International Journal of Architectural Research

An international fully refereed journal published three times a year


Architectural Planning
Built Environment Studies

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ArchNet-IJAR Registration and Indexing
ArchNet-IJAR ISSN - United States (Online) 1938-7806

The journal was first registered in the following portals:
- OCLC & World Cat (Online Computer Library Center and World Catalogue) # 145980807
- Library of Congress Catalogue, LOC # 2007212183

Established in 2007, ArchNet-IJAR is an Open Access interdisciplinary scholarly peer reviewed journal of architecture, planning, and built environment studies, published on the World Wide Web three times a year.

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Volume (9) - Issue (1) - March 2015

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ARCHITECTURAL CONSERVATION AS A TOOL FOR CULTURAL CONTINUITY:
A Focus on the Built Environment of Islam

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Abstract
Architectural historic preservation has been used as a means to express or represent national, Islamic and even ethnic identity, and often this is linked to tourism or used to serve political ends, particularly in nation building. This article investigates agency and utility in the conservation and restoration of religious built environments in different societies in the Islamic world and its meaning to these societies today. Conservation should be interpreted more broadly than the physical continuity of historic structures; it should also enable the continuity of non-material aspects of culture.

Keywords: Stewardship; values; conservation; restoration; charter guidelines.

INTRODUCTION
Stewardship and the built environment
Islam enjoins its followers to be stewards of the earth, and whatever act that reinforces this is regarded positively. The notion of stewardship includes the protection of heritage, both natural and constructed. The Quran says: “The servants of [Allah] All Merciful are they who tread gently upon the earth with humility” (Quran XXV: 63). Being prudent with both building and natural capital supports this notion of safeguarding them for future generations. Historic buildings are reflections of cultural values, and contain within them our collective memory; an integral part of our identity is lost when they disappear.

The contemporary Islamic world faces a challenge in determining its future physical environment. Affluence, rapid demographic growth and urbanisation have led to the large scale changes in the urban fabric. New buildings age and over time assume value to us as individuals and communities as reflections of cultural values. Historic buildings contain within them our collective memory; once they disappear we lose an integral part of our identity.

Conservation itself can be a tool for cultural continuity. In a speech published in 1978, now almost 40 years ago, His Highness the Aga Khan said; “We must ask ourselves how we can prevent future architectural development from accelerating the loss of our cultural identity. … We must acknowledge that the world is changing, but in doing so we must realise that there are still many lessons that must be drawn from the past” (Holod, 1980).

The toll that religious and sacred places take is significant, especially in resource poor countries where poverty proliferates. In a seminal publication of a 2000 World Bank symposium and publication entitled Historic Cities and Sacred Sites (Serageldin and Shlugar, 2000), Ismail Serageldin noted:

“Cultural heritage preservation and poverty reduction are closely intertwined. The fight against poverty … and empowerment cannot occur unless the sense of common purpose, shared values, and affinity with others is anchored in a notion of a common culture…. Historic and sacred sites are part of that shared heritage. The Comprehensive Development Framework (CDF), advanced by World Bank President
James D. Wolfensohn, pioneered the specific inclusion of culture and identity as essential elements of a more holistic development approach."

The issue of historic conservation, preservation, restoration or rehabilitation goes far beyond that of preserving the built environment: it raises broader cultural questions as to who we are, where we are coming from and to where we are going. It is an issue of importance to Muslims the world over as we become members of a globalising world.

Countless great historic structures of Islam have undergone change, enlargement, and indeed restoration over the centuries. In the past little regard was given to restoration that brought the structure back the state of some period of existence or originality that represent significant moments in history and are exemplary as great works of architecture – some are discussed in this essay.

**Philosophical Considerations about Value**

It is worth placing the conservation of historic sites into a larger framework. The associated issues are not only about culture: here the focus is on the philosophical and ethical nature of interventions in the built environment of Islam, and not on the technical, although some consideration is given to architectural and design issues.

There are a number of factors to be considered in preserving and restoring iconic buildings, which includes the political, economic, cultural and physical contexts within which the buildings are located. The broadly philosophical and ethical considerations are perhaps more important than the architectural parameters of ‘best practices’, as they express religious and cultural values to ourselves and the world at large and to next generations.

Looking back at the philosophy of modern restoration, to the time of the influential thinkers John Ruskin and Eugène-Emmanuel Viollet-le-Duc in the 19th century, two different viewpoints are clearly apparent. Just to quote one small point in their extensive oeuvre illustrates two significant approaches to conservation. Ruskin, in the Seven Lamps of Architecture Ruskin, 1849), writes:

"Neither by the public, nor by those who have the care of public monuments, is the true meaning of the word restoration understood. It means the most total destruction which a building can suffer: destruction … accompanied with false description of the thing destroyed. … It is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture."

This abhorrence for restoration is in marked contrast to Viollet-le-Duc, who wrote in The Foundations of Architecture, (Viollet-le-Duc, 1854) that “Restoration is a means to re-establish [a building] to a finished state, which may in fact never have actually existed at any given time. … it gives us an understanding of history and place.” The first calls for cultural continuity and the notion of maintenance as an ongoing process whilst the latter for the restoration and revitalization of the built environment.

In the early 20th century, the Austrian art historian Alois Riegl posited a critical analysis of heritage values, which constitutes the first coherent basis for modern conservation theory. His concept of Alterswert (the value of aging and the importance of marks of usage) was outlined in his pioneer work, The Modern cult of Monuments (Forster and Ghirardo, 1982). There he outlines the idea of value as a basis for making decisions about preservation. He divided values into two types: i) Memorial Values, which dealt with age value and historical value, and ii) Present-day Values, characterised as use value, art value, newness value, and relative art value. These value theories give us a rationale for historic preservation practice. They provide a useful check-list by which to measure historic preservation actions even though the philosophical approaches are affected by non-conservation considerations. To this set of values one might add others that specifically pertain to religion and culture.

The first consideration for intervention pertains to significance of the buildings and sites – what they mean to us today and through history. Some of these models are manifest through the
historic and vernacular architecture of different regions from that of West Africa and the Arab countries to that of the Indian sub-continent and S.E. Asia.

Second is the importance of a building in connection with its age and social memory – its longevity (something that Ruskin valued greatly). If a building has survived over the centuries it will have accrued great meaning to the community that uses it and have acquired a kind of landmark status within an urban fabric. The pyramids of Giza near Cairo are a fine example of this, although they are not Islamic but are located in a Muslim country.

A third reason for restoration would be architectural value, where the structure and ornament in a mosque is exemplary and worth preserving as a fine example. Sites such as the 17th century Maidan Emam (formerly Maidan-i-Shah) in Esfahan is bordered on all sides by monumental buildings linked by a series of two-storeyed arcades, the Royal Mosque, the Mosque of Sheykh Lotfollah, the magnificent Portico of Qaysariyyeh, and the 15th-century Timurid palace. (see Figure 1).

![Figure 1. Maidan e-Emam, Esfahan (Source: Drawing by Klaus Herdeg).](image)

The importance of religious value (something that Reigl did not deal with), with the mosque at its centre is self-evident as with the Ka'aba and other religious structures including shrines, which may be of more local importance. Examples include the 9th century Mosque of Ibn Tulun in Cairo and the Bakiriyya Mosque in Sana’a dating from 1597.

Cultural value is to be differentiated from the religious and architectural values. Preservation for cultural purposes, to recognise specific ethnic or religious groups, or social significance, provides another reason for intervention. This is often given shape through political decisions. We see that decision making about conservation or restoration is made through this overlay of values, which need to be clearly defined and stated.

**Continuity and change in the historic places of Islam**

The fact that a building is in use is another reason for preservation. However, in most such cases the building usually only needs regular maintenance, as called for by Ruskin. The situation may be complicated when the structure needs to be expanded, as in the case of the Prophet’s Mosque in Medina particularly in the case of the need for expansion and enlargement to
accommodate increased usage. If one were to follow Viollet-le-Duc's principles this would be acceptable as long as the whole is not compromised and in accordance with the Venice Charter the old and the new should be clearly discernible. (The 1964 International Charter for the Conservation and restoration of Monuments and Sites, widely known as the Venice Charter, whose principles still largely guide the principles of historic preservation states, in Article 12: Replacements of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original so that restoration does not falsify the artistic or historic evidence.)

For example, the Ka’aba, “The very first house (of worship) established for humanity. …The place where Abraham stood (to pray)” (Quran III: 96-97), has been built, rebuilt and changed over the centuries. (The changes to this sacred site are too numerous to outline, but the following makes the point about the problems associated with rebuilding and restoration clearly seen in this the most holy of Muslim sites.) It used to cater to some 280,000 pilgrims in the 1950s and now has to accommodate some two million pilgrims yearly. In the 20th century several major changes have taken place under Saudi Arabian aegis where the administrators of the shrines have had to cope with the situation. The Haram had to be extended and rebuilt (see Figure 2A-C) and the pilgrims have been accommodated in vast tent cities with sanitary facilities and highways. Unfortunately, at times, new additions or reconstructions largely altered or even obliterated not only the historic and characteristic features of the monuments but also much of their setting, and perhaps overwhelmed something of the spirit of the pilgrimage. Such changes may be understood to be the latest phase in the continual alteration of the buildings, which occurred throughout their existence, but the speed of change in recent times has allowed little time for reflection or consideration as to what the design means in terms of either continuity or preservation.

A. Ka’aba – 19th Century Print
B. Ka’aba plan

C. The past Saudi King Abdullah expansion of the holy precinct, currently under construction.

Figure 2. The Kaaba: Changes over the years (Images from the internet).
Consider also the Mosque of the Prophet itself – the Masjid an-Nabawi. (see Figure 3A-D) The structure started off as the Prophet's house in Medina, a simple courtyard with rooms on two sides that was designated as a mosque in 622 CE. Eighty years later Caliph Al-Walid replaced it with a new building with minarets. There were several alterations and additions, including those made by the Ottomans who controlled Medina from 1517. After the foundation of the Kingdom of Saudi Arabia in 1932 the mosque underwent several major modifications, including the one in 1986 by the architect Abdel Wahid El-Wakil. Although he intended to incorporate the old structure into his design for a more commodious building, the old mosque was torn down and replaced with a new one, the second largest mosque in the world. Currently, extensive additions are underway, which will again considerably alter the area.

A. The house of the Prophet
B. In the late 7th Century
C. In the 20th Century
D. The Mosque today

Figure 3A-D. Mosque of the Prophet, the Masjid an-Nabawi, development and growth over time (Source: Author).

What do these examples of enlargement mean, and how do they relate to the notion of historic preservation of cultural heritage? The present building has no relationship with the past except that it recognises the magnificence and the presence of Islam and the central role of the Prophet. How far should we go in the preservation of past heritage? How much should we allow for change in restoring a mosque? To what degree does contemporary utility, however discreetly provided, rupture the sense of historical integrity?
Perhaps what we should look for is not integrity of the past, which now exists in juxtaposition with the contemporary, but the integrity of aesthetic feeling, meaning, and use, revealed in a continuity of forms. In this way the old can inform the new but is differentiated from it.

Given this thought, this also raises the issue philosophically as to how far should we go in the preservation of past heritage? How far should we allow for change in restoring a building? After all Islam is a living religion and all living things adapt, change and die.

A good example of this is the Khulafa Mosque in Baghdad (Holod and Khan, 1997), originally built by the Abbasids in the 9th century and replaced in the 13th century. All that remained of the second building was the restored Suq al-Gazi minaret. The memories associated with the site are important to the city and its population.

In 1961, the Iraqi architect, Mohamed Makiya was commissioned to build a new mosque on the site that integrated the old minaret. The building was to be modern but was to respect the space and materials of the remaining minaret (see Figure 4A-B). Makiya designed the main octagonal prayer hall to be surrounded by riwaqs (arcades), and he employed yellow brick to match the minaret and yet be distinctive from it – thus following the guidelines of the Venice Charter (UNESCO, 1964). The 1963 project successfully retained the spirit of place and the past.

Figure 4A. Plan and elevation of the redesigned mosque with the remaining historic minaret shown in blue.
Restoration and Politics

What one restores and why is often a matter of politics. As the historian Renata Holod acknowledged in her introduction in *Conservation as Cultural Survival*, (Holod, 1980): “Efforts at structuring conservation programmes are therefore faced with several difficulties. The old environments have lost status; at best they have suffered from benevolent neglect on the part of governing elites. ... the impetus to organize and implement such an action lies within the realm of political and ideological decisions.”

Muslims have sometimes taken over and adapted the buildings of other religions, and such appropriation occurs in all religions. For example, the magnificent Great Mosque of Cordoba in Spain (8th – 10th Centuries), which was built and adapted by the Umayyads from a former Christian church, was converted back into a church in the 14th Century, and under King Charles V in 1523 a cathedral was inserted into its centre as a symbol to re-establish the might and dominance of Catholicism. (see Figure 5)
Figure 5. Roman Catholic Church inserted into the Cordoba Mosque in the 16th century
(Source: Aga Khan Award for Architecture).

Conversely, Constantine's Basilica in Istanbul, known as the Ayasofia or Hagia Sophia, was built in 360 CE and used as a church until it was converted into a mosque in 1453. The conversion of the interior of the basilica into a mosque involved the removal of the altar and relics, the plastering over of the mosaics, the addition of a maqsura, a minbar, and the mounting of the enormous shields of calligraphy with the names of God and the prophets at the intersection of walls – these shields were added in the 19th and were not part of the 15th century changes. The slight shift of the interior axis to face Makkah is barely discernible. Meanwhile, on the exterior four minarets were added to proclaim the building as an edifice of Islam (see Figure 6). From 1935 the building complex has housed a historic museum. It has undergone several restorations, the most recent being at the end of the early 20th century.
In the Cordoba and Istanbul examples, the notion of restoring cultural heritage is a politically charged one, raising questions regarding which cultural layer is accorded privilege over another and why this is so. It also highlights the time dimension to old monuments that problematizes simple notions of the cultural component of architectural legacies. Although the above are historical examples the problem persists today.

For example, since 1947 in Pakistan conservation preference is given to mosques rather than temples or churches because Pakistan sees itself as an Islamic state, even though other religions had built significant religious edifices within its boundaries. It should be noted that important pre-Islamic sites in the country are preserved, but given the meagre resources of the archaeology department, the priority is to conserve Islamic buildings.

Because of the significance and symbolic value of the mosque it is sometimes a place of conflict. A dramatic case is that of the Buddhas of Bamiyan in Afghanistan, dating from the 6th century, which were destroyed as being “un-Islamic” in 2001 by the Taliban. This was done in spite of Mullah Mohammed Omar’s July 1999 decree in favour of the preservation of the Buddhas. He noted that because Afghanistan’s Buddhist population no longer existed, which removed the possibility of the statues being worshiped; they were no longer religious artefacts. He said, “The government considers the Bamyan statues as an example of a potential major source of income for Afghanistan from international visitors. Bamyan shall not be destroyed but protected” (Harding, 2001). However, after the ruling Taliban government came out with a consensus that declared that they were ‘idols’ (forbidden under Sharia law) and therefore against the tenets of Islam, the destruction of the giant Buddhas was assured. Several Muslim governments, including Saudi Arabia, Pakistan and the UAE, joined the international protests to save the monuments to no avail. Two years later in 2001 Mullah Omar stated, “Muslims should
be proud of smashing idols. It has given praise to God that we have destroyed them” (Times of London, 2001) (see Figure 7A-B).

Figure 7. The Buddhas of Bamyan (Source: Author).

A. Before 2001

B. After destruction

What should have been the attitude of Islam as a religion of tolerance in these cases? Should religious edifices belonging to another religion be preserved? And within Muslim countries themselves, how would this affect the preservation of, say, Shiite mosques in predominantly Sunni countries? This is an ethical question. Suffice it to note, preservation is often a political act.

Mechanisms enabling conservation and restoration

It is worth noting that contemporary architectural conservation is a relatively recent phenomenon in Muslim societies – generally since the 1960s – except for the preservation of historic archaeological sites and major historic monuments that come under the aegis of departments of archaeology usually established by colonial powers, but there were few indigenous institutions.

For example, in 1881 the Khedive Tawfiq established a Committee responsible for the preservation of Islamic and Coptic monuments in Egypt as a body within the ministry of Awqaf (charitable endowments). In the vast majority of cases the Committee opted for preservation only but some complete restoration programs were carried out, most notably the restoration of Sultan Qalawun complex and the funeral complex of Qayatay.

Architectural conservation in the Islamic World has largely been the purview of governments, ministries, departments or local government, although in more recent times preservation work has been augmented by non-state initiatives by NGOs, local community groups, often using zakat (charitable) funds, and by wealthy individuals.

Preservation efforts have been negatively affected by the lack of expertise in the archaeological departments, which are by far and large responsible for conservation of historic monuments. A shortage of personnel, budgets, and even interest, play a part in this.

Within Islam the institution of the Waqf, or charitable trust, plays a significant role. The term Waqf (plural Awqaf) literally means detention. The legal meaning of Waqf, to paraphrase Imams Abu Hanifa, Abu Yusuf and Muhammad Says, is the detention of a specific thing in the ownership of Waqf and the devoting of its profit or products for the good of the poor or other good
causes. It infers the retention of all things in the implied ownership of God, in such a manner that its profits may revert to or be applied for the benefit of Humankind. This reinforces the notion of people as stewards of the earth. In the history of Islam the first waqf is the mosque of the Mosque of the Prophet, c. 622 CE, in Medina. In countries where awqaf do not exist, as in the USA and Canada, Muslim communities administer their waqf properties in accordance with the Foundations Acts and Regulations as not-for-profit organisations.

Originally, edifices such as mosques were maintained and restored and run through the endowed trust income, and administered by an independent group of trustees. In the urban areas many of the social and religious buildings came under the aegis of waqfs.

The evolution of the waqf to the present has varied throughout the Muslim countries, in some cases having disappeared completely with the waqfs absorbed into ministries. In other instances many actual Ministries of awqaf (vakif in Turkish, and habs in North and West Africa) – including the Ministry of al Waqf in Egypt, the Ministry of Awqaf Islamic Affairs and Holy Places in Jordan, the Ministry of Awqaf and Islamic Affairs in Kuwait for example – have been established. As an institution it has a great potential for restoration of buildings and the conservation of areas. At times Ministries or waqfs (plural awqaf) reach out to the public for additional funding to enable work to be executed.

Even in a self-declared secular state, the Turkish Vakıflar Genel Mudürlüğü, a waqf, has been reasonably successful in the restoration of mosques and the and the reuse other buildings such as caravanserais into hotels, as can be seen with the 1972 project for the Rustem Pasha Caravanserai in Edirne, Turkey. (see Figure 8).

Figure 8. Rustem Pasha Caravanserai, Edirne (Source: Aga Khan Award for Architecture).
Other mechanisms that enable (or hinder) the restoration of buildings are those of funding – both public and private – and that of legislation. In the west there is a well-established tradition of charitable giving supported by tax incentives. This may be a variation of the Waqf mechanism, but exists in the general sector and is not limited to religious places. Legislation that protects buildings now exists in most Islamic countries, unevenly applied, but mechanisms such as tax credits, used effectively in the United States, have yet to be implemented.

Some private organizations restore buildings in Asia and Africa. Prominent amongst them are the Aga Khan Trust for Culture and the World Monuments Fund with their work in Cairo and elsewhere. The World Bank, the European Commission, the European Investment Bank, and national governments have also supported projects in the Islamic world. Ultimately, international bodies continue to play major and decisive roles for conservation around the globe – UNESCO most significant among them. It also established the International Committee of Experts (ICE) to provide technical assistance for conservation work.

In 1960 UNESCO established a World Heritage List which identified places and buildings of importance to all humankind, and with the aid of international campaigns raises funds and provides expertise to save them. The UNESCO list of 2014 contains some 1007 properties (buildings, areas, towns, landscapes) of which 185 are in the Islamic World. Of these there are around 95 religious buildings, including churches, monasteries, mosques, and temples; some 25 of these belong to the world of Islam, and are located in mainly urban areas.

The conservation of the Yemeni town of Sana’a, aided by UNESCO, has been a long-time project which started in the 1970s and continued for over two decades. It included both restoration and reuse of buildings and the development of infrastructure. (see Figure 9A-B)
The paucity of much of the Islamic world’s built heritage from this list is telling. It is partially due to the fact that Islamic governments are sometimes reluctant to nominate such individual buildings because of their uncertainty regarding their global significance and due to the long and arduous process this entails even though, once on the List, the chances of international support and finance increase. If governments or their designated agencies go through the tedious process of writing up the nominations, they tend to include whole areas rather than individual structures. Another reason is that inclusion of buildings from outside the West has only gained momentum since the 1990s.

**Tourism and restoration**

Revenues obtained through tourism significantly fund conservation of historic edifices, and the judicious staging of facilities and utilisation of sites can yield direct economic benefits. Mass tourism, however, can also damage the urban fabric of old cities and the historic buildings themselves. Tour groups in search of the “authentic” often stimulate an artificial life separate from the environments and lives of the people that inhabit them. Souvenir shops and traffic congestion affect the environment, and tourism can alter the experience.

An external factor that emerged in the 20th century has been the increase of tourism. It is worth noting that mass tourism is one of the fastest-growing and most highly developed industries in the world, stimulating some $ 800 billion in investment yearly in new facilities and equipment. Today 21.3 million people around the world are employed in the travel and tourism industry, one that generates around $ 4.2 trillion annually.

Both Muslims and others, when travelling for tourism want access to the great and even minor sites they are in to gain a sense of history, culture, and architecture. These include historic mosques that continue to be used for worship, such as the magnificent Badshahi Mosque in Lahore and the historic walled city of Lahore, an infrastructure project undertaken by the government with World Bank funding as well and the restoration of several neighbourhood houses by the Aga Khan Trust for Culture Historic Cities Programme. (see Figure 10) Both of them have been maintained and only restored in areas as needed. Maintenance is more desirable than restoration.
One way in which to protect buildings is to restrict access to them – a general principle more difficult to impose on public and religious buildings. How can one limit access to mosques and religious buildings that in concept belong to the ummah - society? To reject access to non-Muslims or to other Muslim denominations can exacerbate the perception of Muslims as being intolerant and regarded as “the other”.

Many historic buildings come under the aegis of Ministries of Culture and Tourism. Herein lies a conundrum: most of the countries of the Islamic World need the income that tourism brings so that they can maintain and restore their buildings. Many of the Departments of Archaeology are housed within the Ministry of Culture, and even if they want to restore a particular site or building they have to temper their considerations with those of the need to generate funds – even though the restoration could lead to cultural conflict and degradation.

The balance between tourism and conservation is a delicate one. Add to this the issue of the iconic and religious built environments and we have an overlay that is charged with great emotion. Hence governments, who in general have to make choices as to what they should restore, often succumb to religious pressures in making their choices.

CONCLUSION

What is missing in many contemporary Muslim societies is a set of enforceable guidelines for conservation and best practices for restoration that meet international norms developed since the early 20th century – the international Charters and Guidelines. Some countries do have them built into law – Algeria, Indonesia, Pakistan and Turkey, to name a few – but are often not followed. Muslim countries should develop a Charter of ethical practice to govern conservation actions.
As a principle, I propose that buildings should be preserved as long as its form possesses meaning for us and as long as its survival can be prolonged by technical means. Historic preservation is a professional activity, but one that is tempered by a number of actions external to the field itself necessitating a balancing act and negotiation. The conservation of the physical context / surroundings of religious buildings are important. However, it is not sufficient to preserve monuments, but that the ensemble of historic cities must be re instituted as a viable and vibrant node in urban life.

There is the need for change, growth, and even the adaptive reuse of structures, which is more complicated for religious buildings due to their symbolic nature. In these instances, the philosophical values outlined in the international Charters and Guidelines proposed by UNESCO, ICOMOS and other bodies, such as the aforementioned Venice Charter (1964) and the Burra Charter (1981), should be adhered to, but need to be critically re-examined for their applicability to Islam. These will inevitably be compromised by ideological or fiscal concerns, but at least will contain within them a backbone of ideas that can act as a guide.

The great 20th century Egyptian architect, Hassan Fathy, not known for preservation work, recognised the central place of conservation in our lives when he commented at the conference, Conservation as Cultural Survival in 1978: (Fathy, 1980: 103)

"I want to comment on the nature of change, the importance of continuity and the preservation and conservation of our monuments and towns. ... we have to remember that the importance of conservation is not limited to the maintaining the forms of historic buildings for posterity; conservation is also the mechanism for the carry-over of the old traditions, from the conceptual as well as the functional viewpoint."

Architectural restoration is more than an intervention; it is, as Fathy asserts an instrument for cultural continuity. In order to facilitate the transformation of Islamic heritage as a tool with which to plan for the future and not just as a record of some ‘glorious’ Islamic past, preservation needs to be a forward-looking enterprise. Conservation is even more than a tool for continuity; it could be a tool for cultural survival and enhancement.

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NOTE
This paper was presented among the 3rd International Symposium of Qatar Faculty of Islamic Studies at Hamad Bin Khalifa University on The Essence of Heritage in Architecture and Urban Planning.

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RECONSIDERING THE WAQF: Traditional Mechanism of Urban Regeneration in Historic Muslim Cities

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Abstract
Through the last century, historic Muslim Cities witnessed significant decay. The level of decay, while a number of those cities were inscribed in the WHL, created an international urge to intervene. With very limited exceptions, modern interventions did not create an obvious impact due to common factors: inefficient management, fragmented responsibilities on administrative levels, weak legislations, and lack of community awareness, participation, and absence of integrated mechanisms. However, those factors are mostly of operational nature. This paper sheds light on a socio-cultural aspect of deterioration through inquiring about a basic issue: “How was the historic Muslim city maintained for centuries?” The key answer refers always to “the Waqf”. Although its nature and role are quite different now, the Waqf institution was the main player in urban regeneration in Muslim cities until early 1900. How did it use to work? Within which value reference? In addition, what was the position of the local community in the process? Those are the key issues discussed in the paper arguing that reconsidering this traditional mechanism might add another layer to the understanding of the complexity of Muslim cities and accordingly, might lead to different approaches in future interventions.

Keywords: Waqf; urban regeneration; Muslim cities; context-conscious approach.

INTRODUCTION
This paper discusses the Waqf institution as the driving force and traditional mechanism of urban regeneration in historic Muslim cities. It tries to bring forth the main principles that shaped its intervention on one hand and the core differences with the modern principles for urban regeneration on the other. The aim is not to answer the “how to intervene?” question. This paper actually tries to shed light on the main factors beyond the sustainability of this traditional mechanism. Those factors might help in the understanding of the deterioration of the city and might offer guidance for future efforts. Within that framework, the paper is divided into four main sections.

First, an overview about the urban management in the Muslim city and the pattern of ownership and distribution of different responsibilities is discussed. Understanding the whole traditional urban mechanism will help in understanding the philosophy of Waqf without isolation from its historic context. Secondly, a light is shed on some key issues concerning the Waqf such as its origins, categories, position in Muslim culture and different management mechanisms. The first two sections are corner stones for the third section that discusses in details the guiding principles that shaped the Waqf philosophy in the intervention in historic Muslim cities. Then a last section is dedicated to reflections and conclusions.

MANAGING THE MUSLIM CITY
The consensus of neighbours didn’t control private properties only but it did so also with public spaces since most jurists agreed that all public spaces are owned by the community collectively and not by the state. Accordingly, the principle applied is that individuals may act and change elements in the street as long as nobody objects and no harm is caused to the public. Absence of objection means that the action is implicitly approved. Accordingly, the form of the
public space was subject to continuous change through time. This process led Habraken (2000) to consider the rules that shaped the public spaces in Muslim cities a play producing a form which is different than the Western model based of strict respect of predefined territorial boundaries (see Figure 1).

Figure 1. Organizational Pattern for a District in Tunis Shows the Architectural Composition and the Urban Fabric Resulted from the Decision Making Process (Source: Hakim, 1982).

On the other hand, a single objection equals the objection of all the nigh parties. This process extended to reach the ability to change the use of a whole property, that could take place only if didn’t harm others. (Akbar, 1988) For instance, the residents of a dead-end street had the full control over it. Opening a new door into the street could be done without the approval of the residents according to the same process. It was part of their property; accordingly they usually erected gates and closed them on schedules for security reasons. With control went responsibility for maintenance For instance, each house is responsible for the adjacent part in terms of waste management and lighting. Additionally, water supply and sewage systems were parts of that responsibility. (Akbar, 1993) However, in some cases especially in big cities such as Damascus and Cairo, the authorities claim responsibility for the control major thoroughfares. In other words, in major cities, the more active the street, the more intervention by the authority can be expected. In conclusion, one cannot find better than the words of Hakim (2010) to summarize the system that used to manage the Muslim city and its implications on the architectural and urban level:

“It was the responsibility of the ruling authority to create the broad framework for the town or city. The decisions of the ruling authority affected city walls and gates; the location of the major mosque, the palace, and the central market area; and the general alignment of the primary streets connecting all of these structures. In other respects, the city emerged naturally as a result of the decisions and actions of its residents, who,
when they built houses and other structures, responded to existing conditions on adjacent properties by adjusting their own design. Over time, changes occurred as the owners adapted to neighboring and, especially, contiguous structures. The alignments of pathways and streets were delineated and extended in response to the creation of nearby structures and changes in them. In a word, the system was self-regulating and adaptive.” (Hakim, 2010)

This extremely decentralized system and the extreme level of community participation in every little decision concerning the built environment are crucial aspects in understanding the nature of the Muslim city from both architectural and urban perspectives. However, these factors shaped the “common” environment in terms of buildings and public spaces. So what about the “exceptional” ones that were later considered historic buildings?

WAQF INSTITUTION: AN OVERVIEW

Historic Muslim cities share many features such as organic urban fabric, wide use of courtyards and even some architectural features. However, another common feature among all the historic Muslim cities is indeed the dedication of a huge share of the real estates and agriculture lands to the Waqf institution. Actually, most of the modern tourism attractions such as mosques and schools in addition to many of the exceptional architecture had been erected and maintained for centuries as parts of Waqf. However, the philosophy of the Waqf institution was quite different than our modern heritage institutions concerning the meaning and the value of those exceptional buildings and the relation with the surrounding as well as the users.

Origins

Waqf is a type of pious foundation. It literally in Arabic means detention or stopping. Legally, jurists of different schools of Islamic law have given many definitions for Waqf that could be summarized in detaining the corpus from the ownership of any person and the gift of its revenue or usufruct both presently and in the future to charitable purposes. (Abo Zahra, 1959) It refers to any endowed property “Mawqoof” of which the revenue is devoted to a special purpose “Mawqoof Aleih” while ownership is immobilized forever.

The Waqf is not a Muslim invention since ancient temples and priests were sponsored through similar mechanisms, however, with different names. Waqf existed from the first years of Islam however it got its legitimacy basically from many parts of the original texts of Islamic religion: Quran and Sunnah of the Prophet and not merely as a legacy from previous generations. A fair number of early traditions and legal texts, which consists of Prophet’s sayings, Hadith, outline the early practices of Waqf. (Ben Hamouche, 2007) For instance, the Prophet said: “When a human being dies, his work for God comes to an end except for three: a lasting charity, knowledge that benefits others, and a good child who calls on God for his favour.” Muslim jurists defined Waqf as a type of this “lasting charity” mentioned in the Hadith. Actually, that Hadith might be considered the main motivation beyond the evolution of the whole concept of Waqf which is clear in most of the Acts of Foundation. (Abo Zahra, 1959; Ghanem, 1998; Akbar, 1988)

Categories

Most of the jurists subdivided Awqaf into two main categories; the first is that donated to the donor’s relatives and offspring and that is known as Waqf Ahli or Dhurri. The second category is the charitable one, Waqf Khayri, in which the revenues are devoted to philanthropic or public goals. Additionally, it dedicated some of the revenues to public services that satisfy community needs such as supplying water, streets’ paving, hosting and feeding the poor, constructing mosques, schools and hospitals which were religiously well appreciated (Ben Hamouche, 2007;
Denoix, 2000; Pioppi, 2004). However, some scholars consider the joint one *Waqf Mushtarak* a third category. This joint *Waqf* devotes a defined share for the family of the donor and another share for the philanthropic goals (Ghanem, 1998). Anyway, the main concern within this paper is about the *Khayri* type which was dedicated for public purposes.

