



## Methods and Techniques in Using Collective Memory in Urban Design: Achieving Social Sustainability in Urban Environments

Heidar JAHANBAKSH<sup>1,\*</sup>, Mostafa Hosseini KOUMLEH<sup>2</sup>, Fatemeh Sotoudeh ALAMBAZ<sup>3</sup>

<sup>1</sup>Head of Department of Art and Architecture, Payam-e-Noor University, Iran

<sup>2</sup>Department of Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran

<sup>3</sup>Department of Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran

Received: 22.03.2015; Accepted: 29.05.2015

### Abstract

Urban settlements are full of inhabitants' memories. Some of these memories are individual but the other ones are social. Collective memory is the group memory, the negotiated and selective recollections of a specific group. As a socially manifested individual psychological capacity, it can play an important role in sustainable development\_ as a kind of development that equally provides environmental, economic and social services for citizens in a community in such a way that natural, social, economic and man-made systems be in a safe condition. In the previous decades, environmental and economic dimensions were the main focuses of attention. The social dimension of sustainability has become an important component in sustainable discourse since 2000. Collective memory can affect some key theme areas of social sustainability such as social networks, health, identity of community, civic pride, neighborhood perceptions, and community participation. Therefore, conservation and representation of citizens' collective memory will enhance social sustainability and facilitate sustainable development. The aim of this paper is to investigate about how collective memory can be used in architecture, urban design or urban space design for increasing urban sustainability. To achieve this, an inductive method has been adopted for recognizing main approaches in using collective memories through a comparative study about some experiences and then a deductive method has been adopted to discover some techniques for representing collective memory-as negotiated and selective recollections of a special community- based on the findings of semiotics. The research findings indicate two main approaches in using collective memory (conservation of memorable objects and representing collective memories). Finally, the study concludes a matrix to model various techniques for representing collective memories, using the findings of semiotics. The study shows the various potential layers and some important facilities of collective memories that can be applied in architecture and urban design projects.

**Keywords:** Collective memory, Conservation, Representation, Semiotics, Social sustainability

### 1. INTRODUCTION

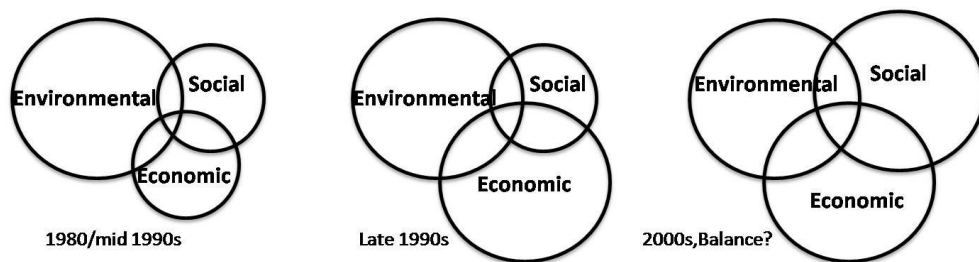
Urban settlements are full of inhabitants' memories. Some of these memories are individual but the other ones are social. Collective memory is the group memory, the negotiated and selective recollections of a specific group. As a socially manifested individual psychological capacity, it plays an important role in urban sustainability and particularly its social dimension. In fact, there have been some limited efforts in using collective memory for facilitating urban regeneration projects or representing collective memory in architectural spaces or public places. Nevertheless, it is not all potential layers of collective memory that can be used for increasing urban sustainability. However, collective memory has been studied by various approaches in different sciences (sociology, psychology, anthropology etc.); it is rarely probed that how it can be used in architecture or urban regeneration projects. The paper aims to discover some hidden and potential layers of collective memory that can be used to improve urban sustainability. It tries to show how collective memory can affect social sustainability and what kinds of methods and techniques can be helpful in use of collective memory for increasing urban sustainability. In doing so, the paper outlines key definition and theme areas of social sustainability, reviews main definitions of collective memory and discusses about social functions of collective

\* Corresponding author. Email: h\_jahanbakhsh@pnu.ac.ir

memory. Then, two main approaches in using collective memories has been inductively recognized through a comparative study about some experiences and then a deductive method has been adopted to discover some techniques for representing collective memory, based on the findings of semiotics. The research findings indicate two main approaches in using collective memory (conservation of memorable objects and representing collective memories). Finally, the study concludes a matrix to model various techniques for representing collective memories, using the findings of semiotics.

**Sustainability and its social dimension**

Scheme of sustainable development has been defined at the confluence of three constituent parts. The international Union for Conservation of Nature IUCN has explained sustainable development as a kind of development that equally provides environmental, economic and social services for citizens in a community in such a way natural, social, economic and man-made systems be in a safe condition. There is a general agreement that different dimensions of sustainable development have not been equally prioritised by policy makers within the sustainability discourse [1] As figure 1 illustrates, in the 1980s, environmental issues dominated the sustainable development debate. Whereas economic issues as the second prioritised dimension became as important as environmental issues it is only after the late 1990’s that social issues was taken into account within the sustainability agenda. This is mainly because sustainable development was born out of the synergy between the emerging environmental movement of the 1960’s and the “basic need” advocates of 1970’s, but also because assessing the intangible nature of social aspects of development presents the measurement quandaries. As a result, there is limited literature that focuses on social sustainability [2].



