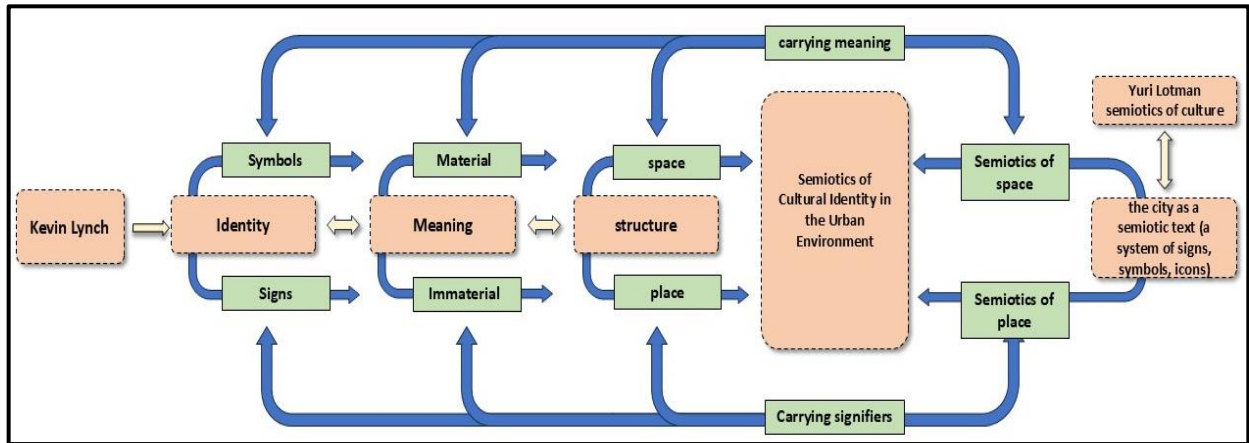


Figure 1. The Semiotics of cultural identity in the urban environment

2. Methodology

The conceptual framework was established by reviewing existing literature on the major concepts as well as sub-parameters. The questionnaires were created using the sub-parameters and were delivered through Google Forms. After that, the data was processed using a mathematical technique via Microsoft Excel. The questionnaire was intended to collect the opinions of the experts regarding the topic." This survey aimed to collect data from specialists in the field of architecture and urban design (experts). 20 specialists completed the survey. In the data collected through the questionnaire, the responses were designed based on Likert scales that have five options, including strongly disagree, disagree, neutral, agree, and strongly agree. In the survey, questions were designed based on the key parameters, which include Text, Interpretation, Image, Action, and Emotion. From these parameters, 27 sub-parameters were designed. Moreover, the collected data through the questionnaire has been analyzed based on the following steps:

Step 1: Data Input into Excel

Step 2: Calculation of the average of all statements

To obtain The average rating of each statement, Degree of Agreement was obtained by computing the total score of all the obtained responses, dividing it by the total number of responses. The average response to every item in the questionnaire was also computed and compared to a verbal rating scale.

Table 1. Rating Criteria: They are (numerical thresholds) used in interpreting numerical values [20]

No.	Mean Score Range	Verbal Interpretation	Agreement Level
1	1.00 – 1.80	Strongly Disagree	Very Negative
2	1.81 – 2.60	Disagree	Negative
3	2.61 – 3.40	Neutral	Moderate / Unclear
4	3.41 – 4.20	Agree	Positive
5	4.21 – 5.00	Strongly Agree	Very Positive

Third: Reliability Coefficient or Internal Correlation Coefficient

The questions were divided into two groups: single question sets, and paired question sets. Two new variables were created: one representing the average of the single question sets, and another one representing the average of the paired question sets. The correlation coefficient of the two variables, i.e., (r), was calculated using Pearson correlation method.

$$r = \frac{n \sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{[n \sum x_i^2 - (\sum x_i)^2][n \sum y_i^2 - (\sum y_i)^2]}}$$

The correlation coefficient was corrected by employing a Spearman-Brown correction.

n = Number of Data Points x_i - mean of odd-numbered questions

y_i = Mean of Even Numbered Questions

The reliability coefficient (ρ) and the internal correlation coefficient were obtained using the Spearman Brown formula.