**Role in Muslim history**

Throughout the Muslim world, especially under the Ottoman rule, *Awqaf* spread everywhere. For instance, Jerusalem’s Haskei Sultan charitable complex founded in 1552 by the wife of Ottoman Caliph Suleyman the Magnificent in Palestine and Lebanon had been sponsored by the revenues of 26 whole villages, a covered bazaar, shops, soap plants, flour mills and bath houses. (Marwah, et al. 2009) By the second half of the 19th century, half of the agricultural lands in Algeria and one third of that in Tunisia were under *Waqf*. (Kuran, 2001) On the other hand, while describing *Waqf* in Damascus, Leeuwen argues that:

“…there was probably hardly anyone whose life was not at one stage or another shaped by *Waqf* system, either in the form of schools or mosques, or in the form of commercial locales, or in the form of bathhouses, coffeehouses and other social meeting places, or in the form of allowances, financial support and provisions” (Leeuwen in Ben Hamouche 2007).

*Waqf* also had its role in interacting with the tragedies in the Muslim history. For instance, in Algiers a *Waqf* was established to host the massive refugees from Spain during the *Reconquesta* and to provide them with their basic needs. This Andalusia Community *Waqf*, that included houses and an educational complex, was kept working until the French Colony in Algeria in 1830, more than three hundred years after the tragedy. (Ben Hamouche, 2007)

In conclusion, the *Waqf* institution might represent the Muslim interpretation of social justice and responsibility. It played a major role in filling the gap between the different social classes and satisfying social needs. It insured permanent services and incomes for the deprived persons and thus strengthened the social cohesion in the Muslim cities. Additionally, the *Waqf* might be considered a local application in the direction of developing the non-governmental and non-profit sector and increasing the welfare services both quantitatively and qualitatively.

**Establishing a *Waqf***

Each *Waqf* was managed according to specific conditions, *Shurut*, set by the founders. Those rules are documented in an Act of Foundation called *Waqfiya or Hujat-Al-Waqf*, which must be created by the founder, and approved by legal authority that usually included judges and witnesses. This *Waqfiya* defines which properties were to be endowed, for what purposes, to which institutions, and according to which conditions. (Denoix, 2000)

*Waqfiya* includes different sections. In a first section, a detailed architectural description is given about all the buildings included in the *Waqf*. In a detailed tour through the building, all the spaces one after another are described. For instance, in the *Waqfiya* of Sabil of Yusuf Agha from 17th century in Cairo, it’s mentioned that the staircase leads to the primary school overlooking the street, having a floor made of stone, a wooden ceiling and balustrade. In describing another room where the water was distributed, it was mentioned that it has ceramic panels, polychrome marble floor, painted ceiling and two marble basins for collecting the water. (Raymond, 2000)

This first section usually ends with very important information from legal perspective. It offers a clear definition of the boundaries of the plot with the exact geographical location which is given by the indication of the immediate neighbours. (Haarmann, 1980) Furthermore, *Waqfiya* might also define the methods of maintenance of the buildings by indicating the different amounts to be dedicated to whether repair, maintenance or complete restoration. (Aboukorah, 2005) Accordingly, this detailed section about the physical setting of the *Waqf* according to its Act of
Foundation plays a crucial role for historians, archaeologists, and architects in affording a clear picture of the buildings at the time of its inclusion in the Waqf and can therefore determine the changed, added and ruined parts as well as how they should function (Crecelius, 1991, Denoix, 2000).

Another section includes the different properties, in terms of agricultural land and estates which are endowed as Mawqoof for a specific purpose. It defines its exact dimensions and location within the towns and villages they constitute. Within the same section, the founder shows proofs of ownership of the different properties such as a purchase contracts. The exact dates of those contracts are given for authentication at the Qadi’s bureau where all Awqaf properties were listed by type, whether a house, shop, bath or agricultural land. Since the Qadi has the authority to monitor the performance of the managers, these registers were crucial to be mainly used for the monitoring and the control of the properties and the collection of revenues. Furthermore, they were updated periodically and were reproduced for safety reasons (Ben Hamouche, 2007).

In a third section, the purpose of Waqf and the functions of each part of the buildings as well as the parts that could be rented and thus generate revenues, are described. Then the salaries and allotments for employees and beneficiaries are specified based on a clear job description and required qualifications. (Haarmann, 1980)

In conclusion, the Act of Foundation is the main legal document related to Waqf in terms of defining the physical character of the assets as well as the managerial structures and codes of management. Additionally, it represents a detailed charter for the management of each Waqf independently not on collective basis. This approach matches with the previously discussed guiding principles for construction which also provides a “code” for each plot separately. The importance of this document was appreciated by most of Muslim countries which may be clear in the huge efforts done from the public authorities to preserve and restore those Acts of Foundation from different periods of their history not for historic purposes only but also for legal ones.

**Autonomy of Waqf**

In general, the relation between the ruling authority and the different Waqf institutions within the Muslim city was based on cooperation which created a common field in which the central authority and the different social actors cooperated in adopting initiatives to satisfy the basic public services and needs. Ghanem (1998) defines three main principles that shaped the legal status of the Waqf institution. Those principles had afforded a kind of independence and protection for the institution from any possible intervention from the ruling regime. However, some rulers succeeded in controlling Awqaf in their cities with the help of some local judges, but that situation was the exception. The first principle is the respect of the will of the founder documented in the Waqfiya. Legally, this document had a quasi-sacred status and is considered the main reference in the management of the institution that can only be modified under very special circumstances after the consultation of the Judge.

Secondly, the guardianship over the institution is exclusive for the juridical authority. Jurists of different schools of law defined the juridical system as the only official body that might have the power to intervene in the management of Waqf in some special cases. For instance, in the case of the death of the founder without appointing someone to manage the institution, the Judge had to appoint a new manager and he had the authority to eliminate the managers in cases of mismanagement or corruption. Furthermore, the juridical authority had the upper hand even against the rulers in the management of Waqf institutions.

Finally, the Waqf institution was considered an independent legal entity by all the Islamic schools of law. Accordingly, the institution was considered under law separately from its founder and manager. It may engage in selling, buying, letting and borrowing. Additionally, it may sue and be sued and it was also subject to certain legal obligations, such as the payment of Zakat. This consideration as an independent legal entity with the previously discussed principles afforded a
kind of legal independence and protection for the Waqf institution from the intervention of the different powers (Ghanem, 1998).

Management of Waqf Institution

As mentioned in the first principle about independence of the institution, the founder of the Waqf defines the managerial structure for the whole institution in the Waqfiya. He can manage it himself or appoints a manager who is called Nazir-al-Waqf or Mutawalli. This manager is in charge of maintaining the revenue-generating nature of the main properties of the Waqf, distributing the revenues or spending it according to the Waqfiya with the support of the needed number of employees he might need. However, all the actions are carried out after executing the activities of the maintenance and improvement of the main properties even if this was not stated literally by the founder in order to keep Waqf in the most advantageous condition. (Kadry, 2006)

Usually, Waqfiya defines the monthly salaries and allotments for Nazir and the employees. However, the salary of most of the positions within the Waqf such as teachers, sheikhs, readers and even students were standard for Awqaf of the time (Crecelius, 1991). Additionally, some Waqfiya might adopt a micro-management approach in managing Awqaf. For instance, it was mentioned in a Waqfiya that whoever was given a nightshift task received a salary 50% higher than his dayshift colleague. Other Waqfiya defines special regulations for paid and unpaid leaves or absence for their employees such as for pilgrimage to Mecca or visits to Jerusalem or even to their home town (Haarmann, 1980).

Occasionally, Waqfiya might be silent about the salaries, accordingly the manager can either work on voluntary basis or he can ask the Judge to determine a salary for him. (Marwah, et al. 2009) In case of the death of the founder without appointing a Nazir or proof of corruption or misuse against the employees in the institution, the Judge is allowed to take the required decision either by appointing another Nazir or by shifting the management to be directly within the juridical system (Ghanem, 1998).

Self-adjusting and correction mechanisms

Unlike the common idea promoted through the Colonial and Post-Colonial period about the rigidity of the concept and role of Waqf, the Waqf afforded several mechanisms of self-adjustment against the changing social, economic and political conditions.

First, decades after the original foundation of the Waqf, it was possible to add other revenue producing assets to the initial ones in order to upgrade or at least to maintain the functions of the institution either by raising the salaries and thus ensuring the quality of the performance or by increasing the number of beneficiaries (Denoix, 2000). A very well-known case that shows this mechanism is the Waqf of Ibn Tulun in Cairo established in the 9th century. Al-Maqrizi mentioned that the Mosque of Ahmad Ibn Tulun and the hospital attached to it were funded by its extensive properties endowed by the founder. (Al-Maqrizi, 1998, Vol. III) Additionally, endowed Waqf properties for that complex increased through the history of the mosque especially during the rule of Bahri Mamluk Sultan Lachin (1297-99) who added extensive properties to the endowments in order to renew the Mosque, to add Kuttab, to fund classes in the four rites of Islamic jurisprudence, interpretation of Quran, as well as medicine (Mubarak 1888, Vol. IV).

Another mechanism that may reflect the self-adjusting nature of the management of Awqaf to the changing realities is the Istibdal, exchange. According to Istibdal mechanism decayed or unprofitable assets could be exchanged for another one or could be sold in order to trim the Waqf or make funds for other investments. However, in some periods, this mechanism was also subject to misuse by powerful rulers and high ranked officials especially in periods when central and prestigious districts were almost saturated. Accordingly, they used Istibdal to afford lands for their own Waqf (Fernandes, 2000).
WAQF INSTITUTION AND URBAN REGENERATION

Many of the Orientalists and Westernized Arab-Muslim scholars suspected the Waqf as an institution that impeded the city’s development by freezing land and estates. This criticism might be hardly fair since, for many centuries, the Waqf institution was a main driving force behind urban development and the good performance of most the Muslim cities. Actually, the foundation of a Waqf in some periods in the history of Muslim cities meant directly an urban regeneration project. It was a dynamic that could contribute to the rehabilitation of whole areas in decline and the substitution of old and decayed buildings by new ones. Founders of Awqaf had played a similar role of ‘developers’ in the real estate market; however, they were more community oriented. They would buy ruined buildings and pull them down in order to build new ones which were strongly committed to satisfy public needs. They followed coherent strategies behind the establishment of the great Awqaf with a clear determination to re-urbanize the different areas by equipping it with different structures. This strategy was based on placing the revenues producing estates, Mawqoof, within the same area of the building that affords the main purpose of the whole Waqf, Mawqoof Aleih. This setting afforded the area with the basic urban functions in terms of religious, educational, commercial and residential services which is known in modern planning expressions as “mixed uses”. However, in some periods, the land was not available to place both parts of the Waqf within the same area. In that case, the role of Waqf in urban regeneration of central areas was reduced to the construction of some exceptional buildings that afforded main services and their maintenance physically and functionally while revenue producing assets were built elsewhere (Denoix, 2000; Fernandes, 2000).

For instance, mosques, bridges, roadhouses, caravansaries and other elements of the traditional built environment were based on Awqaf, and many remained in good condition. Other main contributions of Awqaf were to deliver water to localities through digging canals, the construction and maintenance of defensive walls in towns, subsidizing the cultivation of special crops and operating commuter ships, supporting retired people from specific guilds (Kuran, 2001). However, education and culture grabbed a special attention from the founders which created an educational system that is dependent entirely on Awqaf. For instance in Cordoba, during the rule of Al-Hakam Ibn Abdul-Rahman III, there had been 27 elementary schools sponsored by Awqaf in all the districts of the city. Additionally, by the mid of the 10th century in Mosul in Iraq, a huge library was endowed for all scholars and it offered a scholarship for researchers. Another library in Baghdad had an extension to host and accommodate foreign scholars (Al-Sergany, 2010). On the other hand, Awqaf were not dedicated only for basic services but also it had its contributions in affording some luxurious goods for all citizens in the city. For instance, in the 12th century Saladin built a fountain in the castle of Damascus that supplied sweetened water and milk twice a week (Al-Sebaay, 1998).

Finally, there had never been a barrier in including non-Muslims in the beneficiaries of Awqaf. For instance, in 1640’s, a Jewish traveller wrote in his diaries that while he was travelling to Istanbul from Egypt, he and his companions spent most of the nights at Waqf inns open to all travellers without any discrimination based on religion or beliefs (Kuran, 2001). Additionally, in a Waqfiya of a water fountain in Cairo, it was mentioned that the water was to be distributed to passers-by daily from among Muslims and others of all conditions (Raymond, 2000).

Guiding Principles for intervention

Based on the previous detailed overview of the organization of the Waqf institution and how it used to work, four main guiding principles might had shaped its philosophy in intervention on the urban level in historic Muslim cities.
Comprehensiveness

Comprehensiveness according the philosophy of Waqf has a multidimensional interpretation. First, exceptional buildings had never been erected on isolated basis; instead, they were parts of a comprehensive social and economic system within the city. For instance, when an individual wants to build a school that delivers a public service, he would establish a whole Waqf that includes real estates, shops, warehouses, bathes or agricultural lands to assure the sustainability of the function of the school. Accordingly, the quality of the building, physically, and of the service it delivers are dependent on the economic conditions that control the revenues collected from the different assets. This understanding shifts the listing unit from the most common individual buildings and/or areas classification to a more articulated system that includes social and economic aspects. Thus, in order to save the historic buildings, multidimensional interventions are needed.

Secondly, the establishment of a Waqf is not restricted to the area around the exceptional building. Revenue producing properties might be in other districts, cities or even countries. For instance, in the Waqf of Al Mansoor Qalawun and Sultan Hassan in 13th and 14th century on their Complexes in Cairo, they endowed properties in Delta cities in Egypt as well as in Palestinian and Syrian cities. (Mubarak, 1888, Vol. V) Accordingly, a Waqf is integrated in the social and economic life of the whole region in a delicate and sensitive way not just within the boundaries of the historic area. The call for that kind of integration was introduced on the international level only in Washington Charter in 1987.

Finally, as previously discussed in the first section about the direct responsibility of the owners and users in the maintenance and repair of public spaces in the Muslim city, the Waqf institution had a direct responsibility towards the maintenance and improvement of their surroundings such as infrastructures and waste management. Accordingly, the revenues of Awqaf were not dedicated only towards the properties within the Act of Foundation but also it had a responsibility towards its context. For instance, the repair of sewage system within a street is a collective responsibility of all residents of that street. When a building falls in a Waqf, it had to pay its share from its revenues. Additionally, in some Acts of Foundations, like the one of Sultan Al-Ghuri in Cairo by the early 16th century, there was a dedicated amount for the maintenance of some streets or whole districts.

In conclusion, comprehensiveness according to the Waqf philosophy and the quality required by communities living in historic cities are achieved by the collective impact of the good management of many Waqf within the city without any kind of centralized management, formal coordination or comprehensive interventions (see Figure 2).
Quality of the common
The philosophy of the Waqf reflected an understanding of the quality of the built environment that kept the balance between the ‘common’ and the ‘exceptional.’ Furthermore, in the time of crisis, the common ones were mostly favoured. This balance was achieved through creating an interdependent relation between them. Within the same Waqf, the needed funds for the maintenance of the exceptional building, such as schools, mosques and hospitals, are available usually after the repair and maintenance of “common” ones such as normal houses and shops. Accordingly, it guaranteed a special quality for the “common” without transforming it to an untouchable exceptional. This interdependence would create one of three conditions. In the case of good management, both the common and the exceptional buildings will be well preserved. In the case of worse management, the main capital would be well preserved while the exceptional might face some problems. In the case of bad management, both the common and the exceptional buildings would deteriorate. According to this approach, saving a historic building take place through the good management of common ones. Additionally, this approach would never produce a well preserved historic building in a deteriorated context which is very common in historic cities today.

On the other hand, the study of the evolution of the modern conservation movements in Europe in the 19th century, in the previous chapter, and the following contributions of UNESCO through the 20th century reveal that the aim of the intervention was essentially to protect buildings with special value. Then, it was argued that to have a better protection of single buildings, the
surrounding also should be protected and so on reaching whole towns and cities. That entry point created a tendency to define ‘buffer zones’, ‘beautification lines’ and whole ‘conservation areas’ around the exceptional buildings which actually didn’t create a balance between common and exceptional, instead it transformed the “common” buildings within those zones to exceptional ones with exceptional treatments.

This old understanding of the quality of the common building in the urban context was expressed by some contemporary scholars such as Alexander (1979) and Habraken (2000) who argues: “It’s by the quality of the common that environments prosper and by which ultimately our passage will one day be measured” (Habraken 2000: 327).

**Position of the Community**

Similar to the case of the relation between the common and the exceptional buildings within a Waqf, is the relation between the building and its function. The exceptional building is erected to deliver a specific function, thus it doesn’t have a value in itself. Furthermore, some schools of law consider the unused buildings as ruined ones, even if they are in good conditions, which need either to have new uses or to be demolished in order to construct another building that is useful for the community. Accordingly, the main goal of protecting the building was mainly to sustain the function and the service it delivers. In that respect, when the revenues are not enough to sustain both, some parts of the building, after the approval of the Judge, can be rented in order to sustain the service. That’s another difference with the modern consideration of heritage that considers the historic building a value in itself even if it doesn’t have any function.

Additionally, that approach reflects the local community’s understanding and relation with its heritage. Historic buildings were deeply embedded in the daily life of the local communities since most of the public services, such as education and health, had been afforded mainly by Waqf institutions. Accordingly, for centuries, the need to protect and maintain those buildings was not an elitist concern for some nostalgic, symbolic or aesthetic reasons instead it was a public concern strictly related with people’s daily life.

**Pattern of Management**

The management of Waqf was a subject to an extreme degree of decentralization and autonomy. It is not only decentralized from the authority of the state but also from any centralized management unit. Each Waqf was managed independently according to its specific rules and conditions defined by the founder. Additionally, the juridical authority was the only one that has the right to monitor and intervene. Accordingly, each historic building has its own “charter” that defines the type of intervention to be executed, the function as well as the properties that should sponsor both. However, in some exceptional situations, for instance the collapse of some properties or parts of the buildings or even economic crisis, the Judge has intervene to solve the resulted disputes and the inconsistency in the revenues in order to maintain as much as possible the will of the founder and, accordingly, the solution was afforded on individual basis.

The respect of the will of the founder and the role of the juridical authority guaranteed a community oriented mainstream that governed all decisions concerning Awqaf and protected it from being used for political or personal goals. Additionally, this decentralization protected the historic stock from facing comprehensive deterioration since the risks are dispersed case by case. This one-to-one approach in dealing with Waqf matches with the adopted “construction code” that was defined according to the location of each plot.
CONCLUSION

The aim of this paper and of the analysis of the philosophy of the Waqf institution is neither a nostalgic trial to talk about historic achievements nor a call for the implementation of historic practices into modern context. In fact, the main goal is to understand the factors beyond the success and sustainability of this traditional mechanism given the fact that the same contexts are facing obvious deterioration through the last few decades.

The practice of the Waqf took into consideration two main aspects that are highly essential while intervening on urban level in general: time and context consciousness.

On one hand, principles of Waqf for intervention are time conscious since they deal with the fact that change is an inevitable process and a fundamental character of cities even historic ones. Therefore, it doesn't seek to fossilize the whole urban context through strict conservation codes in order to protect the whole city. Instead, the Waqf tried to set rules for managing the future change through different mechanisms to adjust the properties, their function and the allocation of different resources according to the new situations.

On the other hand, those principles are context conscious since establishing a Waqf is – in itself- a responsive action to the needs of the intimate surrounding community which are different from a place to another and from time to time. However, the core issue about context-consciousness is that the whole institution was established, articulated and flourished according to the collective value reference of the community represented in the value of “lasting charity” in the case of Waqf. Within that framework context-consciousness is not limited to surveys about number of inhabitants, their basic needs, average income and types of economic activities in area. It went deeper to meanings of heritage and conservation for the local community. Additionally, the concept of community participation surpasses the narrow managerial and operational consultancy field to the fundamental definition of the philosophy beyond any intervention and accordingly the daily responsibility.

The Waqf succeeded in maintaining the historic Muslim cities for centuries. Part of this success might be referred to the fact that the Waqf is part of the culture of Muslim societies based on its value reference. The diverse legacy of interventions might have positive contribution to modern discourses in the field of urban regeneration of historic cities such as: comprehensiveness and decentralization of management. However, those values that shaped the whole institution and the legal framework according to which it evolved since establishing a Waqf is – in itself- not merely an understanding of context-consciousness. The narrow managerial and operational consultancy field to the fundamental definition of the philosophy beyond any intervention and accordingly the daily responsibility.

The understanding and reconsideration of the Waqf might add a socio-cultural layer to the discourse about the factors beyond the contemporary deterioration of historic Muslim cities. It is not merely an understanding of an operational mechanism which meets many of the modern standards. It actually calls for a fundamental revision for some basic concepts in the field of heritage conservation and the real commitment to respect and working according to the local culture and values.

REFERENCES


NOTE
This paper was presented among the 3rd International Symposium of Qatar Faculty of Islamic Studies at Hamad Bin Khalifa University on The Essence of Heritage in Architecture and Urban Planning.

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EVOLUTION OF ABSTRACT VEGETAL ORNAMENTS IN ISLAMIC ARCHITECTURE

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Abstract
This research investigated the history of Islamic abstract vegetal ornaments and sketched their evolution to understand their creation process and innovations. We studied these ornaments regionally to identify regional variations and classified them based on tastes of patrons. Meanwhile, we analysed the formal aspects of these ornaments, including their dimension, proportion, dominant colour, material, and techniques. In addition, the study conducted detailed observations of their characteristics, such as margins, apex, thickness of stem scrolls and vents, to define their constructive elements, aesthetical properties, and design principles that reveal date, region, and styles. This research not only provides a comprehensive guide to the evolution of Islamic abstract vegetal ornaments for architectural conservation projects but also serves as a reference for the comparative and critical analysis of contemporary Islamic-inspired ornaments.

Keywords: Ornaments; Islamic ornaments; abstraction; Middle East art & architecture

INTRODUCTION
Above all monumental and structural elements, such as domes and minarets, the essential character of the Islamic architecture is the role of decoration (S. S. Blair & Bloom, 2003). All the other elements are determined by the elegance of their decorations. Vegetal or floral motifs have long been the foundation of Islamic decoration (Clévenot, 2000). However, Islamic architectural ornaments in general and abstract vegetal decorations in particular, which are symbols of the development and contribution of Islamic civilizations to art and architecture, have been degraded from an innovative arena of Muslim architects to the field of imitative art. The lack of research on the principles and architectural orders of these ornaments often leads to their inappropriate use, particularly in terms of date, style, and even formal aspects (main elements, proportions, colours, etc.) in the conservation, restoration, and building of new projects inspired by historic styles.

Research Methodology
This research is mainly based on descriptive and historical approaches, for which our first objective was to identify most popular vegetal ornaments (identification of research topic). The second objective was to collect these ornaments from most important surviving monuments (data collection). The scope of this research chronologically spans from the early stages of Islam’s birth to the late 18th Century and regionally covers areas from West Africa to the Indian subcontinent, thereby exploring the legacy of major Muslim dynasties and empires. Well-preserved ornaments from 150 Islamic-inspired monuments are gathered and classified based on time and region - evaluation and classification of date. Furthermore, formal aspects of ornaments including, constructive shapes, scales and proportions, line thickness and types of curves, density of pattern, material, colour and techniques are analysed to identify principles of Islamic abstract vegetal ornaments (data analysis). Our goal is to sketch the evolution of Islamic vegetal ornaments through the history and to describe variations in regional styles using the correlation of these principles with earlier classified periods and regional variables (data synthesis).
Main Elements of Islamic Abstract Vegetal Ornaments

From the earliest monuments with mosaics of naturalistic motifs, such as the Dome of the Rock and the Umayyad Mosque, to the early 18th Century glazed tiles of Madar-I Shah Mosque, several elements dominate the repertoire of Islamic vegetal ornaments. These main elements can be classified according to their botanical and morphological features. Narrowing these features down to the morphological aspects related to abstract ornaments is necessary because comprehensive botanical analyses are beyond the scope of this research (see Figure 1).

![Figure 1. Predominant elements of Islamic floral ornament in Sheikh Lutfallah Mosque](Source: Mandana Fard, 2008).

Early stages; Umayyad Ornaments (660 – 750 CE)

Oldest surviving buildings in the Muslim world of architecture, including the Dome of Rock (691 CE), Al-Aqsa Mosque and Umayyad mosque (both 709 CE), are decorated with naturalistic floral and vegetal motifs, mainly derived from Sassanid and Byzantine arts (Flood, 2001). Plants that can be botanically identified in the Umayyad mosque of Damascus are palm and pear trees as well as acanthus and vine leaves (see Figure 2).

The salient characteristic of ornaments in this period is the golden background, which is similar to Byzantine ornaments. The gold colour also used for depiction of vegetal decorations, for which in such cases dark background is chosen to provide a sharp contrast. The same principles are used in later buildings such as Khirbat al-Mafjar (724 CE) in Palestine. Form Qasr-al-Hayr al-Gharbi (727 CE in Syria) onward, Byzantine mosaic technique expelled gradually, and carved stucco and stone became the prevalent technique. Meanwhile, stem scrolls became more popular, causing trees to be marginalized.
Another notable change is the use of relatively more stylized vegetal ornaments in mid-8th Century buildings. Al-Qasr Umawi in Amman (743 CE) with abstract acanthus leaves, rosettes, vine stems and grapes carved inside stone blind niches, spandrels and column capitals, is a good example of first artistic movement in the history of Islamic vegetal ornaments. Around two decades later in surviving ornaments of Al-Mshatta palace (743 CE), there is no sign of trees in ornaments, and scrolls became a main decorative motif. While in eastern territory of Umayyad reign, vine scrolls became more popular, acanthus remained the main motif in western extents, which were heavily under the influence of the Byzantine style. Mosaic also continued to serve as main decorative technique in western parts of Umayyad Empire. The great mosque of Cordoba with its lavishly decorated Mihrab (see Figure 2) and Maqura (976 CE) is a great example of late surviving Umayyad buildings (Khoury, 1996).

**Abbasid, Tulunid, Buyid, Hudid, Almohad, Ayyubid (750 – 1258 CE)**

Only a few buildings survived from the early Abbasid period in mid-8th Century, which none of them are remarkable in terms of flora decorations. In the early 9th Century, massive extensions added to the Great Mosque of Qairouan in Tunisia (Grube & Michell, 1995). In these early renovations of mosque, clear examples of Byzantine acanthus leaves, Egyptian lotus and rosettes are used in column capitals and wall decorations. Decorations used in this period are the continuance of the Umayyad architecture. But in later refurbishing, from 862 CE onward the current Mihrab, Minbar and minaret have been added. Decorative ornaments used in these elements are a mutation in Islamic floral ornaments, which its signs can be found from Samarra in Iraq to Masjid-I Noah Gumbad in Afghanistan. The marble panels of Qairouan’s Mihrab with carved floral motifs are imported from Iraq (Grube & Michell, 1995) which shows the influence of Samarra style in the mid-9th Century of Islamic world of architecture. Lavish living style of Abbasid rulers motivated Muslim architect and artisans to form a new level of decorative arts in their buildings that tended towards abstract floral motifs and distinguish themselves form principles of antiquity art. On the other hand, the heavy influence of eastern neighbouring dynasties such as Buyids and Seljuks caused the decline of floral motifs in their art and geometrical motifs became dominant ornaments in Abbasid architecture.
Characteristics of Abbasid ornaments (Samarra Styles)

In the mid-9th Century, Islamic floral ornaments experienced new styles and distinctive techniques, which are contemporary to introduction of geometric ornaments to Islamic architecture. These geometrical ornaments are generated on three main constructive bases of circle grids, polygon tiling and plane symmetry groups (Abdullahi & Embi, 2013). The excessive influence of geometry caused a revolutionary transformation in the naturalism of early Islamic vegetal ornaments. These new conventional designs are categorized under Samarra styles (Ali, 1999) and were so popular during 9th and 10th Centuries all over Islamic the Islamic world of architecture. The 9th Century carved stucco decorations in ruins of the old Samarra city are the products of above-mentioned transformations.

Scrolling: The immediate effect of geometry was on the stem scrolling. Pre-Islamic and early Islamic stem scrolls grow longitudinally (sinusoid curves) and volutes are springing from a main stem alternatively. However, in later styles, stems were in the form of a grid of circles, inscribed within a geometrical frame (square, hexagon, etc.). Other elements, including fruits, flowers and leaves are encircled by stem scrolls, which are sculptured over constructive circle grid (see Figure 2).

Leaves: Another notable change from early 9th Century onward is the form of leaves that became even more conventional and lost their natural order to another level. Sharp edges replaced by more round corners, leaf lobes become symmetrical around its main vein and finally leaves overall shape became limited to top and side view with certain curvatures.

Framing: Another change, which took place during this period, is the framing of surfaces. In earlier styles, patterns distribute naturally throughout required surfaces while in late Abbasid styles, vegetal motifs are constrained within polygons of geometrical patterns.

Fatimid Ornament (909–1171)

This is the Age of paradoxes. Fatimid’s artisans had a tendency to create natural figural motifs (Bloom, 2008) yet they were deeply drowned Abbasid abstract and geometrical motifs. Fatimids’ art is characterized by use of realism, while in architectural ornaments abstract floral and geometrical patterns are dominant. The Fatimids’ first impressive building in Cairo was Al-Azhar Mosque that was founded in 970 CE. The building was restored and expanded frequently throughout history, but window grilles and stucco panels in the spandrels of the main prayer hall along with carved stucco of Mihrab’s hood are either original or later Fatimids’ addition to the mosque (Behrens, 1989). Although abstract elements of Samarra style has been used in Al-Azhar, but especially in stem scrolls, a tiny naturalistic style is returned from early Islamic and pre-Islamic decorations. A difference that may notice between the Fatimids and Umayyads scroll is that in early Islamic styles, leaves or flowers grow out of main scroll whilst on Fatimid’s style leaves may grow out of other leaves and may form as a part of main scroll. In addition, leaves are broader, their curves are section of smaller radii and vine scrolls are stockier than early Islamic styles, which made dense and exuberant patterns in comparison to its earlier styles. These patterns are mostly axially symmetric which a vertical element (trees, palmate or bulbous chalice) bisects the surfaces and this was a common practice in Umayyad ornaments (see Figure 3)
Another characteristic of these ornaments is the excessive use of fan shaped leaves. Sometimes a secondary leaf grows out of the apex of bi-lobed leaves and in case of frieze and borders; leaves are growing continuously out of apex of each other to form scrolls. The same concepts have been used in Al-Hakim Mosque (1013 CE) of Cairo (see Figure 3). The original carved stone, brick and stucco works in blind arches and decorative bands are designed with vegetal motifs inspired by Al-Azhar ornaments. Later Fatimid’s surviving buildings such as Al-Juyushi, Al-Aqmar and Salih Tala’i Mosque are not significant in terms of floral ornaments. In these late Fatimid’s monuments, floral decoration is limited to tiny friezes and boarders. In terms of morphology, gradually stems and scrolls became thinner, tri-lobed and five-lobed leaves become more frequent in designs in comparison to early Fatimid’s ornaments.

**Buyids, Seljuk, Ghurid Ornaments (11-12th Century)**

The nature of local building-materials and construction-techniques induced different type of ornaments to Anatolian Seljuks and Great Seljuks’ (Iran and central Asia) architecture (Hillenbrand, 1994). Brick has always been the predominant construction material in Iran and Central Asia and it suits perfectly for assembling geometrical patterns. Meanwhile, Anatolian Seljuks used carved stone as medium of their ornaments. In the oldest surviving Great Seljuk monuments such as Tomb Towers of Kharaqan (1093), Barsian Friday Mosque (1098) and until the early 12th Century, geometrical motifs dominate ornaments and façade decorations. By mid of 12th Century, the hegemony of geometrical patterns among Seljuk architects subsided slightly and vegetal motifs returned to their facades.