**Fig. 1:** The different dimensions of sustainable development and their relative importance [2]

There has been a wide research programme on social sustainability funded by the European Investment Bank (EIB) since 2006. The outcomes published in series of research papers explore and analyse multiple aspects of social sustainability such as Andrea Colantonio’s endeavour in assessing social sustainability as a starting point and a framework for defining the subject for further explorations by referring to Bramely’s concepts and identifying some thematic areas of social sustainability. Bramley et al [3], distinguishes two all-embracing concepts at the core of the notion of social sustainability. These are “social equity” and the “sustainability of community”. The former is linked to the notion of social justice, which urges the fair distribution of resources in society in order to allow fair access to jobs, housing and local services. The second dimension is concerned with the continuing viability and functioning of society as a collective entity. In their analysis on the interactions between social sustainability and urban form, sustainability depends upon several aspects of community and neighbourhood life, which include (i) interactions in the community/social networks; (ii) community participation; (iii) Pride/sense of place; (iv) community stability; and (v) security (crime). Colantonio [2] expands the definition of sustainability and notes that:

“Social sustainability stems from improvements in thematic areas of the social realm of individuals and societies, ranging from capacity building and skills development to environmental and spatial inequalities”

In fact, he defined “social sustainability” based on social, socio-Institutional, socio-economic and socio-environmental dimensions. This definition has been explained by thirty-eight key

## Methods and Techniques in Using Collective Memory

theme areas<sup>i</sup>. According to these two definitions, some key theme areas are indirectly related to collective memory. Collective memory affects social networks, conflicts mitigation, health, identity of the community/civic pride, image transformation and neighbourhood perceptions, well-being, partnership and collaboration as key theme areas of social sustainability. Therefore, collective memory has indirect relation with different dimensions of social sustainability. [2]

Describing how collective memory can affect these key theme areas in social sustainability requires a review on collective memory's main definitions and a discussion about the social functions of collective memory.

### **The concept of collective memory**

Cities and villages store memories that inhabitants keep in their minds. These memories are either individual or social. While memory is understood predominantly as an individual capacity in cognitive and biological sciences, social sciences interpret memory as a collective phenomenon. Indeed, collective memory is considered as shared memories of inhabitants about their shared past. Collective memory has been used in different studies, ranging from different types of nationalism in history and political science to views of ritualization and commemoration in anthropology and sociology. All of these approaches point out that collective memory is beyond individual memory, and so has a social nature [4] The "collective memory" concept has its historical origins in the "group mind" hypothesis. Based on this hypothesis, groups have minds in such a way that individuals have. The "Group mind" hypothesis can be traced in two distinct traditions: collective psychology and the super-organism traditions. The super-organism tradition is founded on the studies of communities of organisms. For example, ecologists and entomologists have used this tradition to describe the group minds of animals and insects. However, the collective psychology tradition began in the final third of the 19<sup>th</sup> century, and includes the works of historians (e.g. Henry Fournial), sociologists (e.g. Gabriel Trade and Emile Durkheim), criminologists (e.g. Scipio Sighele and Pasquale Rossi), and novelists (e.g. Emile Zola) and is motivated by the perception of the concept of "the crowd". One can distinguish two strands of thought in this tradition:

1- A negative view of collective psychology (as emotional, unconscious and potentially uncontrollable phenomenon) that is epitomized by "The Crowd."

2- A more sanguine view of groups of people and the psychology that was associated with them discussed in sociology and social psychology. The concept of the "group mind" was introduced in this strand [4]

Maurice Halbwachs, a French sociologist, first used and introduced the phrase "collective memory", in his book "The Social Frameworks of Memory" (1925[1925]) and in his posthumously published book "The Collective Memory" (1950[1950]). He belongs to the collective psychology tradition, particularly of its later, more optimistic strand [4].

Halbwachs primarily builds his hypothesis on a view of collective memory as a socially manifested, individual psychological capacity. His conception of collective memory is based on a contrast between collective and individual memory. Halbwachs also calls individual memory "personal" and "autobiographical" memory and collective memory "social" and "historical" memory (1950:50–52). Autobiographical memory is the memory of things that one has experienced oneself, things that one can remember being present for. Historical memory, by contrast, extends the scope of these memories by including information about the world that goes beyond one's own experience. These are still things that one remembers, and they include facts about what happened on a certain date before one was born, about who has also been to places that you have been to (but not with you) (Wilson 2005 cited from Halbwachs 1950:50–52). However memory is an individual capacity, collective memory has a social nature. The collective recollections can socially connect people of a special group to each other.