$$\rho = \frac{2r}{1+r}$$

3. The Case Study

3.1. Holy Karbala

Karbala is considered one of the holy Arab-Islamic cities in Iraq and the Middle East. The historical center of Karbala includes two large shrines, located in the center of the city, of Imam Hussein and his brother Imam Al-Abbas (Peace Be Upon Them), as well as a complex of winding streets with densely populated area[21]. The city of Karbala includes a number of landmarks with regards to the Battle of Karbala, or the so-called Battle of Al-Taff, as well as the two holy shrines of the victims of this event [22]. Karbala is located in the center of Iraq, 105 km away from Baghdad[23] . Every year, millions of Shia pilgrims from all over the world travel to the holy city of Karbala to participate in the Ashura rituals, commemorating the martyrdom of Imam Hussein and his brother Imam Al-Abbas (Peace Be Upon Them), grandsons of the Prophet Muhammad, as well as the Arba'een rituals[24] .

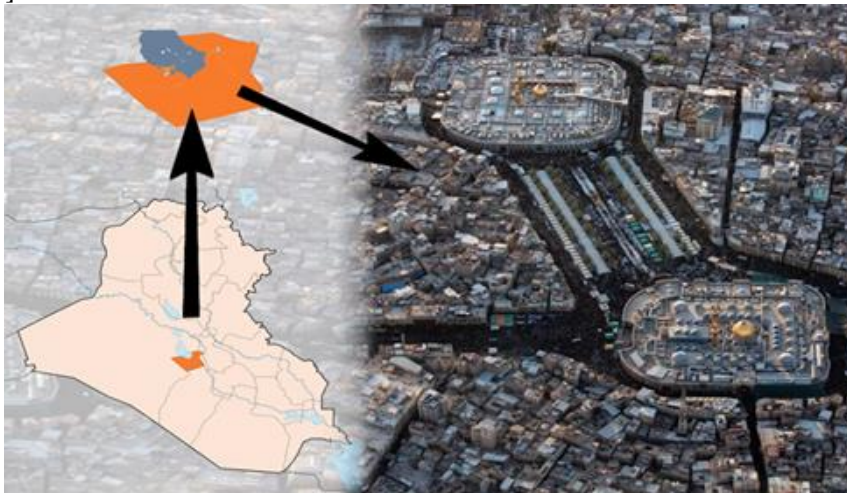


Figure 2. Karbala province and the Historical city center in relation to the map of Iraq

3.2. Al-Najaf Al-Ashraf

The holy city of Najaf and its historical center are recognized as the third most important religious center for Shi'a Muslims throughout the Islamic world, ranking after Mecca and Medina. This holy city and its historical center have accumulated considerable heritage that has long distinguished its architectural identity and enriched its spiritual experience[22] . Al-Najaf city is around 160 km to the south of Baghdad in the southern part of central Iraq. This holy city has been recognized as a holy spiritual capital given that its site contains the shrine of Imam Ali ibn Abi Talib (Peace Be Upon Him). He has been recognized as one of the most powerful individuals in the history of Islam for all Muslims across the globe. Shi'a Muslims acknowledge Imam Ali ibn Abi Talib as the second most popular Islamic figure after the Prophet Muhammad (Peace Be Upon Him and His Household)[25] . Millions of Shi'a Muslims across the world flock to this holy city to visit the shrine of Imam Ali (Peace Be Upon Him) and the stronghold of the Shi'a community on occasions that commemorate the anniversary of the birth and the martyrdom of Imam Ali ibn Abi Talib [26].

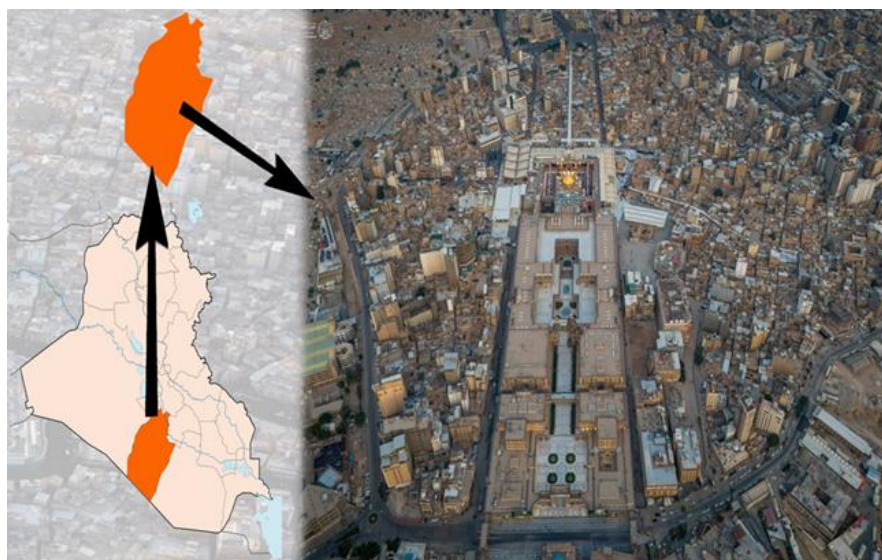


Figure 3. Najaf province and the Historical city center in relation to the map of Iraq