Floral ornaments of Great Seljuks and Ghurids’ monument of this period, such as Arch of Bust (1147), Sultan Sanjar Mausoleum in Merv (1157) and Jam minaret (1174) have much in common with their predecessors and specially Abbasid’s Samarra style. Of particular Seljuk floral ornaments’ characteristics is first the thickness of stems, which become very thin in comparison to both their predecessors and concurrent Fatimids style. The second distinguishing factor is the leaves dimension, which have been elongated and shows more mature aesthetically proportions. Early 12th Century Divrigi complex (1129) has both broad and long leaves on its carved stone entrance portals. By mid-12th Century, Anatolian Seljuks took a step further and defined new proportions that transformed broad leaves to long falcate shapes (see Table 1). Original carved wooden Minbar of Alaeddin mosque in Konya (1150) is one of early example of this new style. Additional tendril on the apex of leaves, which in botany is called as ‘Cirrhose Apex’ is the third feature that differentiates Seljuk’s ornaments from Abbasid and Fatimids design. Naturalistic Pinnate venation in leaves’ design is another popular feature among both Great and Anatolian Seljuk’s architects and artisans.
Table 1. Evolution of Main Elements of Islamic Floral Ornaments (Sources: Authors).

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Note: Each cell represents a specific element or motif used in Islamic floral ornamentation during the respective dynastic period.
In early 13th Century, glazed brick and tile technique became popular among Seljuk architects. Tiles were mostly in blue spectrums while black or white were used to create depth and contrast. These techniques were mainly used to design geometrical motifs and vegetal ornaments were limited to boarders, friezes and cornices. Facades of Sirçali Madrasa (1242) and Büyük Karatay Madrasa (1252) are well survived example of late Seljuk glazed tiles with vegetal ornaments (see Figure 3).

IL-Khanid Ornaments (mid-13th to mid-14th Century)

By the rise of Il-khanid rulers (1256-1353), the land of Persia found an established and stable government following decades of chaos after Mongol invasion. By conversion of Il-khans to Islam in early 14th Century, Islamic art and architecture flourished once again and Il-khans Mongol patrons introduced many East Asian motifs and styles such as peony, Chinese Cloud/Yilan and lotus to Islam art (Komaroff, Carboni, & Art, 2002). One of the appreciable early 13th Century Il-khanid monument is Pire Bakran Shrine in Linjan of Iran. Caved stucco of eastern portal's spandrel is designed with a multi layered floral motifs, including large flowers and small leaves in the background. The flowers used in this spandrel might be related to Chinese peony, as using naturalistic flowers have been so rare from late Umayyad era. Other interesting characteristic is three-dimensional effects created by depth of carving and bulging finishes, which has also been used on other parts of building and particularly on highly elaborated Mihrab of the south wall. Such high relief, dense ornaments with squeezed large-scale leafage and bulging surface can also be found in Mihrab's crown of Bayazid Bastami Shrine (1313) and Ulijaytu Mihrab in Friday mosque Isfahan (see Figure 4) that has been added to original mosque in 1310 (S. Blair & Bloom, 1995).

Stucco work remained dominant building decoration technique until decline of Il-Khanids in mid-14th Century, adorning their architectural masterpieces such as Varamin Friday – Congregational - Mosque (1322) and Sheikh Ahmad Jami complex, both in Iran. These ornaments hold very much in common with their concurrent Moorish style. Similar to Moorish ornaments, Il-khanid artisans combined a layer of thick continues curved lines with their ornaments that give a sense of climbing plants woven to screen panels or fence (see Figure 4). During late Il-khanids various tile revetments techniques including low-relief ceramic (both moulded and carved) tile, glazed brick and ceramic tesserae (mosaic tile), became popular. Flower spray with minimal palette of white, cobalt blue & ochre, forms general scheme of Il-Khanid tile works.
Mamluk Architecture (1250-1517)

By mid-13th Century, Seljuk techniques of designing vegetal decoration had already reached to Egypt and can be found in early Bahri Mamluks (1250–1382) monuments such as mausoleum Sultan Al-Zahir Baybars Mosque (1267) and Mustafa Pasha (1272) in Cairo (Yeomans, 2006). Although Mamluks were concurrent to Il-Khanids, they never reached to Il-Khanid’s level of delicacy. With the exception of decorations of Al-Nasir Muhammad Ibn Qalawun Madrasa (1303) which designed by Persians (D’Avennes, 2008), Seljuk design and proportions remains popular in Egypt and less density, low relief and excessive use of stipules distinguished them from concurrent Il-Khanid styles in Persia. These stipules are usually born on stems and blade of the leaves (dome’s drum of Hasan Sadaqah mausoleum, 1315, in Figure 5). Another distinguishing feature is the venation designs. While Il-Khanids used more naturalistic and particularly pinnate venation in their leafage designs, Mamluk followed their predecessor’s styles. Like the Fatimid style, inside their leaves are further decorated with offset curves of leaf’s blade, smaller leaves or much stockier veins in comparison to Il-Khanid style. Gradually the application of floral motifs became less and the only notable monument in terms of floral ornaments in late Bahri Mamluk architecture is Sultan Hassan Mosque (1363 CE) and Amir Sarghatmish Complex (1356 CE) both in Cairo. Although signs of mid-relief ornaments (which are the characteristics of Il-Khanid architecture) can be found in band of Quranic inscription in Kufic style around the Qibla wall of Sultan Hassan Mosque, but for the most part, the floral ornaments used in this mosque are inspired from Anatolian Seljuk style (Rogers, 1972).

![Figure 5. Al-Nasir Muhammad Ibn Qalawun Madrasa - Stipules in decorations of Al-Zahir Baybar’s Mosque - Hassan Sadaqah Mausoleum (Source: D’Avennes, 2008).](image)

Floral ornaments remained obsolete during the early Burji Mamluk (1382–1517), however, from mid-15th Century onward and during Sultan Qayitbay, floral motifs in architectural ornaments became the vogue. Dome of Sultan Qayitbay Complex (1472) is among earliest Mamluk domes carved with vegetal decoration and probably is the only dome with combined geometrical and floral patterns. Interlaced vegetal and geometrical pattern became a popular feature during the late Mamluk art in Egypt and North Africa. The Qibla wall and Mihrab of Friday mosque of Qijmas Al-Ishaqi (1479 CE) in Cairo are elegantly decorated with white marbles and inlaid black grout of floral motifs. Fortunately, the artist has signed his masterpiece as ‘Abd al-Qadir al Naqqash’ (Behrens, 1992). This technique became a characteristic of late Mamluk architectural decoration and can be found in other buildings such as Madrasa Abu Bakr Muzhir (1480) in Cairo.

Timurids Ornaments (1370-1507)

There is no clear break between late Il-Khanid and early Timurid art and architecture. In terms of ornaments and particularly floral motifs their predecessors already developed many of essential elements such as stem scrolling, abstract lobed leaves. Even tile revetment became popular in Persia during late Il-Khanids. Archaeological studies show that 13th Century Il-Khanid’s
palace of Takht-e-Soleyman in north-western of Iran was decorated with interlocking geometrical tile panels. The surfaces of these tiles are mostly moulded with low relief of hunting and battle scenes, human figures and Persian poetry (Masuya, 2000). However, it was during Timurids that polychromic tiles became the main decorative feature of religious buildings in Iran and central Asia. In early Timurid monuments, such as Shad-I Mulk Aqa Mausoleum (1383) low relief moulded tile panels as well as other two main tile-working techniques including ‘ceramic tesserae (mosaic tile)’ and ‘painted glazed tiles (Cuerda Seca)’ were the main decorative feature of all monuments. However, what makes Shad-I Mulk Aqa Mausoleum and other early monuments distinguishable form later Timurid monuments are the extensive use of low and mid-relief ornaments made of moulded pottery tiles with sharp edges and dominant blue spectrum colors. Timurids continued to use Il-Khanid floral motifs and by later 14th Century, flowers and buds became fundamental elements of their vegetal ornaments. The early examples can be found in Shirin Beg Agha Mausoleum (1385), and Amir Zadeh Mausoleum (1386), in Samarqand of Uzbekistan.

Darb-I Imam Shrine (1453) in Isfahan as well as the Masjidi Muzaffariyya or Blue Mosque of Tabriz (1464) represent the grace and refinement of late Timurids mosaic and tile work. The main distinguishing feature of late Timurid floral ornaments is the more frequent use of carnation flowers (see Table 1). Timurid ornaments deeply influenced contemporary neighbouring kingdom and empires such as Qara-Qoyunlu, Aq-Qoyunlu and Ottomans. Timurid art and architecture continued to evolve until early 16th Century and carried on by Safavids in Iran and Mughals in Indian subcontinent (Golombek & Wilber, 1988).

**Characteristics of Timurids Ornaments**

**Material and techniques:** Il-khanids style of mid and high relief ornaments using carved and moulded stucco or bricks were common in early Timurid style. However, gradually, flat tile work dominates their entire buildings. They used wide range of techniques including “ceramic tesserae (mosaic tile)” and “painted glazed tiles (cuerda seca)” with both under glazing and over glazing.

**Colour:** Transition from monochromic and polychromic designs of blue spectrum to colourful polychromic tiles (including turquoise, yellow, gold, ochre, red and green) is defining characteristic of Timurid style. This transition continued by popularity of over-glazing technique in late 15th Century, which resulted more exotic colors and contrast in late Timurid ornaments.

**Design:** Timurids artisans transformed Il-Khanid’s deeply carved, interlaced and complex multi-layered vegetal patterns to relatively less complex ornaments with flat finishing surface. In addition, more natural leaves and stem scrolls introduced during Timurids. These natural elements were usually used as filling elements or in background layer, while traditional abstract leafage remained as main elements in front layer having large scales and high contrast in comparison to naturalistic forms in background. On the other hand, hastate, dentate lobed (or deep serrate margins) leaves and elongated bi-lobed leaf forms became more popular in this period. Finally, the most distinguishable characteristic of Timurid ornaments from their predecessors is the extensive use of various types of buds and flowers. Most recognizable flowers are lotus, poppy, carnation and peony (see Figure 6).
There are no remarkable floral ornaments in early Ottoman buildings. Yeshil Mosque of Iznik (1391) is perhaps the earliest Ottoman mosque that floral motifs decorate tympanums, spandrels and boarders. These ornaments have clear connection with Seljuk motifs and carving techniques. Another noticeable building with floral motifs is Yeshil mosque of Bursa (1420) which has more detail in design and more refined finishing. Aside from carved stone decorations, Yeshil mosque is famous for its polychromic glazed tile works with dominant green and blue colour. The foliage designs, proportions, colour and glazing techniques, reminds the concurrent Timurid tile works. A script on its Mihrab shows that Naqash-Al-Ibn-Ilyas who was master architect in Tabriz, is the designer of the tile works (Keskin, 2012), which shows the influence of Timurid art in Ottoman architecture during early 15th Century.

During later decades and until mid-16th Century, Ottoman architects such as ‘Sinan-I Atik’ paid less attention to ornaments and floral motifs in particular. Apart Frome some sporadic painted decorations, not significant floral ornaments are used in buildings of this period, such as Fatih mosque (1470) and Bayezid II Complex (1506) both in Istanbul. Mimar Sinan has also continued his predecessors’ tradition in his first royal commissioned project. He designed both exterior and interior of Sehzade mosque (1549, in Istanbul) with minimal but elegant ornaments. Apart from two tympanums of courtyard’s arched openings, and parts of carved minibar, there are no noticeable floral ornaments within the mosque. Mimar Sinan himself designed external façade of Sehzade Mehmet mausoleum with coloured stone works with a ribbed dome surface. However, entire interior surfaces are covered with ceramic tiles. These tiles are designed with floral motifs in yellow, green and blue colors. A Persian poem above the entrance suggest that these tiles are designed by Persian artisans who may first brought to Anatolia by Sultan Selim-I after conquest of Tabriz in 1514 (Freely, 2011). Although Persian tile design and techniques had a great presence in Ottoman architecture, but tiles of Sehzade mausoleum are among the last imitations of Persian tile works in Ottoman Empire. By the fall of the Timurids in mid-16th Century, their tile work techniques have already been localized in Anatolia, and Ottoman architects stared to redefine Timurids art to match Turkish taste and architectural style. This revolutionary (Necipoğlu, 1990) artistic movement in Ottoman tile-work history, was concurrent to construction of Suleymaniye Complex (1559) in Istanbul. One of the earliest places that tulip and hyacinth flowers appeared as an essential element of Iznik tiles is Rustam Pasha Mosque in Istanbul (1563). Another feature of tile works in Rustam Pasha is extensive use of scarlet colour in tulip and other flowers, Saz leaves and even stems. Similar motifs and techniques have been used in the most admired Mimar Sinan’s project; Selimiye Complex in Edirne (1574) and Sokollu Mehmed Pasa Mosque (1578) (see Figure 7).
Figure 7. Rustam Pasha Mosque (Source: Caner Cangül, 2007) - Selimiye Pasa Complex (Source: humidfruit.wordpress.com) - Sokollu Mehmed Pasa (Source: Efendi, 2007).

Ottoman architects used similar floral motifs and techniques throughout the next century in buildings such as Ahmed Çesmesi 1729 and Al-Shurbaghi Mosque in Egypt 1758. However, from late 16th Century, Ottoman classical architecture gradually lost the ground to emerging western baroque architecture. By mid-18th Century, baroque ornaments became dominant even in religious buildings such as Laleli Madrasa 1764 in Istanbul.

**Characteristics of Ottoman’s Ornaments**

Early Ottoman floral patterns are either designed by Persian artists or developed under their supervision. Hence, although experts may recognize the difference of colour tones as a result of using locally available materials and pigments, but it is difficult to differentiate between late Timurids and early Ottoman floral motifs in terms of design elements and proportions. In the 16th Century, gradually the art and technique of glazed tile work localized in numerous workshops developed in Anatolia and Iznik in particular. The result was the merge of Turkish taste of color and penchant for naturalism with Persian design and technique.

**Colour:** Introduction of a new colour scheme might be the first noticeable result. Ottoman artists replaced Timurids traditional dark background colors including cobalt blue, purple and green, by mainly white and lighter blue colors. Other distinguishing factor is the strong presence of green and scarlet in colouring leaves and flowers. Black colour also became popular in Iznik tile works, especially in borders’ background and drawing of leaves and flowers margin.

**Flowers:** Ottomans not only brought a new level of naturalism and detail in design of flowers in Islamic ornaments, but they also introduced Tulip and hyacinth to pre-developed floral motifs such as lotus, lily, peony, chrysanthemum and carnation.

**Leaf:** Although Islamic abstract leafage remained an essential element in surface paintings and carved decorations, but late in Ottoman tile revetment these motifs are limited to either filling element or borders. On the other hand, long dentate tulip leaves so called as Saz, which has similarities with acanthus leaf took the main role in Iznik glazed tiles during late 16th Century.

**Stem scrolling:** in contrast to other elements, stems lost much of its natural orders in late Ottoman ornaments. Stems are uncontentious, very tiny and not proportioned to other elements. Meanwhile, in design of spiral scrolls, Ottoman architects used more tangled forms, such as the carved stone works on the spandrels of the main entrance portal of Yeshil Mosque of Bursa.

**Tessellation design:** late Ottomans were in favour of simple patterns, including few, but extremely detailed repeating elements. These simple patterns were suitable for mass production, responding to the growing demand of tiles for the huge Ottoman monument.
Safavid, Suri, Shaybanid (1501 - 1726)

During Safavids, economic and political links with Mughal Empire in the east and European countries strengthened. These links opened new doors to Persian art and architecture with colourful ornaments (Canby, 2002). The mausoleum of Harun Vilayat (1513) is one of earliest shrines commissioned by Safavids. In comparison to Timurid ornaments, more Turquoise blue, relatively smaller abstract leafage and more Yilan bands can be noticed in tile works. Another noticeable difference is the dome’s exterior design. While Timurids domes were either ribbed or covered with simple or plain blue tiles, Safavid architects covered their domes with similar motifs used in façade decoration. Strong presences of yellow, gold and ochre are another characteristic of mid-16th Century Safavid monuments like Sheikh Safi’s mausoleum (1544).

From early 17th Century mosaic technique replaced by under-glazed painted ceramic tiles (Clévenot, 2000). So that apart from two meters continues marble dadoes, almost entire surfaces of the grand Shah Mosque (1638) and the most exquisite piece of Safavid architecture, Shaykh Lutfallah mosque (1618) are covered with under-glazed painted tiles (see Figure 8).

Tiles are painted with floral motifs and calligraphy in mostly dark blue and turquoise background. In tiles with dark blue background, patterns are outlined with white and yellow colors. On the other hand tiles with turquoise, yellow and white backgrounds, are outlined with black colour. Surprisingly, there is not much geometrical motifs used in Shah Mosque. Similar to other monuments in mid-Safavid period Yilan bands, Saz leaves, more realistic flower and leaves are the main differentiating characteristics. By the end of 16th Century Painted plaster became an essential feature of Safavids’ royal palaces (Stierlin, 2002) and non-religious buildings such as Fin garden of Kashan (1590), Chehel Sotun (1647) and Hasht Behesht (1670). In contrast to religious buildings, figural paintings in context of historical scenes decorates Safavids royal palaces and pavilions. Although some familiar Islamic floral repertoire has been repeated in these paintings, but their realism combined with figural and animal motifs classifies them under non-religious art, and is out with scope of this this research.

**Characteristics of Safavids’ Ornaments**

Safavid architects never lost the sight of their precious Timurids architectural heritage. Although Safavids brought Persian arts and painting in particular to a new level, but in Islamic vegetal motifs, their decoration are refinement of Timurids ornaments.
Colour: Safavids used more vivid colors and their enthusiasm to paintings and miniature extends their colour repertoire of architectural ornaments. However, cobalt blue, turquoise, white, black, yellow, gold, and fawn/ochre and green spectrum are the prominent colors of their vegetal ornaments. While the extensive use of yellow is a characteristic of Safavid ornaments, they used far less red spectrums in comparison to concurrent Ottoman artists.

Techniques: During Safavids, painted under-glazed tiles along with plaster painting were dominant techniques while mosaic tile technique marginalized due to huge demand massive Safavid monuments and their restoration projects. Although the outcome of mosaic technique was both delicate and intricate, but the process was so slow and expensive.

Leaves: There is not much difference between early Safavid and Timurid leafage designs. However, the painted under-glazed tile technique helped Safavid architects to design smaller and more detailed leaves with very fine dentate margins. Another noticeable feature is the use of Saz leaves, which first developed by Tabriz artisans in mid-16th Century and became an essential element of Ottoman Iznik tiles. Although the motif developed by the Persians, but it never became a main design element as it was in Iznik style.

Flower: Another distinguishable feature is the profusion of flowers in floral patterns. Safavid architects used the same Timurids repertoire, but flowers are larger, relatively more naturalistic and much more detailed.

Stem scrolling: another consequence of painted glazed tiles is Safavids’ slimmer, multi-colour and outlined stem scrolling verses stockier and mono coloured stems in Timurids Style.

Chinese Influence: apart from emphasizing on flowers that might be related to East Asian art, the main Chinese motif can be observed in Safavid art are Cloud/Yilan bands. After the Mongol invasion, Cloud / Yilan bands introduced to Persian art, but it was during the Safavids, that these motifs became popular in architectural ornaments. This might be due to popularity of Chinese porcelains (Victoria, 2002) in early Safavid period.

Composition and Configuration: Safavid ornaments have two different configurations of floral patterns. The first type follows their predecessor’s style of prominent stem-scrolling and abstract lobed leafage. In second configuration which its roots back to late Timurids period, the arrangements of prominent flowers and Saz leaves defines the structure of pattern and other elements such as very thin stems and small leaves have only filling role. These two configurations might be used side by side or even combined in single pattern. But even in combined designs, they are mostly used as two distinguishable layers of stocky abstract foliage woven to flower sprays, Tile works of Sheikh Lutfallah Mosque in Figure 1 is a good example where prominent abstract leafage configuration decorates the medallion and prominent flower configuration fills the surrounding surface.

Mughal (1526-1858)

Early Mughal ornaments were a continuation Timurid style (Asher, 1992) with similar motifs and techniques including both carved stucco and polychromic tiles. Nila Gumbad (the blue dome) in Delhi is one of earliest Mughal tombs located on the east side of Humayun tomb. The form of building, proportion and ornaments resembles the late Timurid architecture. Typical Timurid floral ornaments such as bifid and lobbed leaves along with lotus flowers can be found in carved decoration of tomb’s ceiling. Jamali Kamali Mosque and Tomb (1536) in Delhi is another early Mughal building with richly carved stucco works of vegetal motifs. Despite high density and complexity of patterns used in this building, individual elements are not refined and proportionate to traditional Islamic floral ornament. These types of ornaments were common in mostly non-Imperial buildings of Mughal architecture. Red Fort of Agra (1565-73) was Emperor Akbar’s first major projects (Burton-Page & Mitchell, 2008). It was built at the outset of merging Perso-Islamic architecture with local styles and techniques in late 16th Century. A result of subjecting to local influence was the replacement of stucco and tile works with local strong tradition of stone
carvings (see Figure 9). Highly Skilled local craftsmen brought Islamic vegetal ornaments to a whole new level of perfection. Elements are well proportioned, curves are balanced and harmonious and nearly perfect symmetry applied to develop flowers and buds.

Another result of local style influences was the application of naturalistic forms along with traditional abstract Islamic floral motifs. Moguls' penchant for nature introduced a variety of trees, shrubs and flowers to Islamic floral ornaments. Flowering trees, pomegranate trees, Platanus trees and vines shrubs are examples, which widely used in decoration of buildings in Fatehpur Sikri buildings (1585). Apart from new naturalistic forms and traditional Timurid vegetal motifs, the very early example of Safavid floral style, decorates the apex of south entrance portal of Fatehpur Sikri (see Figure 9).

One of the most significant early example of white marble inlay is the facades of tomb of Akbar the Great (1614) in Sikandra. The Mausoleum is covered with red sandstone and elaborated with inlay white marble and black slate. The inlay floral motifs are deeply inspired from Safavid flowers and buds repertoire. The bold Yilan bands on spandrels of main arched entrance, which was popular in early 17th Century Safavid ornaments, along with stucco works and paintings of interior surfaces, suggest the strong presence of Persian architects and artists in Mughal court. I'timad al-Daula mausoleum (1628) in Agra is the Mughal's first entirely marble inlay decorated building. Abstract vegetal ornaments of I'timad al-Daula mausoleum are particularly borrowed from Shaykh Lutfallah mosque (1603) in Isfahan. Although early 17th Century Mughal floral elements are identical with Safavid motifs, as result of onerous nature of Parchin-Kari inlay (i.e. Pietra dura) technique, Mughal ornaments of this period are simpler in forms and less detailed. Margins of leaves and petals are even, patterns are less colorful and more repetitive, and their unit-cells contain less elements. Another distinguishing feature is missing principle of differentiating layers of natural and abstract motifs. In both Timurid and Safavid floral style, usually a bold layer of abstract lobed foliage is interlaced with naturalistic layer of stems and leaves. However, in Mughal style, these two layers merged and both abstract and natural leaves grow out of same stem. Similar designs, but with more details, particularly on leaves and petals’ margins decorate Musamman Burj (1640) in Agra fort that shows the progress of mastering Mughal artisans in Pietra dura.

From forth decade of 17th Century onward, as a result of both progressing localization of architecture and expansion of trade with western powers (Kleiner, 2009) Mughal ornament cast off its dominant Perso-Islamic style. New floral elements (such as various types of lilies,
chrysanthemum and windflowers) along with low-relief (Bas Reliefs) technique became prevalent in Mughal architecture. Ornaments became less dense with slim stem scrolling an incredibly detailed leaves and flowers, particularly in reliefs. Probably the most exquisite and refined Mughal ornaments belongs to Taj-Mahal mausoleum (1648). Apart from conventional Islamic stem scrolls often used in arch spandrels and margins, depiction of entire flower plants became an essential element in Mughal floral ornament. Plants and flowers growing on the soil heap (Janick & Kamenetsky, 2010) or flowers arranged in vase, were also in vogue particularly for decorating dados with relief techniques.

Islamic leafage repertoire combined with Mughal flora, in both polychromic glazed tiles and Safavid technique of plaster painting, remained fashionable, especially in the western parts of the Mughal territory until their decline in the late 18th Century. Polychromic tiles and paintings on walls and ceilings of Jahangir Tomb (1637), Wazir Khan Mosque (1635) and Dai Anga Tomb (1650) in Lahore are well survived examples.

CONCLUSION

Vegetal ornaments in early surviving Islamic monuments are continuation of antiquity art that follows the natural order of growth. Architects and artisans of this period were more botanically accurate in depiction of natural motifs and most plants in their ornaments can be recognized.

First artistic movement (The Age of Celebration of Geometry): By introduction of geometrical patterns to Islamic architecture in 9th Century, botanical characteristics of plants were almost disappeared. Earliest Islamic abstract vegetal forms, including flabellate (fans shaped) and lobed leaves are also introduced in this period. In these newly fashionable ornaments continues scrolls and leaves’ connection to stems have not defined anymore and elements are derived from geometrical shapes and patterns.

Second artistic movement (The Age of Perfection): Morphological comparison of 9th to 10th Century Islamic ornaments with 11th Century Seljuk floral motifs, clearly shows us the evolution of floral ornaments and development of Muslim artisans’ skill. By the end of 12th Century, nicely proportioned long organic forms as well as detailed features such as pinnate vents & cirrhose apex has already emerged in Islamic floral repertoire.

Third artistic movement (The Age of Islamic Sculpture): Commercial and political ties of Il-khanid with Yuan Dynasty (Robinson, 2007) encouraged the influence eastern art in Middle East and Islamic art. Return of flowers into Islamic art long after the Umayyad era can be related to this development. Flowers like; chrysanthemum, lotus and peonies are among plants having auspicious connotations in Chinese art, introduced during Il-khanids. Another distinguishing feature of Il-khanid ornaments is three-dimensional effects created by deep carved/molding techniques with bulging surfaces. During this period, high relief sculpture techniques introduced to Islamic art and architecture. These ornaments are usually multi-layered, profuse, highly complex and usually combined with calligraphy, and geometrical motifs. However, colourful, cheap, fast and mass-producible tile techniques, overwhelmed Islamic sculpture art, whilst it reached to its climax in the early 14th Century.

Fourth artistic movement (The Age of Colour and Flower): Timurid architecture grew out of well-established Il-khanid architecture. Nevertheless, what defines Timurid style is all celebration of colors and flowers, which both became essential element of Islamic architectural ornaments from late 14th Century onward. Through the next two centuries, by the rise of painting art as well as painted glazed tile technique in both Safavid and Ottoman prosperous courts, Muslim artisans reached to a new level of sophistication in design of abstract vegetal ornaments and employed colourful palette in their designs.

Formalism: this research analysed formal aspect of Islamic abstract vegetal ornaments and showed both common principles in major Muslim empires as well as variations in Styles. For instance, early Islamic leaves had acute apex and gradually, acuminate apex became popular
during the Fatimids era, while Cirrhose apex introduced by the Seljuks in the 11th Century. Another interesting fact is that not all but a few types of leaf margins were used in Islamic ornaments. Entire margin were popular among all styles, particularly North Africa and Arabian Peninsula, crenate were popular in early Islamic period till 12th Century, doubly serrate were a characteristic of ottoman ornament and serrate margin were popular in Persia and central Asia during Timurids and Safavids architecture (see Figure 10).

Figure 10. From Left: Acute, Acuminate and Cirrhose Apex – Bilobed leaves with Acute, Acuminate and Cirrhose apex – popular leaf margins in Islamic ornament (Source: McSush, 2008).

Dimensions and proportions of elements are important factors to identify origin and styles. This study shows that early Islamic abstract motifs were derived from the curves of smaller radii (possibly from grid circles) and obtuse shaped. It was during Seljuks in 11th and 12th Century that these elements grown to perfect proportions. Falcate and elongated bi-lobed leaf are legacy of this period, however, immerging and development of painting and miniature in late 14th Century, allowed Muslim artists to introduce new proportions and highly detailed designs (see Figure 11).

Figure 11. From Left: Obtuse, falcate and acicular leaves - Typical 10th Century Fatimid bi-lobed leaf, 12th Century Seljuk leaf and 14th Century Timurid leaf – leaf dimension (Source: Authors).

This research showed that Muslim architects and artisans followed common principles in design of Islamic abstract vegetal ornaments. These principles have been evolved throughout the history of Islamic architecture and their signs can be found in almost entire Muslim states. However, analysis of formal aspects such as main elements, dimensions, proportion, dominant color, material and techniques (see Table 2) and further detailed observation, such as type and thickness of stem scrolls and vents will reveal the date, origin and styles. These comprehensive analyses are not only essential for archaeological studies and architectural conservation, but also fundamental for new historical-inspired designs to ensure identifiable architectural style with flawless vernacular characters, chronological orders and formal aspects.
Table 2. Popular material, techniques and dominant colours (Source: Authors).

<table>
<thead>
<tr>
<th>Style</th>
<th>Material</th>
<th>Color</th>
<th>Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Umayyad (660 – 750)</td>
<td>Stone, Brick, Glass Paste</td>
<td>Polychromatic: Dominant Gold &amp; Black</td>
<td>Both Byzantine Glass Paste Tesserae, Mosaic &amp; Sassanid Carving Techniques</td>
</tr>
<tr>
<td>Abbasids (750-1258)</td>
<td>Stone, Stucco</td>
<td>Monochromatic: Natural Stone &amp; Pale / Clay</td>
<td>Low-Relief &amp; Sunk-Relief Carving</td>
</tr>
<tr>
<td>Fatimids (909-1171)</td>
<td>Stone, Stucco</td>
<td>Monochromatic: Natural Stone &amp; Clay</td>
<td>Low-Relief &amp; Sunk-Relief Carving</td>
</tr>
<tr>
<td>Seljuks (1037-1194)</td>
<td>Stone, Stucco, Brick</td>
<td>Monochromatic: Natural Stone &amp; Clay</td>
<td>Low-Relief Stone Carving In Anatolia, Low-Relief Brick &amp; Stucco Carving In Persia &amp; Central Asia</td>
</tr>
<tr>
<td>Il-Khanids (1256-1335)</td>
<td>Stucco, Glazed Brick, Ceramic Tile</td>
<td>Monochromatic In Stucco Carvings &amp; Minimal Palette Of White, Cobalt Blue &amp; Ochre In Tiles</td>
<td>Mid-Relief &amp; High-Relief Stucco Carving, Mid-Relief &amp; High-Relief Stucco Moulding, Low-Relief Ceramic Tile &amp; Glazed Brick Ceramic Tesserae (Mosaic Tile)</td>
</tr>
<tr>
<td>Mamluks (1250-1517)</td>
<td>Stone, Stucco</td>
<td>Monochromatic: Natural Stone &amp; Clay</td>
<td>Low-Relief &amp; Mid-Relief Carving</td>
</tr>
<tr>
<td>Timurids (1370-1526)</td>
<td>Ceramic Tile</td>
<td>Polychromatic: Dominant Blue, Turquoise, Ochre &amp; Jade</td>
<td>Low-Relief Tile &amp; Glazed Brick (Early Timurid), Ceramic Tesserae (Mosaic Tile) (Both Under &amp; Over Glazed) Techniques</td>
</tr>
<tr>
<td>Ottomans (1290-1923)</td>
<td>Stone, Ceramic Tile, Plaster</td>
<td>Polychromatic: Dominant White, Blue, Scarlet &amp; Green</td>
<td>Stone Carving, Painted Glazed Tile (Mostly Under Glazed In Late Ottoman Period), Plaster Painting</td>
</tr>
<tr>
<td>Safavids (1501-1736)</td>
<td>Ceramic Tile, Plaster</td>
<td>Polychromatic: Dominant Blue, Turquoise, Gold, Jade &amp; Black</td>
<td>Ceramic Tesserae (Mosaic Tile) (Early Safavid), Painted Glazed Tile (Under Glazed), Plaster Painting</td>
</tr>
<tr>
<td>Mughals (1526-1858)</td>
<td>Stucco, Stone, Plaster, Ceramic Tile</td>
<td>Monochromatic: In Stone Carvings &amp; Palette Of Whites, Black, Gray, Red &amp; Gold In Inlay</td>
<td>Low-Relief Stucco Carving (Early Mughal), Red Sandstone Carving, Red Sandstone Inlay, Marble Inlay &amp; Plaster Painting (Late Mughal)</td>
</tr>
</tbody>
</table>

References


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UNESCO TO BLAME
Reality or Easy Escape?