As Halbwachs discusses, the collective memory is always the group memory, always the negotiated and selective recollections of a specific group and therefore collective memory is similar to a myth. From his "presentist" perspective, collective memory is essential to a group's notion of itself and thus must continually be changed to fit historical circumstance [5].

After Halbwachs, different scholars from various academic disciplines have used the concept of collective memory as an inter-disciplinary concept. Citing from Bernhard Giesen, Ron Eyerman, a professor of sociology in Yale University states:

“Collective memory provides both individual and society with a temporal map, unifying a nation or community through time as well as space. Collective memory specifies the temporal parameters of past and future, where we came from and where we are going, and also why we are here now. Within the narrative provided by this collective memory individual identities are shaped” Indeed the main idea conceived by Halbwachs, Eyerman and Giesen is about one of the social functions of collective memory (social coherence, as it will be explained more) that has an important effect on social sustainability. From Halbwachs’s point of view, people in a special group or nation select their collective (or social) memories and negotiate about them in an unconscious way. These kinds of collective selections and negotiations can unify the nation or community through time and space (as Eyerman mentioned citing from Giesen). Consequently, such unification, resulting from a strong agreement and linkage between community members, increases the social coherence and then public participation as a key theme area of social sustainability. That is why collective memory can influence the social sustainability (see Table 1). The concept of collective memory did not exclusively remain as a sociological and psychological term. It gently entered to architecture and urban design literature after 1980’s. Aldo Rossi, Italian neo-rationalist architect, is the first critic who used the concept of “collective memory” in environmental design literature. Aldo Rossi called city as history in a part of his famous book, “The Architecture of The City”, and then distinguished two historical methods in the study of the city:

1-City as a material artefact built over time and retaining the traces of time

2-History as the study of the actual formation and structure of urban artefacts

Rossi adopted the second approach in the study of the deepest structure of urban artefacts and thus their forms or as he called them, the Architecture of the City. He used the phrase “the soul of the city” for describing the city’s history and introduced it as “the sign on the walls of municipium, the city’s distinctive and definitive character, its memory”. As he discusses:

“... One can say that the city itself is the collective memory of its people, and like memory it is associated with objects and places. The city is the locus of the collective memory...” (1982: 128-130)

In fact, from Rossi’s rationalistic perspective, there is an important link between collective memory and cities’ memorable things and places. Herein Kevin Lynch expresses that the existence of an "Image of Time" is necessary for psychic healthy and mental hygiene (Lynch 1972). In addition, Tuan believes that our encounter with objects and places remained from the past can create a clear sense of the past and cause forming personal identity and place identity [6 and 7] Thus, collective memory helps in the construction of collective identities and boundaries. It is the central medium through which meanings and identities are constituted. Moreover, it is seen as the essential factor of a meaningful and rich civil society [8]

As a result, it can be said that collective memory can affect social sustainability by forming one of its key theme areas, public images (of time) or community perceptions (about the shared past). It can also be claimed that forming personal identities and place identity can lead to the identity of the community and such an identity results in a kind of civic pride that is a key theme area of social sustainability as well as community identity (see Table 1).

If the sense of place is considered as being composed of the three elements of physical setting, activity, and meaning [9] some important consequences of collective memory like forming a link between memories and things or places, forming a clear sense of the past, and constitution of meanings and identities can enhance the sense of place by reinforcing the meaning attached to a place. In addition, connectivity with time is one of the factors that lead to the sense of attachment [10] Jack Nasar, the author of “*the Evaluative Image of the City*”, and the introducer of the phrase “Urban Likeability”, noticed *the historical significance* as one of the five factors that influences emotional preferences and consequently the likeability of a special place<sup>ii</sup>.

## Methods and Techniques in Using Collective Memory

As an implicit result it can be stated that collective memory as a historically significant phenomenon affects attachment to urban environments through a link with objects and places remained from the past, and makes a clear sense of common past in the community [11]

**Table 1.** What is collective memory and how does it work in social life? [12]

Scholars Points of View	The important consequences of collective memory	Key theme areas of social sustainability	Social functions of collective memory
<b>Lynch:</b> Existence of an "Image of Time" is necessary for psychic health and hygiene	Image of Time	Public Image / Community Perceptions	Attachment to urban environments
<b>Rossi:</b> City itself is the collective memory of its people, and like memory, it is associated with objects and places.	A linkage between Memory and Things/Place	Public Image / Community Perceptions	Attachment to urban environments
<b>Tuan:</b> Our encounter with objects and place remained from the past, can create a clear sense of the past and cause forming personal identity and place identity. .	A Clear Sense of Time Personal & Place Identity	Public Image / Community Perceptions	Attachment to urban environments
		Identity of the community/civic pride	Sense of place
<b>Halbwachs:</b> Collective memory is a social memory, it's always the negotiated and selective recollections of a specific group	Agreement and linkage between Community Members	Collaboration and partnership / Public Participation	Social coherence
<b>Giesen:</b> Collective memory provides both individual and society with a temporal map, unifying a nation or community through time as well as space.	Agreement and linkage between Community Members	Collaboration and partnership / Public Participation	Social coherence

### Reviewing some experiences in use of collective memory for increasing sustainability

In fact, there have been some limited efforts in using collective memory for facilitating urban regeneration projects or representing collective memory in architectural spaces or public places. In this point, the main approaches in use of collective memory will be discussed through reviewing different experiences about using collective memory in architecture and urban design projects. Case studies are about war, Holocaust, history and ethnos.