4. The Results: Experts

The experts were surveyed according to five main terms, including text, interpretation, image, emotion, and action. (27) sub-parameters were extracted according to previous studies for each term. The results and values are shown in Table (2).

Table 2. The result of the statistic according to the experts view

The main indicator (text) experts					
No.	Secondary indicators				Impact value
1	Text related to formal perceptions (Cohesion)				4.15
2	Text related to semantic perceptions (intertextuality)				4.15
3	Text related to formal perceptions (continuity)				4.00
4	Text related to formal perceptions (Correspondence)				3.90
5	Text related to semantic (circumstantial) perceptions				3.90
6	Text related to formal perceptions (Dialogicity)				3.90
7	Text related to semantic perceptions (Acceptability)				3.70
experts reliability rating of the text					0.8357
The main indicator (interpretation) experts			Main indicator (image) experts		
No.	Secondary indicators	Impact value	No.	Secondary indicators	Impact value
1	Interpretation constraints (Material affiliation of the interpreted symbol)	4.05	1	The symbolic meaning of the image	4.50
2	Interpretive mechanisms (intertextuality)	4.00	2	Visual properties of the image (Vitality and Cohesion)	4.45
3	Interpretation constraints (Immaterial affiliation of the interpreted symbol)	3.90	3	Image structure (visual image identity)	4.40
4	Pattern-related interpretation (External context)	3.90	4	Functional meaning of the image	4.30
5	Interpretation mechanisms (Inclusion/Implication)	3.80	5	Image features (Identity of visual elements)	4.30
The degree of reliability of the item (interpretation) according to experts		0.9104	The reliability rating of the individual (image) according to experts		0.8219
The main indicator (Action) experts			The main indicator (Emotion) experts		
No.	Secondary indicators	Impact value	No.	Secondary indicators	Impact value
1	Authority in production (Formal effects)	4.35	1	Collective emotion catalysts (Historical events)	4.30
2	Historical patterns	4.30	2	Collective emotion catalysts (Ideological environment)	4.20

3	Noble authenticity in form (Type of presence)	4.15	3	Collective emotion catalyts (Identity and Privacy)	4.15
4	Power in production (Solidarity of composition)	4.15	4	Emotional features (Monumentality)	4.15
5	Noble authenticity in form (Feature of presence)	4.10	5	Collective emotion catalyts (National events)	4.10
The reliability rating of the individual (action) according to experts		0.9314	The reliability rating of the individual (Emotion) according to experts		0.9510

5. Result Interpretation

From the results of the survey, a methodology to interpret texts from the holy cities is derived. This methodology is based on its own set of formal concepts, such as cohesion and intertextuality. This methodology is inspired by the apparent and latent history, promoting a symmetry between correspondences in a dialogical context according to the moment of perception in accepting the urban text. The expert survey has revealed that the material dimension, using the specific structure of the shrines, with the tall golden domes and minaret, at the two holy shrines, builds the first building block of the main element, or rather, the interpretation. Next comes the aspect of intertextuality, which goes beyond the evident and focuses instead on the hidden, using the symbolic and historical dimensions. In this way, the specific dynamic, involving interaction with the external context and influencing it mutually, using the mechanisms and specific features of the interpretation, builds the spiritual and historical bridge of cultural identity. The experts also assert that the secondary elements, and particularly those involved in the concept of "image," at these two holy shrines, receive their strength based on the symbolism and substantial qualities based on vitality and cohesion, creating an articulate structure involving spiritual dimensions and functional dimensions, using specific features and characteristics, construction, and developing a spatial mirror reflecting various dimensions based on symbolism and using the specific identity associated with the visual, moving beyond beauty and reaching existential issues at deeper levels. It is, in fact, the primacy of "authority in production" and "historical patterns" that influenced the foundation of the "concept of action" in the two holy cities. The authenticity reveals itself in a specific kind of formal presence wherein the solidity of composition, the characteristic presence, and the clarity reveal the power of the production. It is the power that belongs to unique visual heritage in the spatial production of identity wherein the fusion of the historical and the contemporary reveals the context. The significance of historical events can be attributed to the primacy of emotional stimuli. The martyrdom of the pure Imams forms a distinct doctrine within the two holy cities. The martyrs evoke a set of emotional stimuli to fill the space physically, eventually leading to the creation of sacred monuments for the particular event of history. The significance of these monuments lies in their ability to assist the individual to navigate the spirituality of remembrance.