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Abstract
“UNESCO to blame” is a trend often observed in scholarly works. In those studies UNESCO is accused to privilege Eurocentric standards on heritage conservation. Is this reality or an easy escape? Can this trend be noted in other UNESCO reference texts? This article seeks to answer this question by studying the two main inscription-based conventions and their contribution to heritage management, while performing a data analysis on the countries behind these conventions, and their roles over time. The 1972 World Heritage Convention and the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage are, therefore, taken as case studies. Based on the results, this paper elaborates on a critical analysis, distinguishing what UNESCO, as well as, Europe can eventually be blamed for and what may be used by the countries as an easy escape. This paper ends setting a research agenda to raise awareness and generate factual knowledge on the role of supranational governance in setting standards in global ethics, in particular, to guideline heritage conservation.

Keywords: UNESCO; supranational governance; conventions; world heritage; intangible heritage

INTRODUCTION
UNESCO (The United Nations Educational, Scientific and Cultural Organization), considered the "intellectual" agency of the United Nations (UNESCO, 2015a), was created in 1945, to endorse the belief of nation states, urged by two world wars within one generation, where political and economic agreements are insufficient to build a lasting peace. Instead, the promotion of peace, social justice and human dignity requires humanity’s moral and intellectual solidarity (Valderrama, 1995; Stoczkowski, 2009; Singh, 2011). UNESCO soon became the formal infrastructure to enable international aid, collaboration and the establishment of standards in global ethics (Meskell, 2012; Von Droste, 2012; Cameron and Rössler, 2014), covering a variety of fields such as education, natural sciences, social and human sciences, culture, heritage, and communication and information.

Four decades later, much seems to have changed in the UNESCO arena (Cameron, 2009; Rao, 2010; Jokilehto, 2011; Albert, 2012). Subsequent generations are considered to be meddling with global ethics, when lobbying for internal political and economic agreements, even while in the UNESCO arena (Pavone 2008; Hoggart 2011; Meskell, 2011; 2012; 2013). The very same agreements UNESCO was once created, to mediate and detach from standards in global ethics. UNESCO audits recently confirmed the escalating politicization of the decision-making process around key UNESCO Conventions (UNESCO, 2011a; 2011b; Siim, 2011).

First of all, some politicization can indeed be found within the processes of UNESCO itself. Recent research confirms a correlation between the countries representing the World Heritage Committee and the location of properties being nominated (UNESCO, 2011a-b; Meskell, 2013). There is also an increasing trend towards the divergence between the official advisory body (International Council on Monuments and Sites (ICOMOS)and the International Union for the Conservation of Nature (IUCN)) recommendations with regard to property nominations and the
subsequent adopted decisions by the World Heritage Committee (Meskell, 2013). Accordingly, this divergence is argued on the grounds of a decrease of heritage expertise, whether archaeology or ecology, within the delegations themselves.

“UNESCO to blame” is a trend often observed in scholarly work. Whenever countries apply UNESCO standards, UNESCO is said to be imposing their standards to national and subnational communities. If supranational policies are not implemented, UNESCO standards are considered unsuitable. Thus, no matter what, UNESCO is to blame. Particularly, UNESCO is often linked to the Eurocentric perspective of heritage conservation (Willems, 2014). The role of Europe in the globalization of heritage conservation is widely being discussed in academia (Pickard, 2001; During, 2010). European approaches are compared to other world regions (Labadi, 2013; Cremer and Mors, 2013), as Asia (e.g. Taylor, 2009; Nagaoka, 2015), as well as, within European regions, as Southern Europe (e.g. Sajeva, 2006; Agnoletti, 2014). However, such comparative analyses tend to focus on the differences and incompatibilities, rather than on sameness or complementarity (De Cillia et al., 1999). The Eurocentric perspective of heritage conservation is often criticised as being too narrow-minded, material and museological (e.g. Smith, 2006; Byrne, 2008; Smith, 2012; Nagaoka, 2015). It is often assumed that European countries impose “authorized discourses” globally, especially via supranational settings such as CoE and UNESCO. The opposite though, he influence of specific countries in supranational standards, is largely understudied. It is also often overlooked that, a supranational setting is, in fact, no less than a group of countries and their representatives, with own agendas and discourses of heritage conservation. Thus, rather than generalizing Europe as influential, it is most worthwhile to raise understanding to the role of specific countries, inside and outside Europe.

It is argued that each region has its own historical and philosophical perspectives towards authenticity, spirituality and historical significance, and that cultural-specific ways of reading or valuing cultural heritage should be recognized (Winter, 2014). However, this argument is set forward based on case studies with limited scope. Most studies focus on single governmental levels, short time periods, single locations and/or disciplines, while making global claims. Their data and knowledge tend to be restricted to the research team and archived in either analog or unlinked online repositories, which disables comparative analyses. We question the reliability of such assumptions, without comparative studies and global analyses. Instead, we plea for a research agenda aiming to raise awareness and advance on generating factual knowledge on the role of supranational governance in setting standards in heritage conservation.

Already three decades ago, The New York Times published an article by John E. Fobes (Fobes, 1981), titled “Is UNESCO to blame?” Accordingly, UNESCO was considered as the scapegoat for America's failures “to awake to the development and challenges of the free flow of information in the world, locally and internationally, and of our failure to develop an effective response”. So, we wonder if the trend to blame UNESCO is in fact reality or simply an easy escape? Are countries using UNESCO as scapegoat, to veil the unbalances between national and subnational governance? Is this trend also affecting other UNESCO reference texts than the 1972 UNESCO World Heritage Convention? When did UNESCO become target of political and economic agreements? How influential are European countries over time?

This paper starts revealing the role of the countries behind UNESCO, departing from a generalizing criticism to the European approach, based on global data and statistical evidence. The two main inscription-based conventions and their contribution to heritage conservation are studied, while performing a data analysis on the countries behind these texts, and their roles over time. The 1972 World Heritage Convention and the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage are, taken as case study. Based on the results, this paper elaborates on a critical analysis, distinguishing what UNESCO, as well as Europe, can eventually be blamed for and what may be used by the countries as an easy escape.
METHODOLOGY

To help reducing the gap between countries, UNESCO adopted an Open Access Policy. UNESCO provides free access to scientific information and unrestricted use of electronic data. This research makes use of this data, particularly:

- UNESCO - Member states (UNESCO, 2015b)
- 2015 States Parties and mandates to the Committee (UNESCO, 2015e)

This research applied quantitative methods of data analyses to structure sets of data, primarily available in html format. A systematic empirical investigation was realized via numerical data and semi-automated techniques, in order to reduce rhetorical assumptions. The data is used to reveal the differences and similarities between UNESCO countries and regions, throughout time. Countries were categorized within the five UNESCO regions: Africa, Asia and the Pacific, Arab States, Latin America and the Caribbean, Europe and North America. Three data analyses were performed with the data previously listed. These analyses will be detailed on the following three sections:

- 1972 UNESCO World Heritage Convention (WHC): this data analysis will allow the visualization of the year of adoption, by the countries, per UNESCO region, and per UN European regions, throughout the years (UNESCO, 1972)
- 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (IHC): this data analysis will allow the visualization of the year of adoption, by the countries, per UNESCO region, and per UN European regions, throughout the years (UNESCO, 2003)
- Comparative analysis between WHC and IHC: this analysis will allow the comparison between adoption rate, by the countries, per UNESCO region and per UN European region, during the first decade of adoption after those conventions have been published.

Specifically, these data analyses are expected to feed factual knowledge into the discussion around the following three assumptions:

- The Eurocentrism of UNESCO Conventions over time, by comparing the role of European countries with the other countries, while adopting, listing World Heritage properties, and joining the World Heritage Committee, and
- The raise of politicization of UNESCO Conventions over time, by comparing the ratio of countries nominating properties in their territories, while in mandate, i.e., as members of World Heritage Committee
- The difference in results between UNESCO Conventions, being the 1972 UNESCO World Heritage Convention far more Eurocentric and politicized than the 2003 UNESCO Intangible Heritage Convention

DATA ANALYSIS

Since 1948, UNESCO has published 74 reference texts: conventions (29), recommendations (32) and declarations (13). Conventions are supranational policies, setting standards primarily by experts in representation of UNESCO Member States, eventually, in cooperation with other international organizations, which sign or agree to endorse the convention, being these added to the list of state parties. Instead, recommendations and declarations are adopted during the General Conference of UNESCO, without lists of state parties (UNESCO, 2015f). Figure 1 shows
the publication of UNESCO reference texts over time, and the total overview of reference texts, according to the categories already mentioned.

![Graph showing the publication of UNESCO reference texts over time](image)

**Figure 1.** The publication of UNESCO reference texts, over time (Source: UNESCO, 2014).

![Diagram illustrating reference texts by category and focus](image)

**Figure 2.** An illustration of reference texts, according to category and focus (Source: UNESCO, 2014).

The publication of UNESCO reference texts is not cyclical and has no yearly limitation. It ranges from one reference text (e.g. 1948) to eight reference texts (1978). There are two periods with an influx of reference texts published. Those are respectively, the periods between 1971-1980 and 1997-2005. UNESCO has developed few specific reference texts of relevance to culture, but there are many more reference texts endorsing standards in global ethics, to guideline heritage conservation.
Figure 2 illustrates a classification of these reference texts, according to their focus: disciplinary, cultural and/or natural. They reveal a predominance of disciplinary reference texts as the 2003 Intangible Heritage Convention (addressing a sub-category of cultural heritage properties), as well as, highlights the innovative aspect of 1972 World Heritage Convention, which still today remains the only convention, and one of the few reference texts, addressing nature and culture sciences together. Though, the conventions studied in this paper do have one thing in common: they are both inscription-based conventions. Next sections follow the results of their comparative analyses.

The 1972 UNESCO World Heritage Convention

The 1972 UNESCO World Heritage Convention (WHC) is also known as the Convention Concerning the Protection of the World Cultural and Natural Heritage. An innovative convention, joining natural and cultural conservation under the same standards of global ethics. Even if aiming at heritage conservation worldwide, independent from its category, the WHC is most famous for the World Heritage List, including today 1007 properties with 161 States Parties. The World Heritage List includes 779 cultural, 197 natural and 31 mixed properties (UNESCO, 2014). It is important to state that from a total of 195 countries members of UNESCO, 190- excluding Holy See (not included in the UNESCO countries) - have ratified the WHC, thus, 98% from the total of countries. Thus, not only does this convention foster the protection of heritage of outstanding universal value. The convention itself is almost becoming of outstanding universal value.

The first analysis, illustrated on Figure 3, shows a graph with the cumulative percentages of countries, grouped by UNESCO regions, which have adopted the WHC throughout the years. It shows that the Arab States were the first to reach 100% of adoption, followed by Europe and North America, and Latin America and the Caribbean. Instead, the two UNESCO regions, Africa, and Asia and the Pacific, have not yet reached 100% of adoption rate. In contrast, some countries did not yet ratify the WHC, namely: Somalia, South Sudan, Timor Leste, Tuvalu and Nauru.

Figure 4 details the process of adoption through the four decades after the WHC convention. The first decade (1973-1983) is led by the Arab States (82%), followed by Latin America and the Caribbean (52%), Africa (40%), Europe and North America (36%), and Asia and the Pacific (17%). During the second decade (1984-1993), both Europe and North America (80%) and Latin America and the Caribbean (79%) got closer to the Arab States (94%), as opposed to Asia (52%) and the Pacific to Africa (59%). The third decade (1994-2003) is notable for the total adoption of Arab States countries, only reached a decade later by Europe and North America and Latin America and the Caribbean.

The first country ratifying the convention was United States of America in 1973, followed by nine pioneer countries in 1974. They were respectively, four Arab States countries (Egypt, Iraq, Sudan and Algeria), three African countries (Democratic Republic of Congo, Nigeria and Niger), one European country (Bulgaria) and one country in Asia and the Pacific (Australia).

Europe and North America is indeed the UNESCO region with more countries (50) represented in the WHC. Though, this region is closely followed by the regions Africa and Asia and the Pacific, each represented by 45 countries. Latin America and the Caribbean include 33 countries. Arab States is the smaller region, including 17 countries. When comparing the number of countries in Europe and North America with the total number of other countries adhered to the WHC it can be concluded that countries in Europe and North America have never been in majority. Instead, they ranged from 25% (1974) to 44% (1976; 1996: 1997). In average, Europe and North America countries are fairly higher than 1/3 of the total countries.
Figure 3. The ratification of the WHC, per UNESCO region, over time (Source: UNESCO, 2015c).

Figure 4. The ratification of the WHC, per UNESCO region (Source: UNESCO, 2015c).

Focusing on the outcomes of the WHC in relation to the UN European countries (http://unstats.un.org/unsd/methods/m49/m49regin.htm#europe), Figure 5 shows that the Northern European countries were the first to reach 100% of adoption rate, in 1995, while the Western European countries did it one year later, in 1996. Figure 6 details the process of adoption in four decades. The first decade (1973-1983) is led by Western Europe (63%), followed by Southern Europe (36%), and equalled by Northern and Eastern Europe (20%). During the second decade (1984-1993), Eastern slightly (90%) overpasses Western Europe (88%) and...
Northern Europe (70%) is nearly matching Southern Europe (71%). This last, is the only region being totalized in the fourth and last decade. All other three regions reach their total number during the third decade (1994-2003).

Figure 5. The ratification of the WHC, per UN European region, over time (Source: UNESCO, 2014)

The expected sequence of events countries would follow after the WHC Convention would be first, the ratification of the WHC and second, the nomination of World Heritage (WH) properties. However, as it was already stated, a correlation has been confirmed between the countries representing the WH Committee and the location of properties being nominated (UNESCO, 2011; Meskell, 2013). What follows on Table 1 is the elicitation of the countries in relation to the number of properties inscribed on the WH List, while countries were members of the WH Committee, i.e., during a mandate. We focus on the absolute number of WH properties inscribed during a mandate, but also on its percentage in relation to the total number of WH properties listed by the country.

Italy, France and China are the three countries with a higher absolute number of WH properties nominated while in mandate. Those numbers are, respectively, 36, 32 and 30 properties. They represent, respectively, 70.6%, 82.1% and 63.8% of the total of properties listed as World Heritage. Bulgaria, although the absolute number is only 9 WH properties, has 100% of the WH properties were nominated during mandates. Therefore, the absolute number and the percentages are both important to be taken into consideration. Moreover, Table 1 also shows the share between the three categories of WH properties: cultural, natural and mixed.
Figure 7 hints the dispersion of countries inscribing WH properties during mandates, over time. The leading countries inscribing WH properties during mandates, by number of WH properties, (see Figure 8) are the countries in Europe and North America, followed by Asia and the Pacific, Latin America and the Caribbean, Arab States and Africa. Though, when contextualizing these numbers to the total number of WH properties, the results change considerably. Latin America and the Caribbean (52%), closely followed by Asia and the Pacific (51%), are the two UNESCO regions with about half of the WH properties in their territory, inscribed while their countries were in mandate. This tendency is noted ever since the first
decade (21%), having escalated considerably during the third decade (32%) (1994-2003), and again decreased (26%) during the fourth and last decade (1994-2004).

There are only 15 countries (out of 86 with mandates) that never nominated WH properties during their mandates. They are alphabetically, Bahrain, Croatia, Iraq, Mali, Malta, Netherlands, New Zealand, Oman, Serbia, Sudan, Sweden and the Syrian Arab Republic.

The 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage

The 2003 Intangible Heritage Convention (IHC) is also known as the Convention for the Safeguarding of the Intangible Cultural Heritage (IHC). A convention created due to concerns about globalization and the loss of indigenous knowledge and practices, departing from a history of pressure for a less Eurocentric definition of World Heritage (Beazley and Deacon, 2007). Even if the IHC is dated 2003, the list of IH properties already includes 413 properties, split into the

Figure 7. The leading countries inscribing WH properties during mandates (Source: UNESCO, 2014).

Figure 8. The total number of WH properties inscribed during mandates, per UNESCO region (left), per total number of WH properties (centre), and per decade (right) (Source: UNESCO, 2014).

The 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage

The 2003 Intangible Heritage Convention (IHC) is also known as the Convention for the Safeguarding of the Intangible Cultural Heritage (IHC). A convention created due to concerns about globalization and the loss of indigenous knowledge and practices, departing from a history of pressure for a less Eurocentric definition of World Heritage (Beazley and Deacon, 2007). Even if the IHC is dated 2003, the list of IH properties already includes 413 properties, split into the
representative list of the Intangible Cultural Heritage of Humanity (361), the list of Intangible Cultural Heritage in Need of Urgent Safeguarding (38), and the Best Safeguarding Practices (14).

The analysis of the adoption rate of the IHC throughout the years, per UNESCO region is illustrated on Figure 9. It shows a graph with the cumulative percentage of countries which have adopted the agreements of the IHC. From a total of 195 countries members of UNESCO, 161 have signed the agreements of the IHC, thus, around 82%. More specifically, the Arab States have the highest adoption (94%), followed by Latin America and the Caribbean (91%), and Europe and North America (84%). Instead, the two UNESCO regions, Africa (81%), and Asia and the Pacific (73%). None have yet reached 100% of adoption rate, but are quite close. Although there are 34 countries which have not yet ratified the IHC convention, Nauru (a country in the UNESCO region Asia and the Pacific), which was one of the five countries which did not ratified the WHC, was found to have ratified the IHC.

Analyzing the adoption rate of the IHC per UN European region, Figure 10 shows that the Western European countries were the first to reach 100% of adoption rate, in 2013. The other European regions are yet far from reaching the totality.

Table 2 shows the list of countries which have nominated Intangible Heritages properties (IH) while members of IHC Committee. We focus on the absolute number of nominated IWC, but also on its percentage in relation to the total number of IH. It can be observed that Croatia, China and Republic of Korea are the three countries with a higher absolute number of IH nominated while in mandate. Those numbers are, respectively, 13, 13 and 12 properties. They represent, respectively, 92.9%, 34.2% and 70.6% from the total of properties listed as IH. Even though China appears on the top 3 list of both WHC and IHC Conventions, the percentage is relation to the total number of heritages is smaller in the context of the IHC (34.2% against 63.8% of the WHC). Moreover, Table 2 also shows the share between the three categories of IHC: Best Safeguarding Practices, Intangible Cultural Heritage in Need of Urgent Safeguarding, Intangible Cultural Heritage of Humanity.
Figure 10. Year of deposit of instrument referent to the IHC, per UN European region (Source: UNESCO, 2014).

Table 2. IH sites approved during mandates: number, percentage from total and share between categories (Source: Authors).

<table>
<thead>
<tr>
<th>Country</th>
<th>Total number of IH</th>
<th>Number of IH approved during Mandate</th>
<th>% Total</th>
<th>Best safeguarding practices</th>
<th>Intangible Cultural Heritage in Need of Urgent Safeguarding</th>
<th>Intangible Cultural Heritage of Humanity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>14</td>
<td>13</td>
<td>92.9%</td>
<td>1</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>38</td>
<td>13</td>
<td>34.2%</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>17</td>
<td>12</td>
<td>70.6%</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>12</td>
<td>11</td>
<td>91.7%</td>
<td>11</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>14</td>
<td>9</td>
<td>64.3%</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>22</td>
<td>9</td>
<td>40.9%</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Peru</td>
<td>9</td>
<td>8</td>
<td>88.9%</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Iran (Islamic Republic of)</td>
<td>10</td>
<td>8</td>
<td>80.0%</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>8</td>
<td>7</td>
<td>87.5%</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>India</td>
<td>11</td>
<td>5</td>
<td>45.5%</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>12</td>
<td>5</td>
<td>41.7%</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>5</td>
<td>4</td>
<td>80.0%</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mali</td>
<td>8</td>
<td>4</td>
<td>50.0%</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>9</td>
<td>4</td>
<td>44.4%</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>3</td>
<td>3</td>
<td>100.0%</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>4</td>
<td>3</td>
<td>75.0%</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Figure 10 illustrates the share between UNESCO regions in relation to the number of inscribed IWH during mandates. In this case, when compared to the 1972 Convention, Asia and the Pacific surpass the Europe and North America region, with percentages respectively, of 37% and 35%. The region Latin America and the Caribbean has again the third position (15%), while Africa has now a higher share (8%) than the Arab Countries (5%).
Though, when contextualizing these numbers to the total number of inscribed IWH, the results change considerably. Europe and North America have 42% of the IWH inscribed while in mandate. The other regions have smaller, but not considerably different percentages. This tendency is noted to decrease from the first, to the last years, respectively 2008 (24.2%) and 2013 (7.6%). It is important to state that there are only 11 countries (out of 50 with mandates), which never nominated Intangible World Heritages during their mandates. They are alphabetically: Albania, Burkina Faso, Cuba, Czech Republic, Jordan, Madagascar, Nicaragua, Niger, Syrian Arab Republic, United Arab Emirates and Zimbabwe.

**COMPARATIVE ANALYSIS**

Although the WHC and IHC Conventions are different in nature, they both address heritage conservation. WHC is broader in focus, addressing natural and cultural, tangible and intangible, while IHC is tailored to intangible cultural heritage. For allowing the comparison between the WHC and IHC Conventions, the analysis will focus on 10 years after the conventions took place, thus respectively, from 1973 until 1983, and from 2004 to 2014.

As earlier mentioned, from a total of 195 countries members of UNESCO, 191 have today signed the agreements of the WHC by August 2014 (UNESCO, 2014). However, when analysing Figure 12, only 76 countries (39%) have signed it a decade after the publishing of the convention, thus, between 1973 and 1983. In relation to the IHC, as already on the previous analysis, 161 countries (83%) have signed the agreements of the convention after a decade of its occurrence. It may indicate that with exception to the Arab States, that follow a similar pioneer adoption pattern, other UNESCO regions were by far faster with the adoption of IHC, than with the WHC. Africa, Europe and North America and Latin America and the Caribbean nearly doubled their adoption ratings. Particularly, Asia and the Pacific tripled their adoption rating.

In relation to the adoption rate per UNESCO region, Figure 13 shows that around 80% of the Arab countries have adopted the agreements of the WHC after a decade of its occurrence, while only 50% of the European and North American countries have done it by 1983. Asia and the Pacific countries have the lowest adoption rate by 1983 (less than 20%). As for the IHC, in general all regions have a higher adoption rate when compared to the WHC, with the lower point of 73% for the Asia and the Pacific countries. Again, the Arab States have the higher adoption rate (around 94%) and Europe and North American countries the third highest (around 84%).

Figure 14 shows graphs comparing the adoption rate per European regions, between the WHC and IHC, in the first decade after the occurrence of the conventions. As observed for the UNESCO regions, on Figure 12, Figure 13 also indicates that in general the adoption rate is higher for the IHC than for the WHC. In both cases, the Western European countries have a higher adoption rate than the other countries. However, this rate is only 62.5% after a decade from the WHC, whereas it is 100% after a decade from the IHC.
Figure 12. Comparison between the first decade of adoption of the WHC (left) and IHC (right) Conventions, per UNESCO region (Source: UNESCO, 2015c).

Figure 13. Comparison between the first decade of adoption of the WHC (left) and IHC (right) Conventions, per UN European region (Source: UNESCO, 2014).

Figure 14. Committee Member in relation Year of Adoption of the WHC (Left) and IHC (Right) Conventions (Source: Authors).
CONCLUSIONS

This research aimed at validating three assumptions, keys to the international debate around standards in global ethics guide lining heritage conservation. Results demystify the Eurocentrism of these two UNESCO Conventions. United States of America was the first country ratifying the WHC, but Europe was never the leading UNESCO region in neither of the two conventions. Arab States do have this extraordinary performance, both in WHC and IHC. Moreover, the European countries were never a majority in number, neither in WHC nor in IHC. However, Europe and North America countries do have the highest rate of WH nominations while in mandate. Though, they are slightly advanced at IHC, by China, leading the IH nominations while in mandate. Europe is easily labelled as Western. There is however, difference in patterns between Western and other European regions. Future research could try to explore this relationship further.

The politicization of UNESCO WH Convention over time increased, when comparing the ratio of countries nominating WH properties in their territories, during their mandates. Though, the IHC presents an inverse pattern. The analysis over time, however, partly demystifies the nostalgia towards a less politicized period, as to an initial phase of WHC. The nomination of heritage properties while in mandate, as it turns out, has always been fairly common, not a recent trend. This procedure, even while legal, allows for the influence of national biases on international political and economic agreements and decision-making processes. Added to the previously referenced decrease of agreement between the WH Committee and its Advisory Bodies, further research could bring light to the politicization. Given that IHC is decreasing in IH nominations while in mandate, more lessons could be learned, by keep comparing these two conventions and their operational guidelines.

Results confirm a difference between the studied UNESCO Conventions, being the 1972 UNESCO World Heritage Convention indeed more Eurocentric and politicized than the 2003 UNESCO Intangible Heritage Convention. Though, the differences are not that extreme as hinted by the State-of-the-Art. A repetition of the research, one decade later, could help clarify and reveal sharper trends, as the conventions differ 30 years in implementation. Also, assumptions could be made, that the countries and their representatives might have learned from WHC to improve IHC. After all, even WHC is decreasing in the number of nominations while in mandate. Though, further research and actor network analysis could enable more factual knowledge on the relations between these two conventions and their stakeholders. IHC does have, however, a far higher rate of nominations, to date 413 IH properties, compared with 163 WH properties enlisted during the first decade.

To conclude, UNESCO to blame, seems indeed more as an easy escape than a reality, just as the Eurocentrism echoed throughout the State-of-the-Art, having this research proven that even European regions differ considerably in patterns and that there are clearly prominent countries, in all five UNESCO regions. A more thorough research into the discourse analysis of these conventions, and comparison with national policies, before and after implementation, could perhaps reveal more grounds to feed discussion and help validate these still rhetorical, but most relevant assumptions. We have demystified the assumption of Eurocentrism and politicization by the evolution in ratifications, and nominations while in mandate of the two main inscription-based conventions. Though, that does not mean that further research necessarily provides the same results. To be continued!
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NOTE
This paper was presented among the 3\textsuperscript{rd} International Symposium of Qatar Faculty of Islamic Studies at Hamad Bin Khalifa University on The Essence of Heritage in Architecture and Urban Planning.

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WHAT TO CONSERVE?
Heritage, Memory, and Management of Meanings

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Abstract
This Paper explores and criticizes different theories and perceptions concerning 'cultural heritage' to explore the definitions of 'heritage' throughout history, and questions how the conflicts in considering and identifying 'heritage' might have affected the approaches to its conservation. In such process, the paper investigates the relation between 'place' and 'memory' and how place has been always the medium through which history was written, resulting in two inseparable faces, tangible and the intangible, forming the two-faced coin of 'cultural heritage'. This research assists understanding the complex construct of heritage places; stressing the growing awareness of intangible heritage's importance, which represents a remarkable turn in heritage conservation realm in the twenty-first century, and emphasizing the notion of heritage as a coefficient of society, which is understood through experience, learnt through performance, and represented through ‘activities’ formed in the present maintaining and developing the identity of place and preserving its spirit, rather than a past oriented vision that tends to ‘pickle’ images from the past in a picturesque manner that is only tourism-oriented.

Keywords: Heritage; conservation; meaning-management; memory; tangible; intangible.

INTRODUCTION
“'We act now, modifying our environment for the future. We recall now. We learn now, which is to say we modify ourselves to act more effectively in the future” (Lynch, 1972: 89).

Although Lynch argues that recalling the past should be through providing an environment that facilitates learning; by linking the living moment to a wider span of time, this is not how historic places have been conserved for ages!

Generally speaking, conservation has been related, and still is, to a great extent, to the understanding of heritage as the display of nations’ past glories, represented in their remains. For example, in the nineteenth-century, historic buildings used to be restored to their original status, where any adaptations used to be completely removed; this stressed the tendency, at that time, to purify the image of the past in a picturesque manner. Later on, the French concept of 'patrimoine' dominated the field of heritage conservation for ages; emphasising the sense of 'aesthetic grandness', which promoted that present’s duty towards the past is to receive and admire its passed on monuments, and to pass them “untouched” to future generations (Smith, 2006). Ruskin’s (1865) ideas concerning historic buildings were certainly of a great influence on such heritage conservation practices; as he considered historic buildings as not belonging to present generation, which makes people, in Ruskin's words, ‘have no right whatever to touch them’. This concept was the foundation to the conservation trend of 'conserve as found'.

There is no doubt that there has recently been a greater awareness of the importance of conserving 'intangible heritage’, as an approach of maintaining local identities, growing day after day, especially after the pressure mostly made by Southern hemisphere developing countries states parties of UNESCO in 1997, who showed their upset from the non-geographic balance of World Heritage Sites due to the Selection Criteria that represent more the Western and Northern cultures, and are not suitable for the cultural heritage of Southern countries, which are still, of course, part of the World’s heritage, and should be equally safeguarded and conserved (For
more details, see (Aikawa-Faure, 2009: 14-15)). Such awareness expresses that ‘heritage conservation’ should be concerning the identification of significances of each community/place on their local levels. On the other hand, it is realised that shared intangible heritage can form good bases for strong unity between different groups of people, which is hardly ever the case when dealing with just pure physical remains that sometimes can be a source of disputation between countries and nations regarding their ownership.

The main lesson we learn from looking back at the past is that life moves on, and ‘change’ is its only constant; as Tabraham (2006) claims, people work to provide a future for the past because they believe that the past has something important to offer the future. Accordingly, it can be claimed that ‘heritage conservation’ is a process that should consist of two main bases; first is the preservation of ‘tangible’ (physical) remains to be passed over to future generations, and second is to manage the change of the ‘intangible heritage’, which are basically the cultural activities taking place in present-time so that the main defining cultural values of each community are maintained and conserved throughout time. In the same sense, Tiesdell, Oc, and Heath (1996) describe preservation, or what they call ‘pickling’, as mainly concerned with limiting change, while conservation is more about the inevitability of change and the management of that change, where they describe regulating the change occurring to historic quarters as of a great importance, where the aggregate effect of a large number of relatively unregulated small changes are claimed to, over time, result in the erosion of place-character.

Hence, conservation of the physical appearance of any heritage place should be for the purpose of preserving the physical image that recalls a mental image of the past, in order to augment the preservation of intangible aspects of heritage represented in cultural activities, maintaining the cultural heritage of the place and the identity of its society. Also, it must be realized that without the physical image, that enhances both collective and spatial memory, the changes happening to the intangible cultural activities would probably be less controllable. It is expected that just as the twentieth century promoted the conservation of tangible heritage, the twenty-first century will foster the preservation of the intangible aspects of cultural heritage, and the re-join of the two faces of heritage (Kamel & Hale, 2010).

In this paper, the notion of heritage conservation as a dialogue between present and past, memory-management, and culture guidance is discussed, in a sense of engaging both the cultural contexts and its content in one whole for a better understanding, and thus conservation and maintenance of cultural heritage.

**THE PAST-PRESENT DIALOGUE: TANGIBLE OR INTANGIBLE?**

Heritage is often assumed to be, as stated by Kenny (2009), the uncontested residue of static traditions, but it can be easily noticed that the term ‘heritage’ is commonly used by people to name their ancestors’ remains that link them to their past, and offer them supporting memories and meanings that, normally, provide them with a source of pride and belonging; as throughout history, not only had people always been eager to learn from their ancestors’ experiences for achieving, but they also treasured material remains of the past for constructing their own identities.