#### Urban regeneration of Bronzeville

Metropolises such as Chicago and New York have been involved with various problems such as approximately 2 million homeless people; an average of six murders a day, prostitution, robbery and crime in the last years of the 20<sup>th</sup> century. Urban Regeneration of Chicago, is one of the projects which began in 1994 in the form of the "Development Guidance Plan for the South of the City Centre: Regeneration of Bronzeville and living in the vicinity of boulevards" project. The main propose of this project was to regenerate this region based on the history, collective memory and the racial groups residing there [13] Bronzeville has a long and amazing history, which began in 1779 with the first round of immigration of Africans to South America. The freed slaves of America's internal war went to North America in order to find a better life. After the 1940s, a huge migration to Chicago by African-Americans took place. The adventurous Black people went to Chicago in order to find work and settled in the south of the city centre ([www.dig.lib.niu.edu](http://www.dig.lib.niu.edu)). Bronzeville has been a dream place for African-American's through history. This area was one of the first African-American cultural centres in the United States. However, the stagnant economical period in the US greatly affected this area. The increase of crime and insecurity caused some efforts to be given for the regeneration of Bronzeville. The process of this project had been defined in a way to attract citizens' participation in all stages. In fact, they had been expected to show, maintain, and protect their collective and historical memories in different ways. This project was successful and lead to an enhanced quality of life in Bronzeville, in such a way that it an attractive spot for entertainment

and leisure. In this project, the Martin Luther King Boulevard was considered as the main structure of Bronzeville neighbourhood. Local artists made a “great migration statue” as a symbol of the great migration of coloured people from South America to North America. The sculpture represents a black man who has arrived from a hard travel with old clothes and a torn suitcase (see Figure 2).



**Fig. 2:** Great migration Statue, Chicago, ([www.dig.lib.niu.edu](http://www.dig.lib.niu.edu))

The Organization of Cultural Centres of Chicago Alliance neighbourhoods suggested a project entitled “Portraits of Chicago”, aiming regeneration of the community through history, race and culture. In this project, for appreciating valuable people, their portraits were drawn and painted, with some details of their life story in a permanent exhibition. In addition, local history and Chicago's ethnics were represented in urban spaces by “Mosaic Art” and “Eye on the wall of city” (see Figure 3). The “Bronze Map” (see Figure 4) is one of the other projects that shows important places, historical buildings, parks and schools (Pirouz 2002:78-84). Some memorable buildings such as the home of journalist and Civil Rights activist Ida B. Wells from 1919-1930 and The Chicago Defender building (a newspaper founded by Robert S. Abbott in 1905 to serve the Bronzeville area) was conserved and refurbished for maintaining some collective memories.



**Fig. 3:** Graffiti, Chicago, ([www.chicagococal.org](http://www.chicagococal.org))



## Methods and Techniques in Using Collective Memory

**Fig. 4:** Map of Bronzeville, Chicago, ([www.blackcoutours.com](http://www.blackcoutours.com))

In fact, this urban regeneration project with maintenance and revival of collective memory, recalled people to take part in different activities and participate in the revitalization process through different small projects like “Mosaic Art”, “Eye on the wall of city”, “Portraits of Chicago”, “Great migration Statue”, “Bronze Map” and “23 seats” and for the first time has found interesting results. It is important that the link between these projects and inhabitants’ collective memory and spending money, time and energy by citizens in these projects led to an increase of “Sense of attachment” to urban environment and “Social Coherence”. In addition, these projects led to the achievement of common goals and an increase in social participation in Bronzeville. “Bronze Sculpture” has become Bronzeville’s symbol since its image was used as a logo for “Bronzeville Area Residents and Commerce Council (BARCC)”. Thus Urban Regeneration Project succeeded in redefining the “Sense of Place” and attracting private sector investment, environment and furniture’s maintenance and image ability of place in citizens’ mind. Final achievements include some changes in public city image. Bronzeville has been changed from a crowded, untidy, unsafe and horrible neighbourhood to an attractive place for tourists and socially safe neighbourhood for inhabitants. New Bronzeville does not become empty at night unlike the past, but the existence of dramatic groups, local dance and music groups attracts many people and tourists to this area.

### **Some Other experiences**

Some other experiences are not clear to have such influences on social sustainability as well as Bronzeville’s urban regeneration. Nevertheless, they are discussed, because the paper tries to explore different approaches used in urban regeneration or architectural projects.