6. Conclusions

The semiotics of the urban environment of the text, depending on the specifications of the holy city, are based on the specific properties of the holy city, including cohesion, continuity, and correspondence, within the distinguishing and specifying characteristics of the symbols of Imam Ali (Peace Be Upon Him) and Imam Hussein (Peace Be Upon Him)." This refers to the visual-material harmony and the relationships within the space, reflecting the dialogical language in the form of the memory of the spatial environment of the occurrence of the martyrdom of the symbols. This reflects the interpretation of the urban text by the experts regarding the shift in the role of signifiers from the tangible to the intangible as the signified. The interpretation of cultural identity in these cities follows a rigorous and cumulative interpretation pattern. This validates the explanation for the supremacy of the determinants of material interpretation, followed by intertextuality. The connection with interpretation is attributed to the existence of a specific societal intellectual framework in which the (material affiliation with the symbol) forms the mechanism for interpretation, thereby connecting with the interpretation of the aspects relating to the material framework (such as shrines, domes, and minarets), particularly through dialogical interpretation referred to in the religious texts. It is worth noting that the mechanism for the interpretation of identities by experts through the prism of their semiotics is subject to the existence of intellectual awareness.

Experts clearly indicate the effect of the symbolic meaning of the image on the formation of the semiotic perception of identity that relies on vitality and cohesion. Experts emphasize that the historical center of the holy cities (Najaf and Karbala) is not only a material dimension, but also a symbolic one filled with profound meanings that rely on a system filled with sanctity, history, and affiliation with the symbol, which brings about

harmonious visuals for the identity. Experts affirm the visual symbols, in their material and immaterial forms, to have expression powers in the form of a basic vehicle for identity that forms in the urban landscape of holy cities in Iraq, with the semiotics of the urban environment of the holy cities of Najaf and Karbala realized through their identity, which relies on the authority of their output and its formal effects. This identity takes the form of a semantic dimension that relies on the historical and environmental pattern of the event that represents the authentic action in the structures in the form of deeply rooted patterns in the collective memory and functions as a mirror that reflects the heritage and sanctity of the symbol through the formation of prayer that involves meticulously forming the urban forms that exemplify the prayer of these forms. Experts indicate that identity forms as a design and planning act that relies on cultural standards that involve authenticity and continuity. The emotional stimuli in the urban space form the beating heart of the semiotics of identity in the two holy cities. The historical event of martyrdom, which is part of the doctrinal environment through symbols, is the faculty with the greatest potential to evoke emotions. The space of memory generates historical events as signifiers of material meanings in the holy shrines, thus evoking a collective emotional state. At this point, experts link the emotional dimension of the identity of the cities with historical and doctrinal elements, as a material element, which highlights the transformative capability of space in generating emotions.

7. Recommendations

1. Designers should draw upon the key and sub-parameters offered in the theoretical framework in order to embrace the strategy of semiotics in an intellectual and formal manner in the production of urban texts.
2. The study recommends adopting the semiotic system at the urban level, especially in view of the many creative texts it has obtained and in consideration of the inspirational material it offers architects concerning creative texts and the construction of perceived texts in the urban environment.
3. The study recommends that other fields such as literature, sociology, and art be explored, and the richness in knowledge and terminology that these fields provide can be used in the urban field, especially in matters that relate to detailed patterns and mechanisms in dealing with forms and ideas.
4. The study provides a recommendation for urban designers to make use of the collective memory of events (national and ideological events) within the urban environment. The memory is perceived to influence the spatial experience of the recipient through space and is seen as the cornerstone of the semiotics of identity within the urban environment.

Declaration of Competing Interest

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.

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Author Contributions

All authors proposed the research problem. In addition to author Sajjad Jameel Ghadhaib collected recent articles and organized them in simple shapes. Authors Sabeeh Lafta Farhan, Abdalhakim Almakkas verified the recommendation in the proposed work.

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