Referring to the literature concerning ‘cultural heritage’ it is realized that there are generally two different concepts of ‘heritage’, which might have produced two different approaches for dealing with heritage. The first concept, currently the most consumed as a heritage definition, understands heritage as the remains from the past, which usually celebrate the past glories; including different aspects of power and dominance of particular civilizations among, or compared to, their peers. This concept emerged in Europe, particularly Britain, France and Germany, during the nineteenth-century modernity era (Feilden & Jokilehto, 1993; Smith, 2006; and Smith & Akagawa, 2009), as a result of the then-newly developed dialogues on race, through colonial expansions, where ethnic and cultural identities, as mentioned by Smith (2006: 17) “became
firmly linked with concepts of biology or ‘blood’”. Of course, it should be remarked that the Darwinism had helped justifying the link between race and identity, and had claimed the advancement of the ‘European’ cultural and technical achievements. This heritage concept is claimed to represent, as Smith (2006) complains, the common sense assumption of ‘heritage’ as being, wrongly, identified as ‘old’, grand, monumental and/or aesthetically pleasing sites.

On the other hand, starting from the last two decades of the twentieth century, and remarkably noticed since the beginning of the twenty first century, there has been growing efforts spent on spreading the second concept of heritage; as a practice of meaning and an identity-making tool that uses memories from the past, and provides routes for new generations to discover fresh ideas about their inherited traditions and values through interacting with physical remains from the past. This concept defines ‘heritage’ as activities, or understanding, that is discursively constructed in the present, which might be different from the remains themselves, but very connected and linked to them at the same time. This notion of heritage is what Kenny (2009) demonstrates by defining heritage as “a process in the present allows for a more dynamic understanding of cultural production,” but it should be also mentioned that the continuous process of ‘heritage’ construction is itself a product of the cultural process that the heritage practices seek to develop and maintain.

The conflict of heritages
In fact, most of the physical remains that exist today are ‘antiquities’, which are categorized and valued according to their archaeological values; these antiquities have usually been preserved and protected ‘from people’ either partially, by keeping them in open and/or closed museums, or by completely banning them away from public; either ways, no interaction is allowed between people and historic remains, which, by time, created a gap between societies and their history, and thus their heritage practices. The problem of heritage, as being practices and activities, is that a link should be discovered and fostered between the physical remains and the understanding of their meanings, which requires the engagement of people in such process of understanding, as well as requiring the existence of proper landscapes that facilitates such process.

Although both the physical ‘things’ and the non-material values of human beings are so connected in a very complex and interactive way, it can be assumed that due to the two heritage concepts mentioned above, and because of current heritage conservation practices as well, a conflict has been brought to attention; that of cultural heritage being separated, and thus dealt with accordingly, into ‘tangible’ remains, of which clear conservation, protection, and safeguarding regulations have been set up; and ‘intangible’ meanings, values, memories, feelings, and activities that exist whether accompanying historic monuments or not. This separation has been so obvious to the extent that Laurajane Smith (2006) believes that there is a decided tendency, within the international classification of heritage, to define heritage, and then intangible heritage, as two separate and different things. This new understanding of heritage indicates that historic buildings are heritage only when they are well understood by people, in a way that makes their meanings a part of their societies’ life, otherwise, historic buildings are just antiquities that are maintained and preserved as pieces of arts, which might make the place more beautiful, but not consequently meaningful.

Traditions, for example, represent an important form of intangible inheritance that creates repetitive life patterns and is claimed as structuring physical ‘spaces’ (Alexander 1979); realizing such patterns is essential before imposing any new element to an existing space, which is consequently supposed to introduce a new change to the existing patterns. These traditions are alleged, by Misztal (2003), as being re-employed and used as a tool for creating a sense of belonging and fostering group identities. Misztal defines tradition as “an interpretive scheme transmitted from one generation to the next. Meanwhile, “keying” is considered to be the process
through which the social identity is guided and developed within a certain place; as it is the bringing together of symbolic models from the past with the experience of the present, where Misztal strongly insists that “keying” can direct traditions towards making dramatic events comprehensible, particularly during national emergency periods, by making the intangible values tangible.

The debate over heritage ownership was also highlighted as part of the conflict; as some tangible heritage, which might seem belonging to their countries, go back to thousands years ago, which sure have belonged to different people from non-existing civilizations that happened to occupy the same lands of now-a-day’s countries. So, this raises a question whether it is enough to own them? On the other hand, the problem of intangible heritage ownership seems much easier than that of the tangibles; this might simply have been the case because intangible heritage is transferred by people, individuals and groups through time and from one generation to another, and thus own by them, not by countries, and thus lacks the political influences that guide, to a great extent, the tangible heritage practices. Here, the intangible heritage is normally pointing to groups and communities or places in particular; for example, the Kimono will always be a Japanese heritage, no matter who wears it, and where ever it is worn. The same as the Egyptian Pyramids, as an example of a tangible historic monument, it will always remain an Ancient Egyptian symbol. Even so, some conflicts started to show up recently upon some intangible heritage ownership, such as the Palestinian scarf, which show the power that intangible heritage can symbolise.

**Functioning heritage**

A belief that cultural heritage is the ‘achievements’ of human civilizations that need to be documented and safeguarded over time, has been dominating the ‘Euro-centric guard’ of heritage conservation practice throughout the twentieth-century. This lead to greater emphasize on evacuating many historic contexts from their cultural heritage content; for the sake of their physical preservation. Such approach put more challenges in front of heritage sites’ managers, as well as architects, urban designers, and landscape architects who work on developing heritage sites; as this requires a thorough understanding of how heritage functions, as well as deep understanding of how people experience their heritage. As community members usually share history, habits, language, traditions, knowledge, customs, ceremonies, cultural expressions, and other social and cultural practices, they also transfer their cultural characteristics from place to place, and mix it with others, to produce different/new cultures; as in the case of Chinatowns, started in America with the Chinese-American society practicing their Chinese cultural heritage, in spite of the legal exclusion, institutionalized discrimination, and the racialised stereotyping they have suffered for long (Schaefer, 2008: 285), but still definitely Chinatowns are not the same everywhere, as everyone is somehow influenced by its own local culture(s).

Hillier (1996) highlights the relation between the community and its urban spaces’ formation when he underpins that urban spaces are both spatially structured and functionally driven, and between the spatial structure and the space function there are degrees of intelligibility, through which the large-scale spatial system is understood and learnt without conscious effort. The three components: structure, function, and intelligibility, can be considered as the spatial elements of social engagement; they represent the three elements forming the ‘spirit’ of place (or Genius Loci): form, function, and meaning, through which people experiences their culture.

Experiencing the heritage is the way historic tangible and intangible inheritances are understood within their contemporary context, and through which contemporary generations interpret their meanings; simply, by getting engaged with it. Thus, the awareness of heritage is mainly through activities that are done in the present for experiencing the inherited values of the handed-over inheritance, either tangible or intangible, these activities wouldn’t be recognized and
admired as heritage experience unless they are accompanied by the act of remembering. Also, such activities should be fostering the feelings of belonging and constructing a sort of identity for both the society and the place. Festivals, for example, can be one of the forms of transforming and enhancing the heritage experience of any society. This can be clear in Smith’s (2006) description of the week-long Castleford Festival; how the community is engaged and how children learn about their traditional crafts and skills, and know the meanings behind these traditions and the materials used in their present life. Such ways of engagement are proven to enrich the sense of pride in the society and help their interaction with their past as part of their present life. Thus, if cultures are realized as routines of habitual memory that are unconsciously learnt and developed via numerous routes, this would clarify that cultural heritage is actually conserved through preserving the traditional social performances in the first place, not just as folkloric arts, but more as a part of the social life patterns.

**Heritage and the construct of identity**

Although Charles Correa (1983) disclaimed that identity can be constructed, he stresses that it can be developed through tackling what the society conceives as its problems. Correa defines identity as a ‘process’, not as a result object, which might be linked to inherited cultural heritage from recent civilizations occurred, previously, in place; this process produces non self-conscious identities. Thus, identity can be considered as a function of both historical and cultural circumstances. Furthermore, Cote & Levine (2002) claim that all aspects of social reality are constructs of historic facts, and that they have serious influences on lives and behaviours of individuals in the society. It is also claimed that cultural heritage is often utilized for constructing shared identities for communities and societies (Hazucha & Kono, 2009).

If we consider identifying people by gathering individuals into groups of the same characteristics, there are very obvious categories that people are identified by since their birth; like gender and nationality, although it depends on factors like parents’ nationalities and place of birth, which can be argued as meaningless and non-identifying in the sense of grouping alike people together, and this created generations suffering loss of identity; for example, in the most cases of second generations of immigrants to many European countries are seen as non-natives, by original citizens, and at the same time, are seen as non-citizens, by their parents’ home-countries natives, especially when they are of different ethnic groups from those of the countries they live in.

Grouping people into categories, or ‘labelling’ them, is one of the concerns of ‘social identity’. such groups can be initiated according to one, or more reasons in addition to those mentioned above, some of them are related to the physical characteristics of the human being, which cannot be changed, while others are related to believes or concepts that people adopt, which might change from time to time; for example, labelling groups of people based on their religion: Muslims, Christians, Jews, or even sub-religious grouping can take place, like Catholic, Orthodoxy, Sunni, Shiite, ...etc.; or based on their ideologies: Conservatives, Liberals, Socialists; or based on their ethnic groups, as we can find: White, Black, Gipsy; or based on their origins, in a much wider consideration than that of the nationality, where grouping might have several levels, starting from grouping people based on their continents, countries, regions, cities, to grouping after specific residential streets/districts, depending on the influential powers and importance of such origins: for example, people can be grouped as Europeans, British, English, Londoners, etc. Thus people, as individuals, might belong to more than one social identity; as it is a feeling of sharing others their look, fate, aims, dreams, goals, or history, while using such identities might depend on the situation they are used at. Cuno (2008) describes the complexity of having dual nationality and, moreover, dual cultures as: when people share and enjoy a non-static and non-separable identities that are made up of many components all mixed together to show their individuality.
Heritage, as a cultural process, has a great influence on the formation of both social and personal identities. Hence, heritage practices and the understanding of the history of place are claimed to be rooting people to their past, and fostering their sense of pride and belonging, especially that memory in particular has currently begun to be widely called upon for the purposes of legitimating identities; since it has been realised that the core meaning of any individual or group identity is actually seen as sustained by remembering (Misztal, 2003).

**HERITAGE AS A MEMORY-MANAGEMENT PROCESS**

“From the heights of these pyramids, forty centuries look down on us” (Napoleon Bonaparte, July 1898).

Both history and place have a sort of invisible connection. When Napoleon Bonaparte reached the Egyptian Great Pyramids, he sensed the past glories of a great civilization that has been completely vanished, but still materialized and represented in a physical evidence; the pyramids. It was not the ‘pyramids' that Bonaparte was stopped by, but it was the ‘history' materialized in them.

Places are considered responsible for making memories cohere in complex ways, where Hayden (1996) underpins the notion that memory, in general, is naturally place-oriented. Furthermore, it is claimed that ‘place' usually stimulates ‘visual memory' that can be utilized as a source of a community-based ‘public history’ (The field of ‘public history’ embraces the different kinds of efforts to bring history to the public (Hayden, 1996: 48) that provides a sense of shared authority; an authority that gives power to communities to define their own collective past. People tend to document important events of their life, which they like to keep remembering in the future, by several ways; the most important of which is to link such events to certain places: places where they were born, streets where they grew up, schools where they learnt, etc. Similarly, it is a fact that every historic event is related or linked, somehow, either directly or indirectly, to particular place(s). Depending on the importance of the event throughout time, some places, consequently, develop to be memorials of particular historic eras. Thus, places have such power for guiding their communities, which might explain why invaders always superimposed public buildings forcing their own architectural styles into public places of occupied lands, in a way that confirms the supremacy of the ‘new' regime, and documents the invaders' dominance over conquered nations.

For further clarification on the difference between memory and history approaches towards the past, Misztal states that ‘memory' emphasises social groups' awareness of their identities and their extended roots through time from past to present, while on the other hand, ‘history' accentuates the discontinuities, which makes it ‘situated outside and above groups' (Misztal, 2003: 102).

**Memory-marking**

Also, Harvey (2005) stresses the notion that ancient monuments can be acknowledged as socially constructed phenomena that have, what he names as, ‘life history’ in them. This also emphasizes the important role that collective memory plays in both formation and then interpretation of cultural heritage. This vision matches Misztal’s (2003) perspective of antiquities, as he believes that the latter are characterised by the predominance of oral memory that conveys a sense of the past, which mixes between the mythical and the historical. This relation between antiquities and memory goes back to the *ars memoria*, or the art of memory, which refers to the discoveries of the poet Simonides of Ceos (c.556-468 BC) emphasizing the importance of the sense of sight to the memory, confirming Aristotle’s claim that every thought is linked to an image (Misztal, 2003; Yates, 1966). Hence, there is a mental image for every memory, and consequently, images are claimed responsible for constructing and recalling both individual and collective memories.
Hayden (1996) underlines the power of historic places on defining their public pasts; as he points out that places generate the memories of their locals, who already share a common past, and at the same time, he sees that places can represent the locals’ shared past(s) to the non-locals. It is important here to highlight that ‘memory’ and ‘history’ are considered as two different ‘routes to the past’; as Misztal connects memory’s orientation towards the past to the ‘ritualized actions’ designed to create a sense of the past in the present, whereas, she considers the historical orientation as an exploration of past events, which aims to develop the understanding of these events’ causes and consequences. Thus, memory itself is considered a tool for preserving the past that gives it added cultural meanings. That is why historic and heritage places are discussed here as memory-markers; where buildings, by themselves, do not have inherent stable meanings (see Jones, 2000), but they sure stand as witnesses of history, which act as memory markers, and work on calling back spatial memories from the past into the present. Such historic remains can be considered as remembering-initiators, while the understanding of the buildings’ history, and the meanings behind that history, are the media through which such remembering develops into further heritage practices.

Management of meanings

“Meanings, like the environments that communicate them, are culture specific and hence culturally variable” (Rapoport, 1982: 21).

As a main component of the ‘spirit of place’, meanings are very much related to cultures that meanings are interpreted through. Rapoport claims that meanings change according to the changes in cultures communicating them, and this explains why particular messages and symbols can be misunderstood if not interpreted with a complete understanding of their original cultures. The meanings of a place are found to be continuously constructed and reconstructed throughout time, as well as found to be carrying more than simply just one set of meanings.

Dovey (2010) relates meanings to the ideological construction of place, where he describes the ‘ideology of place’ as the construct of place experience and the process through which a framework of series of believes is set-up. Dovey also states that such ‘ideology’ is integrated with a ‘web of meanings’, of which it constructs a set of guides and spectacles that people can interpret a place by; otherwise a place would be meaningless. This ‘web of meanings’ is what, generally, form ‘cultures. The built environment is found to be the primary medium for distinguishing several techniques of establishing, legitimizing and reproducing the ideology of place; as places are considered the ‘warehouses of memory’ (Dovey, 2010).

Now, understanding that meanings are produced by people, not solidly embedded in objects or things, however, still things do provoke meanings. The question is how they elicit or activate their meanings and guide them? And which things or objects “work” best? This raises an important question that forms a new challenge for heritage conservation practices in the twenty-first century: How meanings can be encoded in things in such a way that they can be decoded by the intended users?

As visions for the future are very much affected by past experiences, Lynch (1972) considers the power of creating a mental future lies in the ability to imagine the remote consequences of the present, which will connect present feelings and motives to these consequences. Towards suggesting a method for controlling present consequences in space, Christopher Alexander (1979) claims that knowing how the “structure” of a space supports the intangible activities, or what he calls patterns of events, enables to predict change that might be generated by any change of the space’s structure, and thus, controlling such change can be possible; where he describes the structure of a place as consisting of a pattern of repeatable “relationships” that form the base fabric of space, even after its physical elements dissolve. In their book, The Social Logic of Space, Hillier & Hanson (1984) discuss and suggest an approach for analysing buildings; as transformation of space through objects, where volumes of space, surrounding buildings, are
created and organized into patterns. While Hayden (1996) adds the importance of collaborative work between architectural conservation, public history, and public art for defining a city’s history; when they are complemented by a strong community process that establishes the context of the social memory.

CONCLUDING REMARKS

Heritage is not just a thing or a place, but rather cultural processes of social activities that include remembering, memory-marking, as well as a continuous meaning-making and re-making through certain socio-cultural patterns that differ from one place to another. Such process gives every place its own significance and defines its identity, where intangible cultural heritage is the activities that highlight the cultural significances of different societies. Cultural activities might be related to language, performances, knowledge, food, clothes, traditions, habits, faiths, values...etc. (see Figure 1 - visualising the interlocking construct of ‘heritage conservation’, as a process that combine both tangible and intangible complexities; as represented in this paper). The activities are, typically, created and developed in the past and transformed, probably developed, into the present through successive generations, as a tool for shaping their characteristics and identity. Hence, the identifying activities of any society are very much attached to the place in the first place, but at the same time can be transformed, by people, either individuals or groups, and now by media, from one place to another.

Although the concept of heritage as ‘the remains of the past’ is still dominating the public ‘common sense’, a growing understanding of the role of heritage in present life has started to rise on the academic level that considers ‘cultural heritage’, in particular, as the cultural activities taking place in the present time, affected by, and learning from, inherited values that are represented in both tangible and intangible forms. This perception encourages new approaches of heritage conservation and heritage sites’ management processes to search for more innovative approaches, providing techniques of heritage investigation and analysis that allow the maintenance of both tangible and intangible heritage as two faces of ‘one’ coin that should not be dealt with separately.

It is very important to ensure that the communities do not passively absorb their environment’s influences, but rather have a role in changing their surroundings by modifying and sometimes recreating their cultural traditions, which happens usually through aware/wise cross-cultural borrowing in-between engaging communities.

This paper emphasises heritage conservation as a process to manage the changes occurring in place, rather than just a technique of freezing the image of place at some time in the past in a picturesque emotional way. For achieving the equilibrium between the tangibles and intangibles of heritage sites, several aspects are realized as important to be studied and emphasised, which can be summarized as follows:

- Recognising the individuality of each place, to maintain its identity and spirit;
- Considering that every tangible remain has relevant intangible heritage that needs to be preserved just as well as its physical form;
- Considering local communities as important stake holders in the process of acknowledging and analysing any place heritage;
- Realising the relation between present activities and past traditions/patterns in place, with a thorough analysis of the existing life patterns;
- Defining, understanding and maintaining the stories of place, giving attention to ‘memory’ of place as much as its history, with a complete understanding of collective memory, the remembering and forgetting patterns, and the keying tools and techniques usually applied;
• Conserving cultural heritage for the benefit of both present and future generations, which requires the functioning of such heritage into their community’s life (to be useful).

Figure 1. Complexities of Heritage Conservation (Source: Author).

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THE RECONCILIATION OF HERITAGE CONSERVATION AND DEVELOPMENT: The Success of Criteria in Guiding the Design and Assessment of Contemporary Interventions in Historic Places

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Abstract
Since built heritage continues to teach contemporary societies valuable lessons about traditional building practices among other substantial matters, its protection from environmentally insensitive development is important. The reconciliation of heritage conservation and development, therefore, is an appropriate research topic. This article aims at contributing to the global discourse on that topic, which is primarily supported by UNESCO and ICOMOS. It does so by evaluating the success of criteria in guiding the design and assessment of contemporary interventions in historic places. The purpose is to determine whether criteria, which usually come in the form of standards and/or design guidelines, hold the key to thoughtful change in historic places. To achieve this purpose, the author first gives an overview of the current state of knowledge on the topic, then analyzes major scholarly literature to identify the strengths and weaknesses of criteria and finally suggests other avenues worth exploring. As a result of this qualitative research, readers would gain a better understanding of the background, questioning and principles that should frame new architecture in existing urban fabric.

Keywords: Assessment; change; heritage conservation; design intervention.

INTRODUCTION
Heritage conservation is currently understood not only in terms of protecting the legacy from the past, but also in terms of managing urban growth while looking toward a sustainable future. In view of this paradigm shift, the reconciliation of heritage conservation and development has become a timely research topic of increasing importance to scholars and practitioners alike, especially because rapid and uncontrolled urbanization continues to cause a variety of pressures. These pressures are particularly alarming in historic places, which range in size from small urban areas to entire cities, where new construction is sometimes designed and built in a manner that threatens to diminish heritage values and character-defining elements and appears “to erode the integrity and authenticity” of these places (Gustavo, 2011: 55). New construction, such as an addition to a historic building, a separate building or an infill, is a contemporary intervention that will inevitably induce change in the urban environment. Whether that change will be positive or negative depends, to some extent, on the guidance available for applicants and evaluators who respectively submit and review new project proposals such as the proposal for high-rise development.

At the international level, guidance usually comes in the form of Charters, which set “principles and codes of good conduct,” or Recommendations, which institute “norms [that] are considered public international law” (Luxen, 2004: 4). In fact, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Council on Monuments and Sites (ICOMOS), which is the Advisory Body for cultural heritage, have strived to cope with the challenge of intervening in historic places for decades by means of Charters and Recommendations, also known as standard-setting instruments. At the national and
city/municipal/local levels, guidance often involves policy documents, which usually set forth criteria in the form of standards and/or design guidelines. Standards are “prescriptive metrics” that are “generally black and white, providing a measurable box in which new construction can take shape” whereas design guidelines are “parameters describing the preferred look and feel of new construction” and “can be advisory or serve as approval criteria applicants must meet” (Joslin, Karlsson & Michaelson, 2011: 4 & 6). However, do criteria hold the answer to thoughtful change in historic places?

The problem under study here is a gap in the global discourse and resulting literature on the reconciliation of heritage conservation and development. The review of the most relevant literature such as the Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas (1976), the Washington Charter (1987), the Vienna Memorandum (2005) and the Recommendation on the Historic Urban Landscape (2011) shows that the above-mentioned research question has been overlooked. The latest Recommendation, in particular, encourages local and national authorities to develop and apply regulatory systems but does not question their appropriateness or effectiveness in achieving the goal of harmonious architectural integrations. For this reason, the present author investigates the success of such systems, mainly criteria, in guiding the design and assessment of contemporary interventions in historic places. In this qualitative study, document analysis is selected as the principal method to address the research problem and to generate the data that would bring an answer to the research question. The knowledge gained as a result of this study constitutes a useful basis for the author to rethink current orthodoxy in relating new architecture to existing urban fabric and to recommend other avenues worth exploring in future studies. Ultimately, this article might be of interest to diverse target groups, including the UNESCO World Heritage Centre, ICOMOS, national and local decision-makers and professionals such as architects, conservators, and policy-makers or any individual who seeks information on the research topic.

OVERVIEW OF THE CURRENT STATE OF KNOWLEDGE ON THE RESEARCH TOPIC

Whether new construction should look like or differ from adjacent historic buildings and structures is one of the most hotly contested battlegrounds in the debate over the reconciliation of heritage conservation and development. Advocates of the traditional outlook fear that contrasting forms will result in the loss of the heritage values and character-defining elements of historic places, whereas advocates of the contemporary outlook fear that similar forms will inhibit design creativity and obstruct the sense of evolution. This issue of how to add new construction to existing fabric is not a recent phenomenon; in fact, it is “as old as the second building ever constructed by human beings” (Semès, 2009: 25), but it became an increasing concern with the advent of the International Style in the 1920s, which later became known as the Modern Style.

Before modernism, interventions were destined to be compatible with their surroundings because “context [was] an essential source of design inspiration” (Brolin, 1980: 138). Local communities were members of the same group of users who designed all kinds of buildings according to the social, cultural, physical, natural, economic, religious and political aspects of their geographic location (Rapoport, 1987: 10-15). Architectural design was guided by tradition and reached back in time to understand the formation, evolution and values of a place (Zyscovich & Porter, 2008: 11). With the emergence of modernism, however, design was approached from a new ideology. In essence, modernist-trained architects followed three main principles: function is the main source of design inspiration; technologies that arose from industrial design and structural engineering must be used in new construction to reflect contemporary realities; historical references, particularly ornament, must be rejected because modern architecture is a new tradition with its own themes, forms and motifs (Curtis, 1996: 11-13; Tyler, Ligibel & Tyler,
2009: 96). Until the 1960s, architects who designed “in the new mode” believed that their work had to express no other period but its own time; thus, precedents were not looked upon favourably (Tyler, Ligibel & Tyler, 2009: 103). Accordingly, this ideology favoured the spirit of the time over the spirit of the place. It opposed the integration and harmonization of new architectural expressions with historic fabric. This explains why interventions often contrasted heavily with adjacent buildings while others ignored their surroundings intentionally (Brolin, 1980: 140).

As a result of changes in ideologies, materials (e.g. concrete) and methods of construction (e.g. steel frame), cities and towns worldwide witnessed an increase in the size and height of new buildings, which later invaded local vernaculars and, in consequence, adversely affected historic character, heritage significance and human experience. For clarification, the problem is not the insertion of modern architecture in historic places per se, but rather the potentially adverse environmental impacts of new construction on its surroundings. For example, Arabian towns have been jeopardized because many modernist designers and decision-makers have not critically evaluated the appropriateness of modern forms, materials and layouts with regard to Arabian urban morphologies, typologies, cultures, practices, values and climates (Elsheshawy, 2008; Hawker, 2008; Jayyusi, Holod, Petruccioli & Raymond, 2008). In fact, the ongoing recruitment of famous foreign architects and architectural firms who have little knowledge of, or care for, local values and traditional patterns of development, continues to challenge the conservation of Arabian historic districts. The excess of oil money has fed the desire for international-style buildings, which has enhanced the sense of the possible as opposed to the sense of place. Surviving historic buildings often find themselves in the midst of high-tech structures that pose like narcissistic status symbols for the world to see, photograph, admire and envy. Although some of those buildings possess spectacular architectural and structural qualities, they do little to fulfill the environmental and cultural needs of local communities or to connect with their surroundings (Khalaf, 2012: 35-38; Khalaf, 2013: 19-20). Instead, their main purpose is to attract tourism and international capital. The conservation of site-specific qualities and attributes as part of new construction, therefore, is a complex design challenge that merits some guidance.

To protect historic and traditional urban ensembles from insensitive development worldwide, the movement for urban heritage conservation was launched in the 1960s (Rodwell, 2007: vii). Subsequently, UNESCO Recommendations and Charters were written and adopted such as the Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas (1976) and the Washington Charter (1987). These documents are built on the basis of internationally accepted guiding principles; however, they do not sufficiently deal with the insertion of new construction in heritage settings, or in urban environments generally speaking, because they are “often weak and powerless in front of the forces of change that dominate the world and its urban scenes today and in the foreseeable future” (UNESCO, 2010: 2). The lack of explicit guidance explains why the UNESCO World Heritage Committee requested the organization of a symposium to discuss this issue during its 27th session, which was held in Paris, in 2003. That discussion exposed the need for the establishment of new international norms and principles that would complement existing guidance and facilitate the evaluation of new project proposals, particularly for the benefit of properties inscribed on the UNESCO World Heritage List because, at the time, the global discourse was limited to World Heritage properties.

When new projects are proposed in such properties, the World Heritage Committee can express its concern about their potential threats to Outstanding Universal Value (OUV), which is the basis for inscription on the World Heritage List as explained in the Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) and the Operational Guidelines for the Implementation of the World Heritage Convention (2013). This was the case, for example,
with the proposal of four towers at the Wien-Mitte Urban Development Project site, located within the buffer zone of the Historic Centre of Vienna, in 2002. The proposal compromised the Historic Centre’s OUV and its cityscape, characterized by low-rise buildings. For this reason, the World Heritage Committee argued that if the development were to proceed, it would cause the removal of the property from the World Heritage List. The Committee requested the organization of the international conference on World Heritage and Contemporary Architecture to further discuss this issue, in May 2005, in Vienna. Additional cases of new construction were examined by the Committee, such as the Jahan-Nama commercial complex that includes a 58 meters in height tower located 760 meters from Meidan Emam in Iran, a high-rise development around 800 meters from Cologne Cathedral in Germany, several developments near the Tower of London in the United Kingdom, and the RMJM Tower at the edge of the historic centre of St. Petersburg in Russia (Cameron, 2008: 28). There were other cases, such as those proposed in Beijing, Kathmandu, Riga, Potsdam, Avila, Antigua Guatemala, Bordeaux, Istanbul, Dresden, Riga, Vilnius, Sevilla, Graz, Liverpool and Tallinn (Oers, 2006: 5; Bandarin & Oers, 2012: 62).

It is noteworthy that the main focus of the global discourse at the time, when the above-mentioned cases were being reviewed, was to identify and protect important views, particularly from large-scale and high-rise buildings that were judged inappropriate (UNESCO, 2013a: 1-21). These proposals were considered visual intrusions that would cause the fragmentation of existing urban fabric. They were mainly evaluated based on their obstruction to views from or toward historic buildings in, or near, World Heritage properties especially because the OUV of each property has strong visual qualities. For this reason, attention was given to visual impact assessments, vistas, panoramas, viewpoints, skylines and integrity among other visual aspects of change, which were popular discussion points.

During the conference in Vienna, in 2005, the Vienna Memorandum on World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape was written. It is neither a Charter nor a Recommendation, but rather a transitional document. It states that the Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas, adopted in 1976, “should be complemented by a new Recommendation taking into consideration that over the last thirty years the concepts of historic urban area conservation have evolved” (Oers & Haraguchi, 2010: 9). This new Recommendation, moreover, “would not be specific to World Heritage cities, but broadened to all historic cities” (UNESCO, 2010: 4). In view of this statement, the global discourse moved beyond the boundaries of World Heritage properties to include places that have local, national or regional importance. Subsequently, the proposition and exploration of new ideas, guidance, tools and approaches as well as the exchange of best practices, case studies and outcomes were requested from researchers and professionals worldwide to assist decision-makers, including the World Heritage Committee, in developing the Recommendation. The latter had to primarily address “the need to link contemporary architecture to the urban historic context” and to facilitate the evaluation of new interventions proposed in historic places as per the Committee’s decision during its 29th session, in Durban, in 2005 (Item 8 of Decision 29 COM 5D).

In the following years, five regional expert meetings (i.e. in Jerusalem 2006, Saint Petersburg 2007, Olinda 2007, Zanzibar 2009 and Rio de Janeiro 2009), and three planning meetings held at UNESCO Headquarters (i.e. in September 2006, November 2008 and February 2010) took place to prepare the content material of the new Recommendation, which became known as the Recommendation on the Historic Urban Landscape (HUL). The rationale behind HUL is that “a landscape approach, where all is layered and interrelated […] seems more appropriate to deal with the management of change in complex historic urban environments” than
other approaches (Oers & Haraguchi, eds., 2010: 12). During the meetings, definitions of HUL, tools (e.g. buffer zones) and methodologies (e.g. zoning with cultural mapping) were discussed and documented in reports (e.g. St. Petersburg Summary Report, UNESCO, 2007). Yet, these reports do not explain how local and national decision-makers can use the suggested tools and methodologies to achieve the goal of harmonious architectural integrations (Khalaf, 2013: 57-59).

In October 2009, the UNESCO General Conference adopted Resolution 35 C/42 to authorize the writing of the new Recommendation, which was adopted in November 2011. The Recommendation explains that historic places are living landscapes that carry many layers of significance, including contemporary architectural layers that ought to be harmoniously integrated with existing ones. It defines HUL as both an “approach to urban heritage conservation” and as an “urban area understood as the result of a historic layering of cultural and natural values and attributes […]”. This document marks an important shift in the global discourse from the initial focus on the protection of important views and the establishment of visual threads in the urban fabric to the recognition of the layering and interconnection of values. Yet, for clarification, the HUL approach does not guide the design or assessment of contemporary interventions but rather the identification, conservation and management of historic places as explained in Item 5. Although it is seen as an attempt “to break the walls’ of separation between conservation and development” (Bandarin & Oers, 2012: 191), it does not provide sufficient guidance to achieve the goal of harmonious integrations nor does it make “special reference to the contextualization of contemporary architecture,” which was supposed to be the driving force behind this Recommendation as indicated in the Vienna Memorandum (p. 6) and the decision of the World Heritage Committee (Decision 29 COM 5D). Instead, the document suggests financial, regulatory, civic engagement, knowledge and planning tools, all of which remain to be developed and applied by national and local authorities and municipalities.