### **The World War II Memorial**

The World War II Memorial commemorates the sacrifice and celebrates the victory of the WWII generation in order to strengthen national identity in a public place. It's located on The National Mall in Washington, DC. ([www.nps.gov](http://www.nps.gov)). It is composed of three projects: Freedom Wall, Two Arches and 56 Granite Pillars. "Two arches" represents the Atlantic and Pacific victories. Inside it, bronze columns support eagles holding a victory laurel. The WWII victory medal is embedded on the floor. "Freedom Wall" of gold stars commemorates more than 400,000 Americans who died in the war. "56 Granite Pillars" symbolize the unity of the states, territories and District of Columbia during the war (ibid). In this memorial some intangible ideas (the unity of the states, memories of the sacrifices and the victories) are physically embodied in a symbolic way. Figure 5 shows The WWII memorial with pool, granite pillars and one of the arcades.



**Fig. 5:** The WWII memorial ([www.nps.gov](http://www.nps.gov))

### **The Memorial of the murdered Jews of Europe**

The Memorial of the Murdered Jews of Europe is a large and unusual Holocaust memorial unveiled in the central Berlin near the Reichstag and the underground bunker in which Adolf Hitler committed suicide in May 2005. The memorial consists of about 2,700 concrete slabs arranged in a grid pattern on a 19,000 square meter site (see Figure 6). Visitors are encouraged

to walk between the steles. The memorial can be entered from all sides and offers no prescribed path. An attached underground "place of information" holds the names of all known Jewish Holocaust victims, obtained from the Jerusalem museum Yad Vashem. In June 1997, Peter Eisenman's plan emerged as the winner of the next competition. In June 1998, the Bundestag decided in favor of Eisenman's plan, modified by attaching a museum, which Eisenman would also design. "I want it to be a part of ordinary, daily life," its designer, New York architect Peter Eisenman, told journalists. "People who have walked by say it's very unassuming... I like to think that people will use it for shortcuts, as an everyday experience, not as a holy place" ([www.sacred-destinations.com](http://www.sacred-destinations.com)). This urban space has been designed in such a way that it is linked with citizens' daily life. The extensive space including a lot of concrete cubes makes a symbolic representation in which sad memories of Holocaust can be recalled.



**Fig. 6:** The Memorial of the Murdered Jews of Europe ([www.sacred-destinations.com](http://www.sacred-destinations.com))

#### **Hakīm Firdawsī Memorial**

Hakīm Abul-Qāsim Firdawsī Toosī, more commonly transliterated as Firdawsi, (935–1020A.C.) was a highly revered Persian poet. He was the author of the *Shāhnāme*, the national epic of Persian-speaking world as well as the entire Iranian realm. Firdawsi was born in 935A.C. in a village near Tus in Iran. The tomb of Firdawsi was made during the reign of Reza Shah Pahlavi as a memorial by the national heritage association in 1934A.C. ([www.wikipedia.org](http://www.wikipedia.org)). The tomb has an excellent architecture inspired by the architecture of Achaemenid tombs. It commemorates a patriot man who rescued the history of ancient Iran. In fact, choosing this style of design shows that Iranian people honour Firdawsi and respect him as much as the Great Cyrus (See Figure 7).



**Fig. 7:** the tomb of Firdawsi, Toos, Iran, ([www.wikipedia.org](http://www.wikipedia.org))

#### **Recognizing methods and techniques in use of collective memory**



## Methods and Techniques in Using Collective Memory

After a review on various experiences in use of collective memory in urban regeneration projects or urban space design, two approaches are distinctively recognizable. The first is "the maintenance of memorable elements and emphasis on them" and the second is "representation of collective memory". When the object(s) related to collective memory exist(s) in reality, the first approach can be used. In other words, the first approach is related to place-based collective memory but the second approach can be used when the collective memory is not referable to a special place (e.g. immigration of some African-Americans from the South to the North America). Representational approaches can be helpful in use these kinds of collective memory. In the first approach, techniques in the use of collective memory refer to maintenance and, if necessary, refurbishment and repairing the memorable elements and then emphasis on these elements through making them legible and easily visible (by means of lighting, removing visual obstacles, etc.) and also making them accessible for public usage. Nothing is created in the first approach. The efforts and plans only refer to maintenance and emphasis. However, in the second approach, the aim is the representation of collective memory through creation of a sign, making collective memory perceptible as a message for citizens. That is why semiotics can be helpful for adopting suitable techniques in this approach (See Table 2).