As a result, additional guidance is deemed necessary. For example, Smith, President of ICOMOS Canada and one of the co-authors of the Recommendation, explains that “the Recommendation itself is not a tightly constructed document” and “has the weakness of being the product of an international committee further edited by the member states;” therefore, Smith argues that ICOMOS should probably produce complementary guidance since it would be useful “to develop something intermediate between theory and practice” (2012a: 1). This suggestion would help filter the HUL approach from the international to the national and local levels; consequently, it would make it more comprehensible and facilitate its practical application. Still, Rodwell, a consultant architect-planner, judges that “it is too soon to anticipate the practical outcome of this 2011 Recommendation and the success of applying the landscape approach” (2012: 81). Furthermore, efforts should be undertaken to strengthen capacity-building, knowledge-sharing and the centralization of information (Oers & Roders, 2012: 7). Accordingly, the UNESCO World Heritage Centre in Paris Headquarters as well as UNESCO Category II Centres in different regions are striving to clarify, disseminate and implement the HUL approach in national and local policies and practices, and to support tool development (e.g. civic engagement tools) by means of training courses, seminars, workshops and symposia that aim at bringing together scholars, practitioners and decision-makers from different parts of the world (HUL, 2014). In fact, the Recommendation confirms that “academic and university institutions and other centres of research should be encouraged to develop scientific research on aspects of the historic urban landscape approach” (Item 26). This may explain why recent studies in the field such as Bandarin & Oers 2012 as well as Ph.D. studies such as Veldpaus 2012 focus on the HUL approach and the mechanics of its dissemination and implementation. However, a study that specifically focuses on the design and assessment of interventions while questioning the success
of regulatory systems in linking contemporary architecture to the urban historic context and in facilitating the evaluation of project proposals is overlooked. For this reason, this article investigates whether criteria, which constitute the most common regulatory system embedded in conservation policies, hold the answer to thoughtful change in historic places.

THE STRENGTHS AND WEAKNESSES OF CRITERIA

Criteria have been established by a number of jurisdictions, cities and nations worldwide to provide direction for the applicants and evaluators of new project proposals, such as new construction proposed in a historic place. They provide a common framework for design and assessment. In different sources of literature, they are referred to as ‘rules’ (Goldberger, 1980: 258), ‘regulations’ (Loew, 1998: 39), ‘design criteria’ (Brolin, 1980: 4), ‘design control criteria’ (Wilson, 1980: 151) or ‘preservation criteria’ (Lu, 1980: 187) among other terminologies. They are either “prescriptive, defining desired results in precise terms” or “interpretive, establishing a range within which acceptable solutions may be found” (Stovel, 1991: 27). Put simply, they are either standards, which rely entirely on words and rigid vocabulary, or design guidelines, which often rely on a combination of words and photographic examples for illustration purposes. For instance, ‘a new building must not exceed the height of adjoining buildings’ is a standard because it emphasizes a specific and measurable indicator (i.e. height); whereas ‘a new building should be compatible with adjoining buildings’ is a design guideline because it is open to interpretation.

Both standards and design guidelines are derived from principles that stem from international wisdom and from agreement among local and/or national government, communities and professionals such as architects, archeologists, urban designers, planners, site managers and conservators. Some examples of policy documents that illustrate a range of criteria are “Building in Context: New Development in Historic Areas” in England (Golding, 2001), “Design in Context: Guidelines for Infill Development in Historic Environments” in New South Wales (NSW) Australia (NSW Heritage Office & RAIA NSW Chapter, 2005) and the “Standards and Guidelines for the Conservation of Historic Places in Canada” (2010). The latter is the result of federal, provincial and territorial collaboration involving many governments and authors.

On the one hand, criteria are deemed necessary to ensure predictability, certainty and consistency in decision-making. According to Bennett, a former director of policy, they provide “points of reference,” especially for applicants such as developers and consultants, to avoid ambiguity and undesirable architectural outcomes (2006: 78). Standards, in particular, establish what is allowed or not allowed in historic places. They dictate to applicants what must or must not be done by means of rigid directives that, if followed, may guarantee that their project proposals will be supported and eventually approved. As a result, standards assist the assessment of interventions. Lu, an urban planner and designer, agrees that “without preservation criteria, the design relationship between old and new architecture is not defined; thus, there is no assurance that the new will not disrupt the old” (1980: 187). The author adds that criteria should be explicit and include not only architectural aspects such as materials, colors, scale, rhythm and other visual elements, but also land use, setbacks, density, floor areas, signs, subdivisions and street plans. Nevertheless, the same author asserts that criteria, alone, “will not assure fine design,” because it is up to the designer to use them “creatively” (1980: 190); for this reason, rigidity is “relatively useless;” criteria “should be as flexible as possible” (1980: 199). Warren, an architect and conservator, also finds that criteria must permit “invention and creativity” (1998: 16). In this respect, design guidelines tend to be useful because they provide a framework in which creativity can flourish. Yet, they may be too flexible as to give the impression that applicants can design what they want because, by definition, they are interpretive.

In addition to their rigidity, which tends to inhibit creative thinking, standards are subjective
and biased because they often embrace one design response, such as the use of similar forms to ensure compatibility between the new and the old or, on the contrary, the use of contrasting forms to differentiate the new from the old for legibility purposes. This pre-determined black or white position toward new construction is problematic because it covers a wide range of dissimilar cases. For example, a standard that enforces insistence on ‘contemporary’ as the only legitimate approach to interventions such as Article 9 of the Venice Charter (1964) that states “any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp” may be applicable to a place that is valued for its architectural diversity but it may not be applicable to another that has a unified architectural character and defined equilibrium. For this reason, Stovel, a heritage conservation expert with an architectural background (in memoriam), judges that standards “may impose an unnatural homogeneity on historic districts characterized by diversity of expression” or vice versa (1991: 2).

In light of the example given above, one may argue that any design response can be appropriate in so far as the architectural outcome results from the understanding of the place of intervention. In fact, many authors agree on this point. For instance, Wells-Thorpe, an architect, states, “the correct response depends on the circumstances” of the place (1998: 113). Macdonald, an architect and Head of Field Projects at the Getty Conservation Institute, also asserts, “A traditional response may be as valid as a more contemporary response” (2011: 15). Smith, an architect-planner and conservator, confirms, “We cannot judge the new until we have understood the old, or we will simply perpetuate biases” (2010: 51). Accordingly, whether new construction is appropriate or whether it fits into its geo-cultural context is a question that could only be answered once the characteristics and qualities of the place have been thoroughly examined. For this reason, Loew, an architect and town planner, judges that guidance and policies should “insist on the obligation to understand” the place “rather than try to define particular rules to be followed” (1998: 39).

Criteria raise a number of other concerns, such as the use of unclear terminologies and expressions. For example, “motherhood statements” such as “there shall be a high standard of design” without explaining the meaning of “high standard” are ineffective (Loew, 1998: 220). Furthermore, because the meaning of the words ‘suitable’ or ‘compatible’ or ‘harmonious,’ which are often used in design guidelines, is not readily evident, “it is difficult, perhaps impossible, to establish guidelines to judge what is suitable or unsuitable to historic surroundings” (Cavagliieri, 1980: 48). In this respect, Semes, an architect, clarifies that “harmony can be neither described nor prescribed by any series of merely verbal desiderata, which is why design guidelines cannot produce beauty, although they may prevent the most egregious ugliness” (2009: 69). The author insists that “the relation between new and old architecture is always defined in terms of the perceptions, values, and interests operative in the architectural culture of the moment” (2009: 115). Accordingly, the understanding of compatibility is different from one geo-cultural context to another as well as from one historical period to the next.

To clarify Semes’ point of view, one may give an example from the United Arab Emirates. Before socio-economic and technological change, which was brought about by oil money in the 1960s, a palm frond house was compatible with the harsh local climate and societal needs of the Emirati community. Today, however, Emiratis no longer live in palm frond houses because their needs, perceptions and interests have changed; their understanding of compatible architecture has changed. In view of this example, one may deduce that criteria may be appropriate to a historic place at a certain time, but they may no longer be appropriate to that place at a different time. Similar to the concept of authenticity, defined in Article 11 of the Nara Document (ICOMOS, 1994), judgments about compatibility differ from one culture to another and even within the same
culture; for this reason, an intervention must be judged and evaluated within the cultural context to which it belongs rather than within fixed criteria, which ought to be revised and updated as perceptions and priorities in jurisdictions or cities change over time. Yet, since standards are prescriptive metrics, by definition, they cannot easily adapt to changing realities.

Furthermore, standards in particular tend to focus entirely on tangible attributes, visual design elements and aesthetic values when they should also focus on human values, rituals and cultural references, because a place is “experienced from within, not observed from without” (Smith, 2006: 70) and “it must be experienced within the cultural framework of those who have created and sustained it” (Smith, 2010: 46). Smith clarifies that assessors may choose to control interventions with “criteria pertaining to height, form, material and style” as long as these criteria reflect the realities of local inhabitants. He gives the example of a tower (i.e. criterion pertaining to height) and explains that if it “symbolizes a source of employment in an economically depressed and secularized town […] then it may be acceptable,” and therefore compatible, even if it is located in a conservation area (2010: 51). This example suggests that an intervention should be judged not only by its appearance, but also in terms of its relevance (e.g. cultural, economic) to inhabitants. For this reason, it is essential to involve and consult local communities, to understand how they relate to their built heritage, and to understand what constitutes that heritage. In fact, Smith argues that community-based design, planning and decision-making could be more successful in marrying new construction with existing urban fabric than the fulfillment of criteria (2012b: 1), including land-use and zoning regulations, which not always succeed in shaping desirable community development.

Finally, many authors agree that criteria function best as points of reference or as a reminder list for applicants and evaluators, but they cannot guarantee good, or prevent bad, design. Carlhian, an architect, admits that criteria “can be useful as guides for architects and guideposts for design review board members whose task is to evaluate the appropriateness of the solutions presented,” but they “can never substitute for the exercise of judgment by the architect” (1980: 52). Goldberger, an architectural critic, clarifies that “there are no formulas or simple guidelines” that can magically produce good architectural outcomes. The author stresses “the making of architecture is never the following or the breaking of rules,” because it is a “creative process that transcends such quantifiable things” (1980: 258). He concludes with “only a trained eye can know whether materials are most important in one case, scale in another, and roofline in another […]” (1980: 265). Wilson, an architect, also finds that “no simple formulas […] can assure good design” and adds that standards “stifle” creativity, which has led to the “picturesque diversity of style and character so much admired in European towns” (1980: 151). Alderson, an architectural conservator and policy-maker, approves that criteria cannot “prevent out-of-scale development” or “make a less-creative architect more creative or be counted on to bring about outstanding design solutions” (2006: 24 & 26). Because the weaknesses of criteria seem to outweigh their strengths, what else could be explored to better relate new architecture to existing urban fabric and further contribute to the global discourse on the topic of concern?

THE WAY FORWARD: SOME AVENUES WORTH EXPLORING IN FUTURE STUDIES

The previous section of this article has provided different but complementary data derived from the observation and experience of erudite scholars and practitioners. They were selected from a diversity of interdisciplinary fields within the wider scope of heritage studies and practice such as architecture, conservation, urban design, planning and policy-making to avoid bias and to report multiple perspectives. The analysis and interpretation of the data show that only once a place has been understood can the characteristics of an intervention be determined. It is the understanding of the place that should guide the design and assessment of an intervention.
Accordingly, the key to thoughtful change or to harmonious architectural integrations is not the fulfillment of criteria per se, but rather the process of understanding and responding to historic places. Thus, to move forward, some indicators, which are based on the author’s comprehension of the data, are proposed in Table 1. Their intent is to facilitate understanding a place and responding to it during the design and construction phases of an intervention. Nevertheless, Table 1 is open-ended: it is neither conclusive nor comprehensive because definitive solutions or formulas do not exist, as explained in the previous section. Its purpose is rather to move the focus from criteria to the knowledge needed to establish a compatible relationship between the new and the old. This shift in focus may lead to a useful set of discussion points as part of future dialogue and studies on the topic, particularly on the concept of compatibility, which is insufficiently explored in Charters and UNESCO Recommendations (Khalaf, 2013: 30-62).

### Table 1. Phases and indicators (Source: Author, 2014).

<table>
<thead>
<tr>
<th>Phases for establishing a compatible relationship between new and old</th>
<th>Indicators (tangible attributes and intangible qualities)</th>
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<tr>
<td><strong>A. Pre-design phase: Understanding the place</strong></td>
<td>heritage values/heritage significance, traditions, customs, cultural frameworks, rituals, character-defining elements/features/attributes, climate, topography, morphology, landscape, views, historic character, patterns of development, archaeological remains, urban fabric, overall composition, individual parts/elements/components, condition and historical evolution of the place, events, people associated with the place or with existing buildings, local knowledge, building practices, skills, craftsmanship</td>
</tr>
<tr>
<td><strong>B. Design-phase: Responding to the place while designing the architectural intervention</strong></td>
<td>scale, height, form/shape, size, mass, bulk, volume, materials, colors, line, space, ornament/detailing, tonality, texture, architectural style, silhouette, façade, circulation, rhythm, proportions, dimensions, use/functions/activities, openings/holes (e.g. doors, windows), lots, street alignment and street plans, surface covered, land use, setbacks, density, floor area, subdivisions, landscape elements (e.g. vegetation, ecological features), relationships (e.g. between buildings and green spaces, between solid and void), building type/typology, footprint, layout, roof shape, accessibility, human experience, cultural or social or economic relevance</td>
</tr>
<tr>
<td><strong>C. Post-design phase: Responding to the place while constructing the architectural intervention</strong></td>
<td>method of construction/building method, foundation, structure, techniques, skin, envelope, environmental impacts (e.g. biophysical such as air, soil and water, or human such as economic, demographic, social and cultural, or visual), safety codes (e.g. public health)</td>
</tr>
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Although the indicators are arranged in no particular order of importance or preference in Table 1, it is noteworthy that heritage values are purposefully mentioned at the very beginning (A) because the establishment of a compatible relationship between an intervention and its surroundings starts with the identification of heritage values (e.g. architectural, archaeological, aesthetic, anthropological, cultural, historic, scientific, spiritual). It is the understanding of what makes a place valuable that should guide design and construction decisions as well as the assessment of project proposals because the conservation of the old when introducing the new necessitates the retention of values to ensure their transmission to future generations. This is a basic conservation principle. Accordingly, the lack of reference to values in decision-making would inevitably obstruct the goal of achieving thoughtful change in historic places. For this reason, the choice of highlighting certain tangible or visual indicators (e.g. materials, height, skin)
at the expense of others during the design and post-design phases (B & C) ought to be justified in relation to heritage values and existing conditions (A). One way to investigate and determine the success of these phases and indicators in guiding the design and assessment of interventions is to embed them into a policy document as part of future research on the topic. However, given that criteria do not easily allow for the justification of an intervention in relation to its context, the author recommends formulating probing questions in the policy document instead. In other words, probing questions would serve as an alternative to criteria, particularly standards.

For clarification, the previous section has shown that criteria usually place emphasis on what applicants must or must not do thereby limiting the opportunities available for achieving the goal of potentially compatible interventions. The author would argue that probing questions, unlike criteria, place emphasis on what evaluators expect to see in, and understand from, project proposals: explicit information that justifies the characteristics of an intervention in relation to its context. For further clarification, a probing question, by definition, cannot be limited to a ‘yes’ or ‘no’ answer because its purpose is to probe, which means that it compels a person to think more deeply about the case at hand, which, in this scenario, is a design case. Applicants would not be free to do whatever they want because their design and construction choices must make sense to evaluators. Also, a probing question as opposed to a leading question or a yes/no question or a standard may have multiple responses and, consequently, may help applicants consider different design variants for the same intervention and then select the one that best balances the conservation of the place with new development. Accordingly, this approach to design and assessment does not favour a particular way of intervening in historic places; it is less biased than standards that tend to impose pre-determined opinions on what constitutes a desirable architectural outcome. Moreover, asking a probing question would be a way for evaluators to find out more detail about the applicants’ choices and, consequently, it may facilitate the understanding and assessment of interventions on a case-by-case basis. Most importantly, introducing probing questions to a new generation of urban conservation policies would constitute an original contribution to the current state of knowledge because, as explained in the first section of this article, UNESCO and ICOMOS encourage the proposition and exploration of new ideas, approaches and guidance directed at the insertion of new development in historic places.

For example, under the design-phase (B in Table 1), a possible probing question might be: ‘How exactly does the exterior design of the intervention relate to the architectural character of the historic place?’ thereby bringing into play a range of the proposed indicators (e.g. scale, height, form) and providing an opportunity to applicants to explain why their design choices are appropriate or complementary. This question might be asked as an alternative to the following standard: “Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place” (Standards and Guidelines for the Conservation of Historic Places in Canada, 2010: 23), which imposes a particular design philosophy and relies on strict terminology dictated to applicants without leaving room for justification. In fact, the lexicon of terms (e.g. “subordinate to”) is a minefield of ambiguity because the meaning is not readily evident. Another possible probing question might be: ‘How do the tangible attributes and intangible qualities of the intervention contribute to the understanding and experience of the historic place?’ It might be asked as an alternative to this standard: “Do not create a false sense of historical development by adding elements from other historic places or other properties, or by combining features of the same property that never coexisted” (Standards and Guidelines for the Conservation of Historic Places in Canada, 2010: 22). Although it is somewhat apparent that the standard seeks to protect the understanding and experience of the place, it is built on a problematic assumption. To clarify this point, one may present a few arguments. For instance,
Semes argues that there is no such thing as false architecture or false history or false sense of historical development (2008a: 5). He explains that interventions are either “appropriate or inappropriate – they either conform with our ideas […] or they do not” (2008b: 704). He clarifies that “truth or falsehood are qualities that we may attribute to historical accounts or interpretations but not to buildings” because architecture “may only be judged good or bad, appropriate or inappropriate” (2009: 154). Adam, an architect and one of the directors of ADAM Architecture in the UK, adds, “Logically, it is simply not possible to be falsely historical,” because any intervention that occurs “will become a historical event,” which “cannot be false and, even if the attempt is to falsify,” the intervention is still “a relevant piece of history” (2010: 82).

The indicators identified in Table 1 could be used to inspire and formulate additional probing questions for each of the three chronological phases (A, B and C). Next, those questions could be integrated into an existing policy document, such as the above-mentioned Canadian one, or into a new policy document developed from scratch and adapted to a given national or local geo-cultural context. The purpose of this exercise would be to demonstrate how the phases and indicators might guide the design and assessment of interventions and how they might be presented to, and used by, applicants and evaluators. In fact, Creswell, an expert on qualitative inquiry among other areas of expertise, recommends composing a “polished product” to communicate suggestions or findings to participants and then to determine whether they are accurate or appropriate or effective or applicable (2009: 191). Accordingly, a policy document may serve as a “polished product,” which, for example, could be shared with professionals in the field during in-depth interviews or focus group discussions or by means of a qualitative survey. The comparison, analysis and interpretation of the resulting data would then help validate the phases, indicators and idea of probing questions. That being said, a policy document will not be composed as part of this article because this is an inquiry that extends beyond the research question put forth in the introduction; it is a future research direction.

Future studies could also investigate how to base design and construction decisions on heritage values since this particular issue, which is generally known as values-based decision-making, is insufficiently explored in the literature. There is a lack of guidance directed at the recognition of, and responsiveness to, heritage values in decision-making processes, which explains why the problem of reconciling conservation and development exists in the first place. Here, the author would argue from the outset that values-based decision-making, similar to architectural creativity, which was discussed in the previous section, is a skill that develops with experience and training. Traditionally, this skill came naturally, because decision-makers shared the same values and were members of the same group of users. Now, however, the situation has changed because applicants, in particular, are also foreign professionals (e.g. expatriates, star architects, international firms) who may not necessarily understand what the local community valued in the past and what it still values today. For this reason, the provision and implementation of professional training to develop the skill of values-based decision-making by means of, for example, international or regional educational programmes and capacity-building workshops that may occur in different historic places and regions would be beneficial. Practitioners such as architects, conservators, planners, urban designers, developers and policy-makers would have an opportunity to exchange information, share their experiences, learn from different case studies and reintroduce themselves to design ethics. Although it will be difficult to engage practitioners and embed new learning processes into their career structure, it is worth trying because the knowledge that will be gained as a result of these efforts will most likely have positive implications for training, policy and practice.

At the local and national levels, the involvement and consultation of communities during
public information sessions, for example, would be beneficial to recognize values, to identify the character-defining elements that carry those values, to understand how different indicators interact and how they contribute to the architectural identity of the historic place in question, and to determine the limits of change that would damage or maintain that identity. This participatory approach can also help manage the positive and negative environmental impacts (e.g. human, visual) of an intervention on its surroundings in a more systematic and objective manner. Nevertheless, governments and contemporary societies must be interested in their built heritage in the first place and must establish heritage values and character-defining elements through formal recognition or designation in order to clarify what merits protection from future development. The real challenge, therefore, is to elevate heritage on the list of local priorities and make it an integral part of a city’s development and planning processes with a view to balancing urban growth and urban conservation on a sustainable basis. That is the ultimate goal.

CONCLUSION
This article began with an overview of the current state of knowledge on the reconciliation of heritage conservation and development to provide background and contextual information for readers. The global discourse and resulting literature on the topic, such as the Recommendation on the HUL and recent studies, concentrate on the dissemination and implementation of the HUL approach but do not question the appropriateness or effectiveness of regulatory systems in achieving the goal of harmonious architectural integrations in historic places. For this reason, this article investigated the success of criteria in guiding the design and assessment of interventions. Document analysis was the principal research method employed to achieve the purpose of this qualitative study. Many sources were consulted to juxtapose and report the arguments of scholars and practitioners who were selected from a diversity of interdisciplinary fields within the wider scope of heritage studies and practice. The investigation has shown that standards could set common benchmarks for applicants and evaluators who seek predictability, certainty and consistency in decision-making; nevertheless, standards address almost entirely tangible or visual indicators such as height, but often fail to address intangible qualities such as the cultural, social or economic relevance of an intervention in relation to its surroundings. Also, they tend to impose rigid directives, use ambiguous terminology, mandate a particular design philosophy, suppress professional judgment and restrain architectural creativity. Moreover, they cannot easily adapt to changing perceptions and priorities in jurisdictions and cities over time. They are too black or white, which causes a problem because they cover a wide range of design situations that would differ from one place to another given that each place is unique.

For these reasons, standards are most appropriate and effective when combined with design guidelines, which are more objective and flexible, less reliant on quantitative measures and more adaptable to changing realities. A combination of standards and design guidelines would better direct judgment about the goodness and quality of an intervention than broad norms alone. However, even if applicants and evaluators were to follow a set of criteria, they may not necessarily produce good interventions or prevent bad ones. It was found that the key to thoughtful change is not the fulfilment of criteria per se, but rather the process of understanding and responding to a historic place when designing and assessing an intervention. In light of these results and the answer to the research question, global discussions and studies on the reconciliation of heritage conservation and development, which are currently focusing on the HUL approach, should consider revisiting the structure and contents of regulatory systems in existing or new conservation policies to better reflect and improve that process, which in return, would help achieve the goal of harmonious integrations.
Accordingly, a shift in focus from criteria to the knowledge needed to establish a compatible relationship between the old and the new was made in the last section of this article. Phases and indicators were proposed in Table 1 in concert with the idea of probing questions to support the justification of an intervention in relation to its context, which is one way to search for compatibility. To empirically investigate the phases, indicators and idea of probing questions, it was recommended to embed them into a policy document and then to share that document with professionals in the field, for example, during in-depth interviews or focus group discussions or by means of a qualitative survey. The resulting data would then be compared, analysed and interpreted to validate whether they are accurate or appropriate or effective or applicable. Other avenues of thinking that could further contribute to future dialogue and the advancement of knowledge were also suggested. For example, how could the skill of values-based decision-making be developed? What are the strategies to engage diverse interest groups and mitigate their differences? How could heritage rise on the list of local priorities? These lines of qualitative research support the importance of context as a whole, where it is the acknowledgment of values, priorities and other lessons learned from heritage that would allow thoughtful change to be introduced in places, whether they are historic or contemporary.

REFERENCES


NOTE
This article uses a minor part of a research that was conducted since 2009 at the Université de Montréal (Canada) to write and defend the author’s Ph.D. dissertation in 2013 (unpublished). Further research was carried out and additional literature was consulted to prepare this article, which is dedicated to the Special Issue on the Contemporaneity of Built Heritage.

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A DEFINITION OF AUTHENTICITY CONCEPT IN CONSERVATION OF CULTURAL LANDSCAPES

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Abstract
Cultural landscape can be defined as the result of human interaction with nature over time, which has led to the formation of the many and diverse layers of value. Currently, the UNESCO World Heritage Centre has a unique role among other scientific associations. In recent years, the World Heritage Center has put efforts into developing a framework and measures for evaluation and management of cultural landscapes. Moreover, the concept of authenticity; as the transmitter of values and significance of cultural landscape, is considered as the key component in the process of cultural landscape conservation. A lot of scientific resources have pointed out the importance of authenticity in the process of conserving cultural landscapes. However, the role of authenticity within the domain of conservation of cultural landscapes has received little attention. One of the main reasons can be lack of adaptation between conventional definitions of UNESCO and international documents concerning the authenticity for including the flexible and dynamic structure of cultural landscapes around the world. Therefore, this paper seeks to explore and develop a flexible framework in order to redefine the concept of authenticity in relation to cultural landscapes, which has some overlaps with UNESCO definitions despite its differences. For developing this framework, Iranian-Islamic philosophy of Mollasadra is applied and described with some examples of cultural landscapes in Iran.

Keywords: Heritage; authenticity; conservation; cultural landscape; stability; dynamism.

INTRODUCTION
Following the development and the qualitative and quantitative changes in communities, that have made substantial changes in historic environments; the authenticity concept has attracted attention in order to strike a balance between conservation and development approaches. The published document of English Heritage defined authenticity as “those characteristics that most truthfully reflect and embody the cultural heritage values of a place” (English Heritage, 2008: 71). In recent years, the conservation domain has been expanded from the restoration of monuments into the spaces between buildings and historic cities and finally developed to conserve cultural landscapes. The concept of cultural landscape, for the very first time in 1992, was taken into consideration as a common heritage of mankind in the field of conservation in operational guidelines of the World Cultural and Natural Heritage Convention. Since then, the World Heritage Centre and other associated organizations have put effort into developing a framework and measures for evaluation, conservation and management of cultural landscapes. Moreover, the concept of authenticity, as the transmitter of values and significance of cultural landscape, besides the integrity has played the major role in the process of registration, conservation and management of cultural landscapes. Review and analysis of documents, conventions and theories concerning the role of authenticity in the conservation of cultural heritage, cultural landscape in particular, show that in recent decades the tangible and intangible aspects of authenticity have been considered together to evaluate, conserve and manage cultural landscapes. Hence, this paper aims to redefine the tangible and intangible aspects of authenticity
in a framework which is flexible and compatible with the dynamic nature of cultural landscapes. For this purpose, first, review and analyse of authenticity in cultural landscape conservation based on the opinions of experts and international conventions and documents are carried out. After that, the conceptual framework of authenticity in the cultural landscape will be developed, based on the literature review. The conceptual framework of authenticity in cultural landscapes from the viewpoint of Mollasadra Iranian-Islamic philosophy is developed and described with some examples. Based on research questions and goals, the qualitative research methodology is chosen and with applying logical reasoning strategy as well as ‘content analysis’ and ‘logical inference. This paper aims to analyze the content by recognizing and categorizing international documents and theories. So, by determining the effective components in authenticity concept recognition, the conceptual framework for authenticity in cultural heritage is presented. Moreover, reading and evidential observation based on books, papers and authentic documents are used as research tools.

Reviewing the concept of authenticity in the views of experts, international conventions and documents

Content analysis of international documents represents a universal consensus on the importance of authenticity in the conservation process of heritage sites. The Venice Charter (1964) is the first international document that discussed the concept of authenticity in the field of cultural heritage. The topic of authenticity appeared only in the preamble of the Venice Charter: The historic monuments of generations of people remain to the present day as living witnesses of their age-old traditions. People are becoming more and more conscious of the unity of human values and regard ancient monuments as a common heritage. The common responsibility to safeguard them for future generations is recognized. It is our duty to hand them on in the full richness of their authenticity.

Thus, the definition of authenticity, based on the Venice Charter, indicates as historicity and how to slow down the heritage property erosion process; especially in buildings with more durable materials (stone and brick) which have been discussed in many international charters and recommendations. The truth is that historicity and evidential research refer to historic and evidential values which are one aspect of authenticity. And it is necessary to gain various information layers for recognition the other diverse aspects. Since then, lots of discussions have been raised about the authenticity. The World Heritage Committee (1978) introduced four criteria for assessment of the authenticity in heritage structures: ‘Design’, ‘Materials’, ‘Workmanship’ and ‘Setting’. The measure of authenticity was first used as the initial criterion for assessment of the property in the World Heritage List; while the ICOMOS Committee (1976), in its official report, had introduced the concept of integrity as a key criterion for registration. Obtaining the integrity criterion and preserving it are considered not only as the requisite conditions for assessment before registration, but also as the purposes of heritage conservation and management. The importance of the use of authenticity criterion for guiding decisions after the registration process was first stressed in management guidelines of UNESCO and Feilden for the World Heritage Sites (1993), titled as ‘Authenticity and Treatment’. Furthermore, ‘the Bergen meeting in 1994 laid the groundwork for the Nara conference later that year’ (Rossler, 2008: 48). Gradually, Nara Charter (1994) focused on notions like ‘cultural diversity’ and ‘indigenous culture’, in a world in which diverse cultures are experiencing globalization; and verified the significance of ‘socio-cultural values’ as a main criterion for explaining authenticity and the process of conservation.

“Japan was the first country in the world to introduce intangible heritage concepts into the heritage protection system” (Inaba, 2009: 161). The Nara Conference on Authenticity developed ‘ways and means of broadening our horizons to bring greater respect for cultural and heritage diversity to conservation practice’ (Nara Document on Authenticity, 1994). The Nara Charter, for the first time, considered the importance of intangible and associated aspects of heritage.
Dushkina, representative of Russia ICOMOS, argued in her paper in Nara meeting (1994) that; things that have tangible and material aspects (form, setting, techniques, techniques) and things that have intangible and immaterial aspects (function, use, tradition, spirit) “used to be the bearers of authenticity in a monument…” that “they transmitted authenticity to us and thus are relative to it….” and that “authenticity is a value category of culture” (Dushkina,1995: 310, cited in Stovel, 2007: 29). Following from that, the Burra Charter, by emphasizing on the significance of ‘Place’ and ‘Setting’, again shifted the focus on ‘socio-cultural values’ of the Setting. Other events associated with authenticity and intangible aspect which can be mentioned are the 2003 Convention for the Safeguarding of the Intangible Heritage, and also the 2005 operational guidelines of the World Heritage Convention. It has been noted in this regard that:

The 2003 Convention for the Safeguarding of the Intangible Heritage is particularly relevant for cultural landscapes based on the content presented in 1972 World Heritage Convention. According to this 2003 Convention, the intangible cultural heritage or living heritage is a basis for our cultural diversity and its maintenance is a guarantee for continuing creativity (Mitchell et al., 2009: 27).

Later, the 2005 World Heritage Convention introduced criteria for ‘test of authenticity’ in the operational guidelines to assess the measure of authenticity, these criteria are: form and design; materials and substance; use and function; traditions, techniques and management systems; location and setting; language and other forms of intangible heritage; spirit and feeling; and other internal and external factors (UNESCO, 2005: paragraph 82). Based on the definition provided in the Operational Guidelines of the World Heritage in 2005, the concept of authenticity can be defined as the capability of the property to transmit the cultural significance of a place. As mentioned earlier, the concept of authenticity mentioned four parameters: design, materials, workmanship and setting. The proposed parameters basically pointed the tangible and physical aspect of heritage. Consequently, “the Nara Document on Authenticity, which was later integrated into the Operational Guidelines (Annex IV of the Operational Guidelines of 2005), provided a practical basis for examining the authenticity of properties proposed for World Heritage Listing” (Rossler, 2008: 48). Some of the documents published in recent years, including Quebec ICOMOS (2008), have expanded the scope of heritage to ‘Cultural Routs’ by developing the concept of authenticity in conservation process as well as emphasizing on preservation of the spirit and sense of place. Having highlighted the ‘Spirit of Place’ in evaluating authenticity with regards to intangible heritage and significance of heritage, and having considered the definitions given for ‘Spirit of Place’; it can be concluded that, in recent years, the concept of authenticity has moved beyond the physical aspect of heritage and have been proposed as social and intellectual structures. As Jenny Kidd (2011: 25) has pointed out that “the concept of authenticity is of course socially constructed.” Therefore, authenticity can be considered as registering the properties in the World Heritage List and analysing the required criteria for conservation and management of them after the registration process. For this reason, the more capable the authenticity measure of transmitting the values and significance of heritage, and the stronger the integrity measure for maintaining them over the passage of time; the more lasting the property would be (see Table 1).
Table 1. The most important international documents on the importance of authenticity in the conservation process, (Source: Authors).

<table>
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<tr>
<th>No.</th>
<th>Title</th>
<th>Date</th>
<th>Fundamental Principals</th>
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| 1   | International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter) | 1964 | - Historic values as the concept of authenticity;  
- Expansion of the conservation scope from one monument to surrounding spaces indicates the concept of integrity. |
| 3   | The Nara Document on Authenticity*                                 | 1994 | - Referring to authenticity as a key measure for conservation and management of heritage places;  
- Authenticity assessment based on form and design; materials and substance; use and function; spirit; traditions, techniques and management systems; location and setting (tangible and intangible expressions together);  
- Authenticity as the key factor in determining value;  
- The importance of evidential values in designation the authenticity of the property;  
- Referring to the necessity of consideration and evaluation of heritage properties within the various cultural contexts. |
| 4   | The Declaration of San Antonio *                                   | 1996 | - Presenting indicators for the assessment of conservation and authenticity: 1) Reflection of the true value, 2) Integrity, 3) Context, 4) Identity, and 5) Use and function;  
- Presenting discussions on topics such as authenticity and identity, authenticity and history, authenticity and social values, authenticity and management, authenticity and economy;  
- Emphasizing on the authenticity of cultural landscapes;  
- Considering the significance in conserving and managing cultural heritage. |
| 5   | The International Declaration of Stockholm                         | 1998 | - Respecting the authenticity of heritage and cultural diversity of communities. |
| 6   | The Burra Charter                                                  | 1999 | - Introducing the ‘Cultural Significance’ as aesthetic, historic, scientific, social or spiritual value for the past, present and future generations;  
- Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects;  
- Conservation of natural and cultural significance of place. |
| 7   | Expert Meeting, Great Zimbabwe                                    | 2000 | - Focused on Authenticity in African Context;  
- The importance of management system and other forms of intangible heritage in order to determine the features of authenticity. |
| 8   | Convention for the Safeguarding of the Intangible Heritage +       | 2003 | - The necessity of recognition and safeguarding of the intangible heritage and conserving it. |
| 9   | The International Declaration of Bam +                            | 2004 | - Conservation of Bam Cultural Landscape;  
- The importance of authenticity and integrity conditions in conservation of Bam Cultural Landscape. |
| 10  | The International Declaration of Seoul                             | 2005 | - Conserving authenticity of heritage in historic environments. |
| 12  | The International Declaration of Jerusalem +                       | 2006 | - Referring the concept of ‘Sense of Place’ in conservation process;  
- The importance of authenticity in conservation and management of heritage sites;  
- Recognizing and examining values of tangible and intangible heritage. |
Reviewing authenticity in the cultural landscape with the views of experts, international conventions and documents

Authenticity is presented against copying or reconstructing without any creativity. Formal copy cannot represent the authenticity of heritage and may stifle creativity and the unnamed quality of heritage. Alivizatou (2012: 139) has mentioned, “Authenticity does not mean blind perpetuation of traditions, but rather a more creative engagement with how to make relevant the traditions of the past in the present, something that implies change and transformation rather than cultural stagnation.” An authentic property is based on not only independence and fluidity in form and shape, but also on internal criteria of the nature and significance. “Authenticity is not a value itself; however, it refers to the concept of value in the very essence of it itself” (Stovel, 1995 cited in Talebian, 2005: 65). Authenticity possesses abstract origin and roots of the significance and value of the property and is the vehicle for transmitting and realization of this concept in the time and place of the real world. The authenticity cannot be undermined over time. Although the physical aspect of heritage is experiencing gradual changes consciously or unconsciously over time; in different cultures, the correlation between memory and authenticity continues regardless of the physical aspects and do not necessarily require its physical continuity. This is especially evident in the holy sites, for example, Japanese and African temples.

Interest in using authenticity to guide post-inscription decision making could first be found in Jokilehto and Feilden’s Management Guidelines for World Cultural Heritage Sites (1993) on the chapter on ‘Authenticity and Treatment’ which demonstrates how each of the four authenticities named in the original Test of Authenticity can be used in practical ways to define needed treatment for properties. The decision to demand that cultural heritage properties meet both the conditions of authenticity and of integrity bespeaks a new interest in using the presence of these qualifying conditions, both as references that outstanding universal value is carried by attributes genuinely and credibly expressing that value, and that as references guiding management decision making to priority concerns in sustaining outstanding universal (Stovel, 2007: 26). It is now important to turn our attention to ways in which the proposed new framework for authenticity and integrity analysis (concerned with conveying significance and also with securing/ sustaining significance) could strengthen the quality of nomination analysis for the World Heritage List, and also the quality and scope of references in place for improving management of World Heritage properties (Stovel, 2007: 30). The raised issues endorse the importance of authenticity in the process of registration, conservation and management of the World Heritage. Due to differences among cultures, it is not possible to judge authenticity based upon fixed criteria; and moreover, respect for all cultures requires cultural heritage to be identified and assessed in its own cultural context and in a flexible structure. Based on Nara Document, it can be concluded that conservation of cultural landscapes in each cultural context differs and needs a flexible framework. Having considered the dynamic nature of cultural landscapes; developing the concept of authenticity becomes more complex. The meaning and intangible aspect of heritage were first attracted attention in Nara Document (1994) in Japan. Nara Document failed to achieve a precise conceptual definition of authenticity, as it is said that, “The term does not have a clearly fixed
meaning, but that is essentially a vague” (Heynen, 2006: 289). Overall, it was operationally appropriate. Some other documents have highlighted the importance of this issue at international level; for instance, the Convention for the Safeguarding of the Intangible Heritage in 2003. Based on the content of this Convention, the intangible cultural heritage, besides preserving and perpetuating tradition and adhering to fixed principals over the passage of time, constantly finds new shape and reproduced again and again. Hence the evolution and dynamism in the nature of intangible cultural heritage and cultural landscapes, which have tangible and intangible aspects together, have complicated redefining authenticity concept. So some experts are not successful in redefining authenticity in a flexible framework which is compatible with the dynamic nature of cultural landscape, because of not paying enough attention to the dynamic nature of intangible heritage and its great role in explaining cultural landscape (Mitchell et al, 2009).

Herb Stovel has introduced two main approaches for analysis and assessment of authenticity: 1) considering authenticity in connection with all attributes; 2) considering authenticity in relation to a set of selected attributes of the property (2007: 29). It is not entirely clear that all attributes related to the authenticity of the property should be checked or it is better to have a selective approach. “Natalia Dushkina draws a useful distinction in attacking this problem by trying to link absolute assessments to assessments focused on individual attributes” (Stovel, 2007: 29).

As authenticity and its evaluation are a qualitative issue, it is hard to call it as an absolute concept. Since it is really difficult to have a comprehensive assessment of authenticity, considering all of the measures in all attributes which show it; mostly the assessment is done by using a selective approach that focuses on individual attributes. The operational guideline of the World Heritage Convention in 2003 has also shown that authenticity is a relative concept. It means that, like value, authenticity certain attributes of each property are capable of transmitting some key recognized values of the property that indicate its authenticity. Therefore, it is possible that all of the attributes of a property may not indicate its overall authenticity and shows it partially and not as an integrated totality; as a consequence, each attribute may also carry some particular indicators for authenticity and not all of them. Hence, authenticity is a relative concept, not an absolute one; however, there are various interpretations around the world and some recognize authenticity as an absolute issue which can be assessed by all of the indicators considering all of the attributes in all parts and some consider it as a relative concept. Thus, trying to find a method by which authenticity can be assessed in all countries has failed (Stovel, 2007: 30).

So in some parts of the world like Japan and African countries, exact reconstructing of Japanese and African temples, using the same material and form of the past, casts no doubt on their authenticity; because the significance and social context are much important than physical structures in these communities. Quite the contrary, the tangible and physical aspect of authenticity is as important as social and intellectual dimensions; to such an extent that UNESCO often expresses doubts about those properties that have been mostly or completely reconstructed due to their lack of capability of material authenticity. Reconstruction after World War II in Warsaw, capital of Poland and Church of Dresden City can be mentioned as examples.

Philosophers such as Rygel, Ruskin, Bergson, Heidegger and Brandy, by presenting diverse issues, see artworks in the context of its significance and authenticity. Jokilehto (2006: 4), following the thinking of Martin Heidegger, states that ‘we could say that the more a work represents a creative and innovative contribution, the more truthful and the more authentic it is’ (Zancheti et al, 2009: 164). As Jokilehto mentioned in 2006, the concept of authenticity has a close relation with the concept of truth. The concept of truth is included in the very first issues which have been discussed in philosophy of all times and all places, both in holiness and unholy texts (Zancheti et al, 2009: 164).
In addition, Jokilehto has discussed about the importance of truth and its correlation with creativity. As he has mentioned the concept of truth attracted attention in ancient Asian and policies adopted by the Achaemenid kings. An outstanding example can be the use of a form of ‘Square’ in Achaemenid architecture which was also used by the Sassanians for designing Zoroastrian sanctuary some centuries later. With the emergence of Islam, these forms became constituent elements in the design of mosque ensembles. Particular attention was then given to the ingenious design of the dome, and the connection of the square plan of the room with the circular dome. An example of this is the mausoleum of Oljaytu, built in 1302-12 in the city of Soltaniyeh, the capital of the Ilkhanid dynasty (Jokilehto, 2006: 8-9).

Reviewing the examples raised by Jokilehto reflects an emphasis on the creative aspect based upon the cultural and historical dimensions which should be considered in test of authenticity. Review of literature and perspectives relevant to authenticity proves that ‘social-cultural authenticity’ beside ‘material change’ and ‘considering the creativity aspect while maintaining its continuity over several generations’ have been effective in designation of authenticity (Jokilehto, 2006). Hence, based on definitions presented by Jokilehto (2007), the effective components for authenticity assessment can be categorized into three main groups: 1) ‘Historical-Evidential Authentication’; 2) ‘Artistic and Creative Value’; 3) ‘Identifying Social-Cultural Authentication of the context’. According to the definition provided by Jokilehto (2007), the tangible and intangible aspects of heritage have taken into consideration for assessment of authenticity. ‘Historical-evidential authenticity’ refers to illustrate dimensions of history as well as old documents. Therefore the tangible aspect has been more stressed than associated aspects of historic values which refer to intangible aspect. In addition, ‘Artistic and Creative Value’ and ‘Social-Cultural Authentication’ has emphasized on tangible and especially intangible aspects.

In another definition presented by Silvio Mendes Zancheti and his colleagues, authenticity in relation to the city is expressed based on three major dimensions: the ‘material dimension’, the ‘constructive dimension’ and the ‘expressive dimension’. The ‘material dimension’, as it is obvious from its title, refers to tangible aspects of authenticity whereas ‘the constructive dimension’ alludes to an intangible aspect besides the tangible one. The ‘expressive dimension’ has a great emphasis on intangible aspect of authenticity (Zancheti et. al, 2009: 166).

Moreover, Nora Mitchell (2008) presented a new analytical framework for the assessment, conserving, and monitoring of cultural landscapes for continuation of its authenticity over time in three phases of Definition, Evaluation and Management Strategy. The proposed framework draws attention to tangible and intangible aspects and time process in cultural landscapes. In other words, the proposed framework takes the past, present and future of cultural landscapes into consideration. “Authenticity of cultural landscapes represents the interplay of tangible and intangible values and the dynamic relationship between nature and culture. Sustaining the authenticity of cultural landscapes requires finding a delicate balance between continuity and change” (Mitchell, 2008: 29). Consequently, the tangible and intangible aspects of cultural landscapes should be supported and conserved, and by applying appropriate management strategy will become stable in future.

Definitions and categories provided by Jokilehto (2007), Zancheti and his colleagues (2009) and especially Mitchell (2008) refer to the importance of conservation and durability of the intangible aspect besides the tangible aspect of authenticity. Mitchell placed a strong emphasis on time process in conservation of cultural landscapes and introduced a new analytical framework for the assessment, conserving, and monitoring of tangible and intangible aspects of cultural landscapes and their balance and durability over the passage of time.
**Result: Developing a conceptual framework of authenticity in the cultural landscape**

Paul Phillipot (2002) argues that “the authenticity of a work of art is in the internal unity of the mental process and of the material realization of the work” (Zancheti, et al, 2009: 165). As a consequence, even though reconstructing based on the origin of property may reduce its authentication, it is possible to justify reconstructing a property in some special cases by considering reasons such as the importance of social structure of authenticity and the relation between authenticity and memory. Therefore the concept of authenticity, besides physical structure, contains social structure which develops based on socio-cultural values of indigenous people.

In recent decades, the social aspect of authenticity has been more emphasized; the Nara Document is considered as a serious start in this field. So even if the physical structure of authenticity changed; on the condition of durability of social structures; the appearance of cultural landscape significance and its continuity over time would be witnessed. This indicates the importance of the intangible and intellectual aspects besides its physical and tangible dimensions. Cultural landscape conservation, rather than the physical aspects, is more associated with a set of abstract aspects that need a vehicle and framework to be expressed in the real world. Authenticity provides the necessary vehicle for indication of physical and intellectual concepts which are achieved in the form of diverse values in the context of the cultural landscape.

Therefore, cultural landscape enjoys both durability and variability; durability is the very spirit of place. Cultural landscape should maintain its identity and significance during fluctuations. In general, it can be said that variability and adaptation to time and place are essential for continuity; though ambiguities in contemporary approaches, which have paid a lot of attention to variability, question the continuity.

Jokilehto (2006: 2) has mentioned: “Over the centuries, philosophers have been discussing concepts such as continuity and change, and the notion of truth, all of them relevant also when touching the notion of authenticity.” Iranian philosophy has known everything in the essence of itself, and has called it ‘existential authentication’. The existence and nature, or the authentic aspects of each object are not directly understood and only by having recourse to a lower level called ‘form’ become understandable. Therefore, in order to truly analyse and evaluate the definition of authenticity based on philosophical definition, it is required to develop criteria that are sublime.

Hence, authenticity is a physical-intellectual issue that all its dimensions cannot be comprehended directly; in fact, what is considered as authenticity for heritage is its form that has been formed in the mind. So in defining criteria for authenticity assessment of a property, its form is being paid more attention, not its essence. The static part of authenticity refers to the special values of nature of the property that have been derived from the initial cultural resource of the time of its formation, and also refers to the relative notion of authenticity to the cultural diversity of different periods and how heritage is defined and interpreted with regards to the context and socio-cultural features of it during various generations. Therefore, analysis of authenticity indicates that “authenticity is associated with both the nature and essence of the property and also its gradual changes over time and heritage are looking for a dynamic balance at all times and places” (Talebian, 2005: 62).

The purpose of dynamic balance between durability and variability is the very interaction between being and becoming; or from the viewpoint of this paper, between ‘stability’ and ‘dynamism’. There are different approaches to the interaction between being and becoming in different schools of philosophy; for instance, Aristotle used to get assistance from both matter and form to describe motion. Having believed in the essence of things, he was looking for the root of motion in a deeper level of matter and form components (Mottahari, 2008). Muslim philosophers, for interpreting motion, were influenced by the ideas of Aristotle. They used to have
an ‘essence-oriented’ or a ‘nature-oriented’ vision and considered a stable nature of phenomena. Aristotle believed in something at underlying face of a phenomenon and thought these figures to be sustainable. Sinai or Peripatetic Philosophy, which is the expanded version of Aristotelian philosophy, is placed in this group and believed in the durability of essence (Noghrekar, 2008). Among Islamic philosophers, Mollasadra presented an interactive vision of being, becoming and motion in essence by proposing his analytical theory. In his theory, he argued that “the fact of becoming is the very being; it is a lower level of it though” (Haeri Yazdi, 2006: 149-150).

According to Islamic philosophy ‘the things that we dream is non-inherent matters; in fact, levels are the essence itself... and non-inherent matters gradually has turned to a manifestation of the essence’ (Mottahari, 2008: 534). Having accepted layers of existence from depth to surface or from essence to the objectivity of the phenomenon, it becomes important to consider this hierarchy for explaining stability and dynamism. Consequently, it can be said that changes of phenomenon are quick and sensible beneath the surface and the deeper we go, the calmer and slower they are. In Hillier and Leaman viewpoint (1972-73), motion occurs in different layers of phenomenon, i.e. in depth and surface. It should be noted that the nature of motion varies in depth and surface. In depth, the motion is calm, slow and evolutionary and in the surface, it is fast and experiences diversity. In addition, Norberg-Schulz in the field of transformation of the sustainable structure of existence, or in other words the essence, believes that this structure is experiencing a relatively slow transformation (Norberg-Schulz, 2004: 539).

Considering the proposed issues of Islamic Philosophy of Mollasadra, the limits designated by the nature of the property have been introduced as ‘Essence’. Changes, diversity and differentiation in form and non-inherit matters can be defined by the limits designated by the essence and along the line of continuity of the existence and meaning of the cultural landscape. The issues related to existence and meaning of cultural landscape can be explained owning to depositing in the culture of indigenous people and manifesting through socio-cultural values of them. This means that the meaning of the cultural landscape is more comprehensible for indigenous people rather than experts; not unless for experts who are also native. According to the raised issues about expert viewpoints on one hand, and Islamic- Iranian philosophy on the other hand; the conceptual framework for authenticity is proposed as follows (see Figure 1).

Figure 1. The conceptual framework for authenticity in cultural landscape (Source: Authors).
Based on the proposed framework, two dimensions are recognizable for tangible and intangible achievements of human: ‘True Authenticity’ and ‘Real Authenticity’. True Authenticity is rooted in depth, nature and the explanatory essence of the cultural landscape that, based on Mollasadra’s definition, has “essential motion”. What emerges from True Authenticity, both in tangible and intangible forms, is Real Authenticity which manifests in surface and has two stable and dynamic aspects. The dynamic aspect reveals that dimension of cultural landscape authenticity which is experiencing the process of becoming in the present time; or in other words, has a continuous flow; however, this does not mean that all changes, happening in the present within the domain of cultural landscapes and considered as a part of its dynamic authentication, become stable. Those changes of the present time are considered as the most stable aspect of authenticity if tended to have True Authenticity. In this case, the tangible and intangible expressions of True Authenticity in present time form the dynamic aspect of authenticity which becomes an inseparable part of culture by experiencing institutionalization in the culture of indigenous people over the passage of time and create the stable dimension of authenticity. Otherwise the activities which do not deposit in the culture over time are like the foam on water that appear temporary, and gradually disappear and never turn to stable aspect.

It should be noted that tangible and intangible aspects of both of the static and dynamic dimensions of Real Authenticity are constantly spinning and turning into each other. This means that, in surface there is the possibility of transformation of tangible dynamic authenticity to intangible one and vice versa. Moreover, in depth, the changes of tangible stable authenticity into intangible one and vice versa are possible. In addition, the tangible aspects of dynamic authenticity can deposit over time and shape the tangible or intangible aspects of stable authenticity; as well as the intangible aspect of dynamic authenticity. Similarly the tangible dimension of stable authenticity can be expressed tangibly or intangibly in a period of time, as well as the intangible aspect of stable authenticity.

The example of the use of square form in ancient Iranian Architecture, discussed earlier, indicates how the quadrilateral forms used to be considered sacred in the Iranians’ minds. Moreover, the formation of geographical directions in ancient myths has been linked with this issue. In Iranian myths, it has been said that in the beginning of the universe; there used to be four flowing streams of a central fountain that divided the earth into four equal parts. So the number “four”, representing the four directions, found a special position in Iranian culture. The four streams and four parts of the world were symbolically pictured in a square and got a sacred meaning. In addition to the four directions, the number four refers to the four elements; water, fire, earth and wind, in Islamic culture. These four elements, in Islamic mysticism, are symbols of knowledge, the devil, the human being and the dynamism of spirit that have been mentioned in a lot of mystical poetry. After the arrival of Islam in Iran, the significance of the sacred number of four increased owning to the four heavenly rivers mentioned in Quran. For describing these four rivers in Quran, it is said that; water, milk, wine and honey flow in them and they symbolize different levels of consciousness. This concept refers to the True Authenticity of all expressions, tangible (physical) and intangible (intellectual), of the form of square which have been manifested in different forms in Iranian cultural landscape. In other words, the inherent dynamism of cultural landscape had led the True Authenticity of the square form to find the opportunities to be expressed in different forms and to manifest its Real Authenticity.

The tangible and intangible aspects which are the real manifestation of this True Authenticity; had experienced change and conformed to time and place. For example this sacred rectangle was woven in Persian carpet as a symbol of paradise. It also manifested in the rectangular geometry of Persian Garden; in which, there are four flowing streams as the symbol of the four heavenly rivers of consciousness. Thus, the archetype of four-garden continued in Persian Gardens after the rise of Islam. Another example for the dynamism of Real Authenticity of the concept of four can be seen in the holy Four-arched Fire Temples (Char Taghi) of pre-Islamic
times that their open parts are toward the four directions and they refer to the True Authenticity of the concept of “four” in Iranian culture. The pattern of the four-arched temples, with minor changes, used as the basis of the form of mosques after Islam; and after their process of change and development, led to the formation of four-Iwan mosques. This can be considered as another example of the True Authenticity manifestation in different contexts of time and place. Sacred fire which was the symbol of spiritual light was preserved in these temples. It seems that the square form of Char Taghi plans and their four open Iwans toward the four main directions have referred to true authenticity in Iranian culture.

As it is mentioned, with the passage of time, square and rectangular forms have been found a special role in architecture, urban and landscape design as well as in art; in other words, what has been the True Authenticity of a geometrical form can find numerous physical expressions and Real Authenticity.

This Real Authenticity achieved in the design of squares in Safavid Era, Naghsh-e Jahan Square in Isfahan for instance; first started in a dynamic aspect but then it has turned to stable aspect. As a consequence the use of rectangular form of the square can be seen in periods after the Safavid Era for example, in Zend Dynasty in Ganjalikhan Square in Kerman, Khan Square in Yazd and Karimkhan Square of Shiraz; and also in squares of Qajar Dynasty like Arg Square and Toopkhane Square of Tehran; the examples can also be found in squares of Phahlavi Era and even in the contemporary time. Reviewing examples show that how the quadrilateral form has been inspiring Iranian designers and artists during different periods. Putting it differently, sometimes the dynamic aspects of Real Authenticity through adaptation to the True Authenticity context of its time and place acts so successfully that it can deposit in stable dimension of authenticity. Naghsh-e Jahan Square in Isfahan can be pointed out as an example. Having had numerous experiences in other cities of Iran and owning to scientific and administrative capability of the time, it has managed to emanate the physical expression of that True Authenticity in the greatest and finest possible extent; and with the passage of time, the dynamic aspect of its Real Authenticity has become permanent as stable aspect and has provided inspiration for many designers and artists in different parts of Iran. It also continues to grow and move forward in the contemporary world. One of the reasons that leads Naghsh-e Jahan Square to become an artistic masterpiece, is creativity and innovation in making the True Authenticity dynamically in accordance with the context of time, place and culture of its own period (see Figure 2).
Figure 2. The dynamism in authenticity of the concept of “four” in Iranian culture (Source: Authors).

Therefore, the symbolic concept of four has found the opportunity to be tangibly and intangibly expressed in various ways in accordance with different condition of times and places that indicates the dynamism of the real authenticity of this concept. Like Persian Garden archetype that has got different physical shapes and used as the basis of diverse Islamic gardening in Islamic countries.

CONCLUSION

Cultural landscape as the product of the interaction between culture and nature over time requires a special attention in recognition of the concept of authenticity since both players of creating cultural landscape, nature and culture, are dynamic in the essence of them. Hence, dynamism is within the nature of the cultural landscape. Consequently, if for recognition of cultural landscape authenticity, a limited period of time is considered; those changes which occur in cultural landscape due to dynamism of nature and culture may consider to be threatening rather than regarding as a part of the cultural landscape authentication. Analytical reviews on definitions of authenticity reveal that because of not paying enough attention to the dynamic nature of authenticity and its domain to an intangible aspect of heritage, this concept has been little considered as a dynamic system in cultural landscape conservation. This means that definitions have focused more on authenticity of the product and the heritage tangible aspects rather than the process and the intangible aspects. Therefore, it is required to have criteria and framework that, besides tangible and intangible aspects, can include the flexible character of the cultural landscape. The character that if recognized with fixed criteria not dynamic ones, may threaten cultural landscape identified authenticity and interrupts its continuous changing process in its formation process and continues. From what has been said so far, it can be mentioned that although the definitions presented for authenticity until now, have recognized and assessed authenticity in a definite period of time; with the cultural landscape approach, authenticity is considered to be a dynamic phenomenon and as a result it can change over time. Therefore authenticity in cultural landscape needs passage of time and a holistic view, and any recognition
of authenticity in any finite interval of time and regardless of none of the tangible and intangible aspects may consider to be imperfect and could lead to a wrong assessment. The analytical framework proposed in this paper, demonstrates that authenticity can be divided into two types of True and Real Authenticity which are recognizable in component as well as in the whole. Real Authenticity has two dynamic and stable dimensions that both of them can have tangible and intangible aspects. Tangible and intangible aspects can influence each other over time and have the capability to turn to each other. In addition, the dynamic dimension of authenticity over the passage of time and being established in the culture of indigenous people can manifest as the most stable aspect of authenticity and vice versa. In other words, each of the tangible and intangible aspects of stable authenticity can be expressed dynamically at different time intervals. Moreover, each of the tangible and intangible aspects of dynamic authenticity can deposit and become stable through the filter of indigenous peoples’ culture. So for the manifestation of the importance of their meaning and realization of their significance continuity; cultural landscapes require a sense of dynamism, change and adaptation to time and place. Dynamism can be defined as change, proliferation and differentiation of non-inherent matters from the limits imposed by the essence for the existence and significance continuity of cultural landscapes. Future researches could take the advantage of using the proposed conceptual framework of this paper for analysing the authenticity in different case studies of the diverse cultural contexts in order to provide analytical and action frameworks, and consequently lead to the development of the proposed framework of this paper.

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ACKNOWLEDGEMENTS
The authors would like to acknowledge the financial support of University of Tehran for this research under grant number 29931/1/01. Research project titled “Developing a conceptual framework for conservation of cultural- historical heritage, with an emphasis on recognizing the authenticity and integrity measures”.

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DISASTER PREVENTION AND MITIGATION STRATEGIES FOR ARCHITECTURE HERITAGE CONCENTRATED AREAS IN CHINA

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Abstract
This paper draws upon preliminary research into the insufficiencies of the status quo of the disaster prevention and mitigation in architecture heritage areas in China. It summarizes how the common hazards, which are various threats to the survival and development of the historical architectural heritage, such as fire, geological disasters and meteorological disasters occurs and their characteristics, and also analyses their impact on heritage. The paper also focuses on the disaster-prone parts of architecture heritage, exploring the proposals for evaluations of disaster-risk-factors, and the preliminary strategies that promote historic architecture heritage related to disaster prevention and mitigation, so that people can enhance the security capabilities for architecture heritage. This enables strategies to limit the impact of the disaster, improve historic buildings anti-disaster systems, provide the theory and technical basis to the relevant departments for standards and regulations for architecture heritages’ conservation and security. The ultimate aim is to ensure the long-lasting and safe existence and development of architectural heritage.

Keywords: Architecture heritage; disaster prevention and mitigation strategies; China.

INTRODUCTION
As a country with a long history and an ancient civilization, China has millions of examples of architectural and cultural heritage, which are a precious legacy left by our ancestors and are significant historical and cultural resources. However, at present, the existence and development of these heritages are threatened by many problems caused by a heavy tourism burden, serious damage because of insufficient maintenance funds, poor prevention against natural disaster and frequent accidents. Especially, in cultural heritage concentrated areas, such features as small spaces and narrow streets, high building density and population, low quality of infrastructure, serious deterioration of building quality, and low ignition point of brick-wood structures leads to very weak disaster prevention capacity of architecture heritage clusters. In recent years, much significant architectural heritage and historic areas have been ruined by earthquakes, fires, floods or mudslides, resulting in irreparable loss. For example, on March 11 2013, a fire broke out on Guangyi Street and Xianwen Alley of Lijiang Old Town, which lasted 3 hours and burned 107 buildings; on April 19, 2013, a historical building in Fenghuang Old Town was burned to ashes; earthquakes on April 20, 2013 in Ya’an of Sichuan Province damaged 102 heritage sites; a catastrophic flood starting from July 3, 2013 in Yan’an caused serious damage to 110 heritage sites. Architecture heritage in China faces a worrying situation in terms of disaster prevention, facing many challenges such as complicated disaster types, high frequency, and great severity. Therefore, it is vital for the sustainable development of this valuable heritage to improve their disaster resistance and enhance their comprehensive safety level.

Studies on disaster prevention strategies of architecture heritage mainly aim to find out how to reduce the damage of architecture heritage and how to improve the sustainability of
architecture heritage without damaging the historical authenticity by analysing the causes for frequent disasters. Although occurrence of disasters and the damage of architecture heritage have diversified causes, there are considerable similarities in the place of occurrence of disasters and the severities of damage to historical buildings. In addition, all disasters are not inevitable, and even if the occurrence of disaster is inevitable, it is possible to minimize the damages caused to the architecture heritage.

In this paper, cases of architecture heritage disasters occurring after the 1980s are studied, as many data files during the Cultural Revolution were destroyed. In addition, the social development conditions and population density before this time were very different and this may adversely impact upon the conclusion of reasonable study results. With respect to the contents of study, this paper focuses on unexpected disasters, including fire, unexpected geological disasters (earthquake, collapse, landslide and mudslide), unexpected meteorological disasters (flood, windstorm, lightning disaster and snow disaster), and so on.

STATUS QUO OF SAFETY PROTECTION OF ARCHITECTURE HERITAGE AND COMMON DISASTERS

Some Chinese scholars summarized the condition of the safety protection of architecture heritage in China as ‘seven insufficiencies’, that is: insufficiency in awareness, insufficiency in legislation, insufficiency in system, insufficiency in technology, insufficiency in planning, insufficiency in ability, and insufficiency in environment (Yang, 2003). Along with the advance of urbanization, there are more and more contradictions in the protection and development of architecture heritage concentrated areas. The status quo has the following features:

Architecture conditions

Firstly, in most Chinese residential buildings of wood or brick-wood structure there are often many positions where wood structure is directly exposed to air, resulting in a low fire resistance rating and easy spontaneous combustion or ignition in dry air, continued high temperature, lightening strike or open fire. Secondly, most buildings in historic districts were built by the residents themselves, and lack necessary earthquake protection due to no design standards or restrictions in cost. After decades or even hundreds of years of weathering, these buildings often have damage to their structural parts, especially wooden parts, leading to greatly reduced disaster resistance. Thirdly, most traditional residences in China have different forms of courtyard combination, such as Siheyuan in Beijing, Tulou in Fujian, Yikeyin in Yunnan, and Sishui Guitang in South China. Such combined architecture forms increase the possibility of fire spread, and make it more difficult to evacuate in case of geological disasters such as earthquakes and mudslides (see Figure 1).