**Table 2:** The different approaches in use of collective memory

What kind of collective memory we encounter with?	Referable to a special place	Not referable to a special place
different approaches in use of collective memory	Conservation	Representation
Some examples	Conservation and renewal of some memorable buildings (The Chicago Defender building and the home of journalist Ida B. Wells) in Bronzeville	Great migration Statue / Portraits of Chicago in Bronzeville

### **Semiotics and representation of collective memory**

Human being can be seen as a species to be driven by a desire to make meanings: above all, we are surely homo-significans— meaning makers. Distinctively, we make meanings through our creation and interpretation of 'signs'. Indeed, according to Peirce, 'we think only in signs' [14] Signs take the form of words, images, sounds, odours, acts ... but they are not finished in this way and require an individual who interprets them [15] In fact, "Nothing is a sign unless it is interpreted as a sign" [14] Semiotics (or semiology in Saussurean terminology) is a science that studies about signs as part of social life [15] Signs that we use in our daily life for communication with environment, signs we perceive and understand, such as traffic signs and signs used in public places... Semiotics shows what the signs are made of and what the rules that prevail among them are [16] We usually meet with different layers of signs rather than a single sign. David Crystal has categorized signs into five layers. These different layers are perceived by the senses of smell, taste, sight, hearing and touch. However, signs can be objectively realized through all these media; nowadays, signs are often created by the hearing and sight medium [17 and 18] The only application of sense of touch is Braille writing system designed for blind people, who perceive signs by touching them [19] Although the senses of smell and taste have been rarely used, one can consider some important applications for them as remarkable signs. For example, the smell of orange flower in the streets of Shiraz is a main part of collective memories in the minds of its citizens (such as poets and novelists' application of phrases like "smell of orange flower" in their works.) Writing these phrases in the visible points of the most attractive and memorable urban places, and planting the same trees (e.g. orange tree) in such locations can be helpful in creating signs in different layers (at least two layers: the sight layer and the smell layer). Let's explore some examples about the usage of the sense of taste. The taste of "Samanu", an Iranian dessert, which is usually seen in "Haft-Sin<sup>iii</sup>" tablecloth, in Nowruz celebration (an Iranian celebration in the beginning of Persian calendar) is a

memorable taste. So is the taste of “Qeymeh” (an Iranian food) distributed as a vow in the special religious days (e.g. Ashura, the day of Imam Husein’s martyrdom). All these tastes have become parts of collective memory and can signify some meanings in a multi-layer sign system. Thus, suitable techniques can be made by combining different layers with each other. For example, Hâjji Fîrûz or Hajji Pirouz is the traditional herald of Nowruz. He is a black-faced character clad in bright red clothes and a felt conic hat. While ushering in Nowruz, Hajji Firuz plays a tambourine and sings "Haji Firuz eh, sali ye ruz eh" (It is Haji Firuz time, It happens one day in a year). People of all ages gather around him and his troupe of musicians and listen to them play the drum, and dance ([http://en.wikipedia.org/wiki/Hajji\\_Firuz](http://en.wikipedia.org/wiki/Hajji_Firuz)). Here, there exist multi-layer signs: the visual layer (looking at Hajji Firuz’s dancing and his face and clothes) and the hearing layer (hearing Hajji Firuz’s special music). As another example, playing “Taziyeh<sup>iv</sup>” (an Iranian religious street theatre) and distributing “Qeymeh” as a vow in “Ashura” constitute another multi-layer sign: taste layer (tasting “Qeymeh”), smell layer (spreading the smell of “Qeymeh”), visual layer (looking at “Taziyeh”) and hearing layer (hearing players’ narration and elegy). These are some techniques for representing Iranian collective memories by means of multi-layer signs. In addition to categorizing signs in terms of different senses that perceive them, another classic taxonomy system presented by Peirce will be helpful in modelling representational techniques. Peirce, an American physicist, mathematician, and logician (1839-1914), distinguished three kinds of signs: icons, indexes and symbols [15, 18 and 20] *Icon* is a sign in which “the signifier is perceived as resembling or imitating the signified (recognizably looking, sounding, feeling, tasting or smelling like it) – being similar in possessing some of its qualities: e.g. a portrait, a cartoon, a scale-model, onomatopoeia, metaphors, 'realistic' sounds in 'programme music', sound effects in radio drama, a dubbed film soundtrack, imitative gestures”; *index* is a sign in which “the signifier is not arbitrary but is directly connected in some way (physically or causally) to the signified - this link can be observed or inferred: e.g. 'natural signs' (smoke, thunder, footprints, echoes, non-synthetic odours and flavours), medical symptoms (pain, a rash, pulse-rate), measuring instruments (weathercock, thermometer, clock, spirit-level), 'signals' (a knock on a door, a phone ringing), pointers (a pointing 'index' finger, a directional signpost), recordings (a photograph, a film, video or television shot, an audio-recorded voice), personal 'trademarks' (handwriting, catchphrase) and indexical words ('that', 'this', 'here', 'there')”; and finally *symbol* is a sign in which “the signifier does not resemble the signified but which is fundamentally arbitrary or purely conventional - so that the relationship must be learnt: e.g. language in general (plus specific languages, alphabetical letters, punctuation marks, words, phrases and sentences), numbers, Morse code, traffic lights, national flags”. (Chandler 1999). The examples presented about Peirce’s taxonomy in semiotics references often refer to the visual layer. Nevertheless, this taxonomy can be used about other senses as well. About hearing, Playing drums in Iranian religious mourning or many different symbolic sounds in different cultures which is seen as symbols and Playing a folk music by a local musician or singing some poems in “Taziyeh” are two examples of icons in the hearing layer. In the same way, we can mention broadcasting explosion voices by audio devices in urban places that can be seen as an index for a defence in a war, heroes and martyrs. About smelling, spreading the smell of a special memorable flower (orange flower) by planting its tree or flower in urban places is an icon, or spreading the smell of rose flower can be considered as a symbol for love. Serving memorable foods in memorable places is an icon in taste-based signs, serving a sweet in a city whose main product is cane can constitute an index for cane and candy can be a symbol for happiness in the same way that “Samanu” is a symbol for Nowruz. Finally writing memorable names by Braille under portraits or statues in suitable places, using indexes in a text written, or writing symbolic words by Braille (Hajji Firuz as a symbol of Nowruz) are examples of icons, indexes and symbols in touch-based signs.

## Methods and Techniques in Using Collective Memory

**Table 3:** A matrix for modeling various techniques for the representation of collective memories

Peirce's taxonomy system			Some techniques For representing collective memory	Different layers of signs (Categorization in terms of different senses)
Symbol	index	icon		
Symbolic & memorial statue or painting (conceptual arts)	Using indexes in portraits or statues (suitcase as a sign of immigration)	Realistic portraits & statues/ performing realistic memorable stories	Visual arts (sculpturing & painting)/ dramatic arts (street theatre)	Sight
Playing drams in religious mourning/ ... many different symbolic sounds in different cultures	Broadcasting explosion voices by audio devices (a sign for a defend in a war, heroes, martyrs)	Playing a folk music/ singing in street theatre	Playing pieces of music/ singing/ using digital audio devices	Hearing
Spreading the smell of rose flower (a sign for love)	Spreading the smell of smoke (a sign for burning, the Holocaust)	Spreading the smell of a special memorable flower (orange flower)	Flowering and planting	Smell
Candies as a symbol for happiness / "Samanu" a symbol of "Nowruz"	A sweet as a sign for cane in a city whose main product is cane	Serving memorable foods in memorable places	Spreading foods / candies / sweets	Taste
Writing symbolic words by Braille (Hajji Firuz a symbol of Nowruz)	Using indexes in a text written	Writing memorable names under portraits or statues in suitable places	Braille writing system	Touch

As a result, two categorization systems (Peirce's taxonomy system and categorization in terms of different senses that perceive signs) can constitute a matrix for modelling various potential techniques in various layers to represent collective memories(see table 3). As explained before, we meet with multi-layer signs, some of which are not completely separable. For example, in "Taziye" we encounter with sight-based and hearing-based signs. Some signs in "Taziye" are icons and some are symbols. Therefore, this matrix is just useful for showing various techniques (in various layers) that can be used for the representation of collective memories. Finally, it can be said that signs are cultural entities and cultural context must be considered for creating symbols, icons and indexes. The study shows the various potential layers and some important facilities of collective memories that can be used in architecture and urban design projects.

### Conclusion

Collective memories as shared memories of inhabitants from their shared pasts can facilitate sustainable development by reinforcing social networks, community participation, partnership and collaboration, increasing psychic health, improving identity of the community and civic pride as key theme areas of social sustainability. Various potential layers of collective memory can be used for increasing sustainability in urban regeneration projects. The paper attempts to show and model diverse facilities of collective memory that can be applied by urban management to make development more sustainable .Consequently, two approaches (conservation and representation) and some techniques in different layers were recognized. Conservation of memorable places and representation of some collective memories can help people to remind their shared memories. Thus, it is important to make physical representations inclusively perceptible for people who meet with them.

### ENDNOTES

<sup>1</sup> -Colantonio divides thirty eight key theme areas of social sustainability into four categories: "access to resources, community needs, conflicts mitigation, cultural promotion, education, elderly and aging, enabling knowledge management (including access to E-knowledge), freedom, gender equity, happiness, health, identity of the community/ civic pride, image transformation and neighbourhood perceptions, integration of newcomers and residents, leadership, justice and equality, leisure and sport facilities, less

able people, population change, poverty eradication, quality of life, security and crime, skills development, social diversity and multiculturalism, well-being” in social dimension, “capacity building, participation and empowerment, trust, voluntary organisation and local networks (social capital)” in socio-institutional dimension, “economic security, employment, informal activities/ economy, partnership and collaboration” in socio-economic dimension, and finally “inclusive design, infrastructures, environmental health, housing, transport, spatial/environmental inequalities” in socio-environmental dimension (colantonio, 2007:8).

<sup>ii</sup> -According to Nasar’s point of view “Naturalness”, “upkeep”, “openness”, “historical significance” and “order” are the five factors that make an urban place likeable (Nasar, 1997)

<sup>iii</sup> -Haft-Seen (Persian: هفت‌سین) or the seven 'S's is a traditional table setting of Nowruz, the traditional Iranian spring celebration. The haft seen table includes seven items all starting with the letter seen (س) in the Persian alphabet. The usual Haft Seen items are:

1. Sabzeh - (Persian: سبزه)-wheat, barley, mung bean or lentilsprouts growing in a dish - symbolising rebirth
2. Samanu - (Persian: سمنو)-sweetpudding made from wheat germ - symbolising affluence
3. Senjed - (Persian: سنجد)-dried oleaster fruit - symbolising love
4. Sir - (Persian: سیر)- garlic - symbolising medicine
5. Sib - (Persian: سیب)- apples - symbolising beauty and health
6. Somāq - (Persian: سماق)sumac fruit - symbolising (the color of) sunrise
7. Serkeh - (Persian: سرکه) - vinegar - symbolising old-age and patience

<sup>iv</sup> - In Persian culture “Ta’ziyeh” refers to condolence theater and Naqqali which are traditional Persian theatrical genres in which the drama is conveyed wholly or predominantly through music and singing. It dates before the Islamic era and the tragedy of Saiawush in Shahnameh is one of the best examples. In reference to Iranian Shiism it is a kind of passion play on the tragic fate of Imam Hussein.

## REFERENCES

- [1] Drakakis-Smith D (1995). *Third World Cities: Sustainable Urban Development*, 1. *Urban Studies*, 32: 659-677.
- [2] Colantonio A (2007). *Social Sustainability: An Exploratory Analysis of its Definition, Assessment Methods, Metrics and Tools*. Headington: Oxford OX3 OBP, [http://www.brookes.ac.uk/schools/be/oisd/sustainable\\_communities/index.html](http://www.brookes.ac.uk/schools/be/oisd/sustainable_communities/index.html), 1-8
- [3] Bramley G, Dempsey N, Power S and Brown C (2006). What is ‘Social Sustainability’ and How do our Existing Urban Forms Perform in Nurturing it? *Sustainable Communities and Green Futures’ Conference*, April 2006, Bartlett School of Planning, University College London, London, UK
- [4] Wilson R (2005). *Collective Memory, Group Minds and the Extended Mind* Thesis. <http://www.arts.ualberta.ca/~raw/collectmem.pdf>
- [5] Eyerman R (2002). *Cultural Trauma: Slavery and the Formation of African American Identity*. Cambridge university press, Cambridge, UK
- [6] Golkar K (1999). *An Investigation into the Definition of Urban Design. The centre of Iranian Urbanism & Architecture studies and Researches*, Tehran, Iran
- [7] Hull RB, Lam M, Vigo G (1994). Place Identity: Symbols of self in the urban fabric. *landscape and urbanplanning*, 28 (2/3): 109-120
- [8] Misztal BA (2007). *Collective Memory in a Global Age: Learning How and What to Remember*. in *Collective Memory and Collective Knowledge in a Global Age: an Interdisciplinary workshop*, June 2007, London, UK
- [9] Punter J, Carmona M (1997). *The Design Dimension of Planning: Theory, content and best practice for design policies*. E & FN SPON, London, UK
- [10] Pakzad J (2008). *Environmental psychology (in postgraduate urban design course)*. the faculty of Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran
- [11] Nasar JL (1997). *The Evaluative Image of the City*. Sage Publications, London, UK

- [12] Hosseini M, Sotuodeh F (2008). The Role of Collective Memory in Urban Regeneration. unpublished paper
- [13] Pirouz P (2002). Revitalization of Metropolises' Centre as A Cultural Project (Case study: Chicago). Quarterly Journal of Urban Management & Planning, 2(8): 78-84
- [14] Peirce CS, Hartshorne C (Ed), Weiss P (Ed) (1932). Collected Papers of Charles Sanders Peirce, Volumes I and II: "Principles of Philosophy and Elements of Logic". Belknap Press of Harvard University Press, Cambridge, Massachusetts, USA
- [15] Chandler D (1996). Semiotics for Beginners. University of Wales, Aberystwyth (online version). <http://www.aber.ac.uk/media/Documents/S4B/semiotic.html>
- [16] Ahmadi B (1992). From Pictorial Signs to the Text. Nashr-e Markaz, Tehran, Iran
- [17] Crystal D (1987). The Cambridge Encyclopedia of Language. Cambridge University Press, Cambridge, UK
- [18] Sasani F (2003). Multi-dimensional Semiotics in arts. Quarterly of Khial, The Iranian Academy of The Arts, 6:90-101
- [19] Sojoodi F (2003). Applicable Semiotics. Nashr-e Qesseh, Tehran, Iran
- [20] Kristeva J (1989). Language the Unknown: an Initiation into Linguistics. translated by: A.M. Menke, Columbia University, New York, USA