Figure 1. Chinese traditional courtyard houses forms (Source: http://image.baidu.com).
Conditions of street and surrounding environment

Most historic districts have such problems as small spaces, narrow streets and high building density. In addition, some streets and alleys are not connected with each other. Figure 2 shows an old residence deep in an alley of Tunxi Old Street, where fires have broken out repeatedly. These conditions make it difficult for rescue equipment such as a fire engine to approach, and often result in great loss. In addition, architecture heritage concentrated areas typically have a high density of population and commercial buildings, and often bear too heavy functional burden of residence or tourism due to high population. For example, a fire broke out in a commercial building in Fenghuang Old Town in April 2013, which was a building integrating a restaurant, bar and a hotel. The building was completely burned down, and the cause for the fire has not been discovered.


Conditions of the infrastructure

Along with the social development in modern times, “old areas” where architecture heritage is concentrated often becomes an underdeveloped area, where infrastructure such as electrical equipment and lightning protection equipment is old, electrical insulation is poor, power wires are old, overloaded and out of order, and water supply and drainage systems cannot meet firefighting needs.

Laws, regulations and management systems

According to incomplete statistics, China has promulgated 13 laws and regulations related to cultural relic protection since 1963, including Provisional Measures for Protection and Management of Cultural Relics, Fire Protection Management Rules for Historical Buildings, Management Measures of State Cultural Relics Bureau for Emergencies, and so on. However, damage caused by unscrupulous developers to relics cannot be restricted simply by means of penalty, and some applicable laws and regulations are not actually implemented. As cultural heritage resources are subject to jurisdiction-based management, local governments often think about economic benefits first when dealing with historical and cultural heritage. In some areas,
little heritage other than those under state-level protection are managed by dedicated persons. Heritage of low protection levels often lack maintenance funds, and are damaged due to natural weathering or improper repairs made by local people.

**Command disasters threatening architecture heritage**

Common disasters threatening architecture heritage in China mainly include fire, geological disasters and meteorological disasters, among which fire, earthquake, flood, windstorm and lightning have the most serious impact.

Fire is the most common disaster for architecture heritage. As most historical buildings in China are constructed of wood structure and have cluster or group layout, the occurrence of fire in such buildings is frequent, the combustion and spread speed after the break-out of fire is high, and it is difficult to put it out. Geological disasters include landslides, mudslides, surface collapse, land cracks, land subsidence, and the like caused by natural factors or human activities. China is one of the countries with the most serious geological disasters in the world, and such disasters are direct threat against the safety of architecture heritage of poor quality. For example, the Wenchuan Earthquake in 2008 caused different degrees of damage to the surrounding heritage such as the Dujiangyan Irrigation System. Meteorological disasters threatening architecture heritage mainly include rainstorms, floods, tropical hurricanes, windstorm, and lightning(figure 3). In China, historical buildings are more vulnerable to lightning than modern buildings due to their construction, structure and materials.

With respect to space-time distribution of disasters, the region and time features of fire disaster are not obvious, whereas more meteorological disasters occur in coastal areas in some of the seasons. Geological disasters, however, tend to occur in inland areas such as Southwest China and Northwest China. The impacts of human factors in these disasters are more complicated. For example, some serious damage to architecture heritage caused by floods are due to raised surrounding areas arising from urbanization, blockage of drainage system, changed elevation of district, or other human factors.

![Figure 3. Distribution of major meteorological disasters in China](source: Comprehensive Volume of Chinese Meteorological Disaster Records).
ANALYSIS ON THE IMPACT OF MAJOR DISASTERS AND THE EVALUATION FACTORS

Fire: Analysis on fire disaster of architecture heritage and the related risk evaluation factors is helpful to reasonably describe and judge the possibility and hazard severity of fire disaster in the operation and development of architecture heritage. This can guide people in setting scientific protection strategies under current conditions, and to minimize the possibility of and loss from fire (Fitzgerald, 1993).

On the cause: Among 210 fire disasters of architecture heritage that have occurred in last 30 years, causes for 117 cases have been identified, which included natural factors, environmental factors, human factors and electrical factors. Of these, 62 cases were caused by human factors, 41 cases were caused by electrical factors, 10 cases were caused by natural factors, and 4 cases were caused by environmental factors (see Figure 04).

On the loss: In the above-mentioned 210 fire disasters, losses included physical heritage loss, personal injury or death, and direct economic loss. In terms of building type, fire in memorial buildings and public buildings often caused greater losses than those in residential buildings. In terms of time distribution, fires which occurred at night often caused greater loss due to no timely discovery and extinguishing.

Risk evaluation factors: Risk evaluation of fires mainly consists of qualitative evaluation and half-quantitative evaluation. A fuzzy comprehensive evaluation method is used to combine the certain laws and the uncertain influencing factors. Then data and subjective evaluation of the evaluator are combined to get convincing conclusions. Risk of fire disaster in architecture heritage covers fire possibility and hazard severity, and risk evaluation for such disaster also covers these two aspects.

As discussed above, the occurrence and hazard of fire in architecture heritage is mainly related to three factors: human; object; and environment. Thus, fire risk evaluation also covers these three aspects. The human factors involves twelve aspects: condition of burning incense; condition of burning light/candles; condition of burning paper money; behaviour of tourists; behaviour of occupiers; behaviour of residents; illegal behaviour; fire protection education;
firefighting organization; fire drills; and firefighting guarding. Object factors involves nine aspects: interior condition of the building; use of electrical appliances; condition of wires; condition of lightning protection device; condition of firefighting equipment; water for firefighting; firefighting channels; and the condition of building itself. Environment factors involve four aspects: external condition; internal condition; geographical environment condition; and traffic and topographic condition. The evaluation results are obtained based on evaluation of these aspects.

Earthquakes

Based on the damage severity of historical buildings in an earthquake, the earthquake hazard is divided into four levels: turbulence; damage; destruction; and collapse. Turbulence refers to the condition where pillar bottoms of historical buildings experience small sideways movement; small cracks or peeling occurs on walls; some girder or pillar nodes become loose; girder frame, tile surfaces and other positions are intact, and the structure requires only minor repair. Damage refers to the condition where weak parts of the building itself is damaged; pillar bottoms experience sideways movement; obvious cracks occur on walls, and some walls collapse; some girders or pillar nodes become loose; room surfaces and decoration are damaged; local repairs are required. Destruction refers to the condition where pillar bottoms of the historical building experience sideways movement; walls have obvious cracks or collapse; some girders or pillar nodes are seriously damaged; girders tilt; room surfaces and decoration are damaged; large areas of tiles peel off; the main structure is seriously damaged; major repairs are required. Collapse refers to the condition where most walls of the building fall; girders tilt obviously or fall; most of the tiles peel off; and the building cannot be recovered through repair.

Characteristics of damage caused by earthquakes

Based on study of damage to architecture heritage caused by earthquakes, it can be found that the following damage is very common (see Figure 5-8): 1) In buildings of rock structure: wall crack, tilt, peeling, foundation settlement, step rupture, and even collapse; 2) In buildings of rock-wood structure: rupture or disconnection of wood structure, wall tilt, serious distortion of building structure, roof tile side slide, tile falling, and so on; 3) In grottos: crack of rock body, water penetration, mountain collapse, and so on; 4) In buildings of brick-rock structure: tilt, rupture or collapse of the main body, 5) Foundation destruction: pillar bottom sideways movement, pillar tilt, loose node connection, fitment rupture, girder tilt, tile falling, and so on; 6) In soil relics, secondary hazards such as slide and mudslide (Cultural Heritage Planning and Research Center of Sichuan Cultural Relics and Archaeology Research Institute, 2008).
Causes for damage

The first factor is location. Damage severity upon historic buildings positively correlates with earthquake magnitude and distance from the epicenter. The second factor is the geological environment. In two historical buildings in the same seismic belt and with similar distance from the epicenter, one of them may be easily subjected to secondary disaster due to poor geological conditions. The third factor is building materials. Historical buildings of wood structure have better earthquake resistance than buildings of brick, rock or earth structure. The fourth factor is building form. Building layout, structure, connection with ground, foundation form, windows in the walls and structure type have different impacts on architectural stability. The fifth factor is the age of building. From comparisons of damage conditions of architecture heritages in several violent
earthquakes, newer buildings and reconstructed buildings tend to experience more serious damage than those with a long history. The last factor is daily maintenance, for example, properly maintained wood-structure historical buildings can resist an earthquake with an intensity grade of 9 (Li, 2006).

**Risk evaluation factors**

Earthquake risk evaluation factors for architecture heritage mainly involves analysis of the disaster causing risk, study on vulnerability, and an evaluation of disaster loss. Analysis of disaster causing risk refers to the analysis on earthquake danger, aiming to determine the possibility or cycle of earthquakes in the area where the historical building is located. Study on vulnerability aims to evaluate the earthquake resistance of the historical building based on the structural features and value of the building as well as the earthquake resistance mechanism of the building itself and the interior parts. Evaluation of disaster loss refers to the evaluation of the potential times of earthquakes in the area in a given period as well as the potential loss that may be caused to the historical building. The first two factors focus on probability of earthquake hazards, while the third factor focuses on consequences of the earthquake hazard (Liu, 2010). (see Figure 9).

**Meteorological Disaster**

**Damage of flood disaster and related risk evaluation factors**

Loss caused by flood disaster is determined by three factors, respectively: the vulnerability of the affected objects; density of the affected objects; and disaster strength. Flood disaster risk analysis mainly includes two parts: analysis of the danger of flood hazard; and analysis on the vulnerability of the affected objects. Analysis on the danger mainly covers the disaster causing environment and the disaster incurring factors, and then the probability function of flood distribution in the given area is analysed (Wei,1997).

**Damage of windstorm disaster and related risk evaluation factors**

Damage caused by wind storms are related to such factors as building location, wind strength, architectural layout, building form, tightness of component connection, and collapse of surrounding objects. Risk analysis of windstorm covers the danger of windstorm, vulnerability of structure, and loss from the disaster. Danger of windstorm involves the type, grade and probability of the potential windstorm disaster in given period in given place. The vulnerability of structure involves the resistance of historical buildings against wind load and loss from the disaster involves the calculation and analysis of the total physical loss caused by the windstorm disaster (Chang, 2003).

![Figure 10. Geographical distribution of historic buildings damaged by lightning (Source: Authors).](source)

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**Damage of lightning disaster and related risk evaluation factors**

The location, shape, structure and equipment of historical buildings may impact on the likelihood of the occurrence of lightning disaster. For practical reasons, traditionally in China, people often chose hillsides or mountain bottoms to locate their buildings and these were often surrounded by water. These factors also make historical buildings vulnerable to lightning disaster. Among the 80 lightning strike accidents mentioned in Analysis on Lightning Disaster Features of Historical Buildings, 80% of the buildings struck were beside mountains, water, or both (see Figure 10). In addition, the structure and shape of architecture heritage also has an impact on the parts damaged by lightning. Protruding parts on the roof are highly vulnerable to lightning in historical buildings (see Figure 11). In addition, buildings with metal decorated parts are particularly vulnerable to lightning. Among the buildings struck by lightning, 30% were struck on a protruding part of their fabric and significantly, most architecture heritage does not meet modern safety standards (Tong, 2007).

In Analysis on Lightning Disaster Features of Historical Buildings, there are five lightning risk evaluation factors: significance of building; expected annual times of strike; architecture structure; interior environment change; and lightning strike history. The respective weights of these five factors in lightning strikes are 20%, 25%, 15%, 25%, and 15% (State Technical Supervision Bureau, 2000).

**DISASTER PREVENTION AND REDUCTION STRATEGIES FOR ARCHITECTURE HERITAGE**

For the purpose of long existence and the sustainable development of architecture heritage, it is necessary to set suitable and proper disaster prevention and reduction strategies, and to improve the comprehensive safety of architecture heritage. Such strategies should be centered on prevention, with a combination of disaster prevention, defence and relief.
Disaster prevention

Disaster prevention includes disaster investigation, early warning, safety risk evaluation, and comprehensive safety planning. Disaster investigation refers to the regular inspection of architecture heritage to eliminate potentially hidden fire risks, and to prevent dangerous behaviour such as illegal fire use, power use, and gas use. With respect to geological disaster and meteorological disaster, the investigation is mainly performed using GPS, GIS and 3S technologies, in combination with a ground disaster sorting method, aimed to measure and test the potential influence of local geological conditions and weather conditions on a disaster (Yin & Zhu, 2001; Yang, 2012).

Disaster early warning systems include two parts: an automatic fire warning system and an earthquake early warning system. These systems should be used on the premises of having no negative impact on the conditions of the historical buildings, and be consistent with the related management measures (Liu & Zhao, 2009). Technical monitoring and human supervision should be strengthened for architecture heritage in flood seasons and dry seasons based on the time distribution of disasters. Early warning and monitoring of significant natural disasters mainly involves effective forecasting of various disasters using modern information technology as well as existing hydrological, meteorological and geological resources. For the evaluation of fire disaster in architecture heritage, the factors that may cause a fire should be selected and a value assigned to judge the probability. Significant geological disaster and meteorological disaster is often forecasted by collecting and analysing the features and records of historical disasters, and then analysing the danger degrees and distribution of disasters in different areas (Zhou, et al., 2001). Comprehensive safety planning includes improving existing disaster prevention plans; strengthening cross-plan combination; improving the connection with other plans, repair methods and various laws and regulations. It also includes the implementation of comprehensive safety standards in combination with repair design requirements; paying special attention to the historical geological disasters and meteorological disasters; classifying the disasters, and bringing forward disaster prevention standards based on the classification for the future recovery of the buildings after disasters and reconstruction at other sites if necessary.

Disaster Defense

Disaster defence includes structure reinforcing, material treatment, and equipment updating and environment improvement for architecture heritages.

For example, the historical buildings mentioned in the Protection Plan for Wugongci Temple in Haikou City prepared by the author, many buildings in the Wugongci building group have safety issues such as weathered or broken tiles, corrosion of wooden pieces, distortion of structural components, and the instability of the overall structure (Xia & Zhang, 2013). It is planned to gradually investigate and repair the roof, tiles, wooden pieces, pillars, walls, and exterior surfaces using proper technical means on the premise of relic protection, so as to recover the good performance of the main structure of the building (Zhang, et al., 2011).

With respect to material treatment, it is planned to perform fire protection and water proofing treatment for the building materials of the architecture heritage through painting, immersion, and other techniques (Shen, 2006). The wooden pieces will be painted with fire resistant liquid to improve the fire protection capacity while keep the original style of the building. Fireproof materials will also be used to seal the seams of wooden pieces and joints of components and buildings for better fire prevention and control (Kang, 2008). Corrosion resistant and moisture resistant materials will also be painted or applied to exposed and embedded wooden pieces, and insect-killing agent will be injected into holes in the wooden pieces.

With respect to equipment, portable fire extinguishers and firefighting buckets will be provided in rooms where it is inconvenient to install spraying and hydrant devices. Adding
lightning protection devices properly in the form of ancient style pillars or ornaments will not affect the overall appearance of the architecture heritage (Yang, et al., 2010; Gong, 2008).

With respect improvement of surrounding environment, a separating belt will be arranged using greenbelts, squares, water and streets around the heritage to prevent the spread of disaster. Alternatively, firewalls may also be built to block fire spread. The functional layout of the architecture heritage will also be adjusted, and the interior danger sources and buildings vulnerable to fire such as retail stores, restaurants, bars and temples will be strictly controlled. Disaster prevention performance of channels will be optimized, and proper infrastructures will be arranged based on the scale of the architecture heritage.

Emergent Disaster Relief

Disaster relief facilities

Construction of disaster relieving facilities is mainly for non-natural disasters such as fire. A small fire engine will be located based on the width of the road around the architecture heritage, or fire motorcycles will be used for firefighting. An un-manned fire engine and fire air plane together with a GIS system will be used to extinguish fires in the architecture heritage (Li & Li, 2003). A high pressure hydrant water supply system will also be arranged within the architecture heritage and automatic spraying devices and fire extinguishers will be configured.

Emergency management

Based on the administrative divisions in China, there is likely to be a prevention system consisting of three levels, respectively, city level, county/district level and town/street level. This will involve a complete command system for the central commanding and by-level disposal. Such a system may have an early response, disposal command, emergency disposal command, and on-site command section. Regional disaster prevention and a reduction information platform may be formulated for information exchange among governments and departments (Zhang, 2010). A GIS system may also be used to collect, manage and dispose of disaster information. The decision making level of the commanding department will be improved so that effective and timely decisions can then be made.

CONCLUSION

Study on the disasters of architecture heritage involves many subjects such as geology, meteorology, firefighting, land resource, administration, city planning, and so on. In this paper, the status quo of the protection of various architecture heritage as well as the related conditions of disasters are collected and analysed. In addition, the impacts of various disasters on such heritages are discussed, and the features of architectural heritage that make it vulnerable, the disasters that can be prevented by human interference, and the disasters that cannot be controlled but can be minimized in loss are summarized. Finally, it comes to two main conclusions: one is the risk evaluation factor system of major disasters influencing architecture heritage (see Table 1), the other is disaster prevention and reduction strategies are brought forward in four aspects: prevention, defence, relief and guarantee mechanism (see Table2).

The paper is written from the view of an urban planner, and the discussion in this paper covers various disasters of architecture heritage. As such, the analysis in this paper is at a broad or preliminary level in terms of the comprehensive safety of architecture heritage. The further research objectives is to establishing a complete evaluation system of disaster risk and damage in detail for each disaster including purposes, contents and numerical indexes based on the methodology we have achieved and a more detailed and comprehensive disasters data collection. According to the evaluation results, we can put forward specific improvement requirements for historical architectural heritage, strengthen their resilience practically, promote the comprehensive level of safety, and ensure the long-term survival of historical buildings.
Table 1. Risk evaluation factors of major disasters influencing historical architecture heritage (Source: Author, 2015).

<table>
<thead>
<tr>
<th>Disaster types</th>
<th>Objective</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRE</td>
<td>Human activities</td>
<td>Condition of burning incense; condition of burning light/candle; condition of burning paper money; behavior of tourists; behavior of occupiers; behavior of residents; illegal behavior; fire protection education; firefighting organization; fire drill; and firefighting guarding.</td>
</tr>
<tr>
<td></td>
<td>Object space control</td>
<td>Interior condition of the building; use of electrical appliances; condition of wires; condition of lighting protection device; condition of firefighting equipment; water for firefighting; firefighting channels; the condition of the building.</td>
</tr>
<tr>
<td>EARTHQUAKE</td>
<td>Degree of risk</td>
<td>Seismic activity, potential source of danger, seismic attenuation law</td>
</tr>
<tr>
<td></td>
<td>Possibility of damage</td>
<td>Structure and material of architectural heritage, reliability of seismic resistance, significance of heritage</td>
</tr>
<tr>
<td>FLOOD</td>
<td>Degree of risk</td>
<td>Disaster causing environment, the probability of flood distribution in the given area</td>
</tr>
<tr>
<td></td>
<td>Possibility of damage</td>
<td>The structural vulnerability of building; density of the building; disaster strength</td>
</tr>
<tr>
<td>WINDSTORM</td>
<td>Degree of risk</td>
<td>Type, frequency and level of windstorm</td>
</tr>
<tr>
<td></td>
<td>Possibility of damage</td>
<td>Building location, wind strength, architectural layout, building form, tightness of component connection, collapse of surrounding objects.</td>
</tr>
<tr>
<td>LIGHTNING</td>
<td>Degree of risk</td>
<td>Expected annual times of strike (25%), lightning strike history (15%)</td>
</tr>
<tr>
<td></td>
<td>Possibility of damage</td>
<td>Significance of heritage (20%), architecture structure (15%), interior environment change (25%)</td>
</tr>
</tbody>
</table>

Table 2. Disaster prevention and reduction strategies list for architectural heritage (Source: Author, 2015).

<table>
<thead>
<tr>
<th>Objective</th>
<th>Strategy</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREVENTION BEFORE DISASTER</td>
<td>Disaster prevention</td>
<td>Disaster investigation, early warning, safety risk evaluation, comprehensive safety planning.</td>
</tr>
<tr>
<td>DISASTER RESISTING</td>
<td>Disaster defense</td>
<td>Structure reinforcing, material treatment, equipment updating, environment improvement for architectural heritages.</td>
</tr>
<tr>
<td>DISASTER RESCUE</td>
<td>Emergent disaster relief</td>
<td>disaster relief facilities, emergency management</td>
</tr>
</tbody>
</table>
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WATERCOURSE AS CULTURAL HERITAGE IN CONTEMPORARY URBANISM: Preservation approaches from Košice and Prešov in Slovakia

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Abstract

We examine the current architectural and urban planning approaches towards preservation and regeneration of historical and cultural values represented by watercourses in the urban structure of the city. Using the examples of two Slovak cities Košice and Prešov, the paper highlights the need for preservation and conservation of the watercourse corridors in the urban structure, even in the cases without the contemporary presence of water, as they represent significant cultural and historical values. Their preservation in the contemporary urban structure creates a base for the possibility of their future revitalization with the recovery of water, or the possibility of their future use as attractive tourist, pedestrian, bicycle, and green corridors with recreational and environmental functions.

Keywords: Watercourse; urban stream; mill water channels; cultural values.

INTRODUCTION

Watercourses, rivers, streams, or water channels, represent multiple values for urban structure. Location of settlements is related to water issues since early times. Water has influenced development of villages, rural areas, cities, towns and metropolitan areas, has influenced development of housing, commercial, or industrial production. The multilateral aspects of the relationship between human settlements and water represent specific values for the urban structure related to water bodies (Bašová, 2011).

However, the requirements towards the use of water and towards the roles of watercourses in the urban structure are changing during the history. Watercourses, formerly used as sources of water, as sources of energy for production purposes, as transport communication corridors, or as sewage effluent recipients, often changed and lost their former historical functions. The change and loss of functions in many cases caused that their corridors disappeared from urban structure; the watercourses were rechanneled, piped or covered, reflecting new land use requirements. Today the watercourses are often transformed and rehabilitated to fulfill their new contemporary roles in urban environment, most often to fulfill recreation, aesthetic, and ecological functions. The contemporary landscape design approaches towards the utilization of water elements in urban structure require understanding of the relationship between human needs and use of water (Seçkin, 2010).

Due to the various negative effects of urbanization on ecosystem processes of urban streams, the scientific studies focus predominantly on ecology of urban streams and the "urban stream syndrome" (Seager & Abrahams, 1990; Paul & Meyer, 2001; Beavan, Sadler & Pinder, 2001; Booker & Dunbar, 2004; Walsh et al., 2005). Due to the fact that the engineering modifications and adjustments of watercourses in the urban areas in the past, engineered to stabilize the channel size and position and to increase flood conveyance, have altered the natural character of watercourses and deteriorated their ecological functions, the current revitalization aims focus mainly on the recovery of these functions.

However, Findlay & Taylor (2006) argue, that tangible socio-economic or biophysical reasons for why urban streams should be rehabilitated are often hard to identify, since maintenance of
ecological integrity and ecosystem services are not readily achieved or are identifiable in urban areas. As noted by Walsh et al. (2005), because humans dominate urban ecosystems, research on urban stream ecology will require a broadening of stream ecological research to integrate with social, behavioral, and economic research. Managing water within urban spaces is an essential infrastructure requirement, but has historically been undertaken in isolation from other urban functions and spatial requirements (Lundy & Wade, 2011). The aim to pursue ecological worthiness in protection leads to situations that other values important for preservation – for example, cultural and historical values of the engineered river channels are overlooked.

Less attention is devoted to the aspects of preservation of the cultural and historical values of the waterways – to the aspects of conservation of their main features, resulting not from the values of the natural, but from the historical heritage and human activities, accompanying the historical existence of the watercourse in the urban structure. The historical manmade adjustments of the watercourses in the past, for the purposes of industrial production, transport, or recreation activities, often constitute important cultural values that today represent the historical heritage, the symbiosis of natural and cultural, worth to maintain.

As noted by Lundy & Wade (2011), effective water management within urban settings requires robust multidisciplinary understanding. It is possible to study the impact of urbanization on structure and function of river systems (Yuan, James & Yang, 2006), but also the influence of rivers on the urban spatial structure, fusing important environmental factors with history and cultural connotations (Cheng, 2007), or to examine the impact of city cultural rivers on tourism development (Shen & Feng, 2006). Rehabilitation of river systems has become an important objective of many local, state and national governments around the world, who allocate substantial investment into various river projects, and as mentioned by Findlay & Taylor (2006), an understanding of the various factors influencing stream condition and potential rehabilitation options is essential in order to determine how the process is undertaken, and how success is measured.

The cultural, historical and heritage values of the watercourses may be represented by their urban-architectural modifications, landscape design, technical works and objects, as well as their wider surroundings. The requirements of conservation of these cultural, historical and heritage values create specific claims towards the ways of revitalization and regeneration of the watercourses. Contemporary concepts of revitalization of the water flows are understood as multifunctional restorations of their specific values, and need interdisciplinary approaches and solutions (Wernerová, Putrová, & Gécová, 2007).

Using the examples of two Slovak cities, Košice and Prešov, the paper examines the current architectural and urban planning approaches towards conservation and regeneration of the historical and cultural values, which are represented by artificially-created and natural water flows and their adaptations in the historic urban structure of the city.

MATERIAL AND METHODS

For the purposes of examination of the current architectural and urban planning approaches towards conservation and regeneration of the heritage values represented by artificially-created and natural water flows and their adaptations in the historic urban structure of the city, two cities located in the eastern part of Slovakia, Košice and Prešov have been used. These cities have common characteristic features – the core of their historical urban structure has developed as a fortified medieval settlement around lens-formed main street, and both cities have developed in the vicinity of the river, Košice near the river Hornád and Prešov near the river Torysa.

Košice is the biggest city in eastern Slovakia. It is situated on the river Hornád in Košice Basin at the eastern reaches of the Slovak Ore Mountains, and South Slovak Basin in the south, near the border with Hungary. Košice lies in the North Temperate Zone, and has a continental climate with four distinct seasons, characterized by a significant variation between hot summers
and cold, snowy winters. It lies at an altitude of 206 meters above sea level and covers an area of 242.77 km$^2$. With a population of approximately 240,000, Košice is the second largest city in Slovakia. Being the economic and cultural centre of eastern Slovakia, the city is the seat of the Košice Region, the Slovak Constitutional Court, three universities, and many museums, galleries, and theatres. It is an important industrial centre, the U.S. Steel Košice steel mill is the largest employer. The town has extensive railway connections and an international airport. The first evidence of inhabitance can be traced back to the end of the Paleolithic era. The first written reference to the Hungarian town of Košice, as the royal Villa Cassa, comes from 1230. The city was made of two independent settlements: Lower Košice and Upper Košice, amalgamated in the 13$^{th}$ century around the long lens-formed ring, of today's Main Street. The first known town privileges come from 1290. The privileges given by the king were helpful in developing crafts and business, and in 1307, the first guild regulations were registered here and were the oldest in Kingdom of Hungary.

Prešov with a population of approximately 91,352, it is the third-largest city in the country. It is located in the north-eastern Slovakia, at the northern reaches of the Košice Basin, at the confluence of the Torysa River with its tributary Sekčov. Prešov lies at an altitude of 250 meters above sea level and covers an area of 70.4 square kilometers. Mountain ranges nearby include Slanské vrchy, Šarišská vrchovina, Bachureň and Čergov. The neighboring city of Košice is 34 kilometers to the south. Prešov lies in the North Temperate Zone and has a continental climate with four distinct seasons, with hot summers and cold, snowy winters. Habitation in the area around Prešov dates as far back as the Paleolithic period. Continuous settlement dates back to the 8$^{th}$ century. The first record of a school dates from 1429. In 1572, salt mining began in Solivar, at that time a nearby town, now part of Prešov. Prešov's increased importance meant that in 1647 it became the seat of the Šariš County.

The research of the current architectural and urban planning approaches towards conservation and regeneration of the heritage values represented by artificially-created and natural water flows and their adaptations in the historic urban structure of the two cities followed two main steps:

- identification of the places with historical existence of watercourses in the past, and their characteristic features and values, within the urban structure of the historical core of these cities
- examination of the contemporary existence of watercourses and contemporary interpretations of their values in the urban structure of today

For identification of the places with existence of watercourses in the past, within the urban structure of the historical core of these cities, we have used historical maps, historical photographs and literary sources.

The contemporary existence of watercourses in these places, and approaches towards the preservation of their still existing values, or towards regeneration of their extinct values, have been checked in the contemporary urban structure, using current maps, aerial photographs and by field research and on-site observations. Planned intentions have been detected by investigation of the current urban and spatial planning documents, aims of the monument protection care, or planned project investments.

**FINDINGS**

The both cities historically developed as fortified medieval settlement around lens-formed main street, and both cities developed in the vicinity of the river, Košice near the Hornád river and Prešov near the river Torysa. Their location in the secure proximity from the main watercourse, provided protection against floods, and at the same time allowed to gain benefits from the natural arms of the main course, or from its tributary streams, in the form of modified and manmade channels, used as sources of water, for fortification purposes, and sources of energy for
production purposes, mills, also as sewers and effluent recipients, but as well as for recreation purposes.

The historical spatial patterns of the watercourses and their characteristic features, documenting their former historical multiple use, represent cultural and historical values in the contemporary urban structure of the examined cities. The study of the approaches towards their preservation and interpretation in Košice and Prešov shows, that the multiple values of their corridors in the contemporary urban structure are often unappreciated or underrated.

**Watercourse as cultural heritage in urban structure of Košice**

In the urban fabric of the historic city of Košice, the two dominant lines of watercourses represented the Mlynský náhon – Mill race and the Čermeľský potok – Čermeľ creek. The Mill race, the channel which was created by adjustment of the former natural arm of the river Hornád raced around the historical core of the city from its eastern side, and the Čermeľ creek, flew through the centre of the city and through its main lens-formed street from North to South and was regulated. There were also a number of smaller streams, which were regulated in the forms of canals and ditches and helped to drain the urbanized area during rain storms. The corridors of these watercourses, and the architectural and engineering objects related to the use of water, as well as green recreation areas connected to water are depicted for example in the Otto's plan of the city (see Figure 1 and 2).

![Figure 1. The Mill race in Košice depicted and highlighted on the map Plan der Königl: Freistadt Kaschau by Joseph Ott from 1832 (Source: Mollova mapová sbírka, mapy.mzk.cz, Joseph Ott, Leipzig: Lith. v. O. Apelt, 1832).](image-url)
Figure 2. The Čermel creek channeled through the main street of Košice highlighted on the map Plan der Königl: Freistadt Kaschau by Joseph Ott from 1832 (Source: Mollova mapová sbírka, mapy.mzk.cz, Joseph Ott, Leipzig: Lith. v. O. Apelt, 1832).

The corridor of the Mill race was very popular as recreation area for city inhabitants until the fifties of the 20th century. It provided opportunities for rowing, bathing, in winter skating, and strolling in the area of the main city park connected to the watercourse (see Figure 3).

Figure 3. The corridor of the Mill race was very popular as recreation area for city inhabitants in the beginning of the 20th century (Source: Authors).
In the sixties, the big redevelopment and rebuilding of Košice, aiming to create the pedestrian zone in the main street and in the area of the historical core, meant the shortening of the corridor of the Millrace and its abolition in its most important middle part connected to the historical core. The corridor of the former Millrace in this section was used for building a communication corridor, the four-way ring road (see Figure 4). That meant the demise of the recreation, relaxation and aesthetic functions of the watercourse in the city, as well as reduction of the recreational opportunities in the adjacent City Park. Drop of the groundwater level had a negative impact on the status of its woody plants, too.

Figure 4. The corridor of the Mill race is used as transport corridor today. Photograph from the seventies of the 20th century (Source: Authors).

However, an effort to bring back the values of the former Mill race resonates in the activities of the citizens, civil society organizations and as well as municipality today. The ideas of the Mill race revival have been proposed for example by the project Urban Interventions in 2011, or within the European project Košice – Capital of Culture in 2013, by the activities of the municipal festival Návrat vody do mesta – Return Water to the City, and alike. The northern part of the corridor of the Mill race was restored as a walled channel and is filled by water, the southern fragment is forgotten as a green corridor within the brownfield area between railway lines, former industrial premises and allotment gardens.

The former Čermeľský potok – Čermeľ Creek has vanished from the city structure, it has been diverted from the historical city centre and channeled into the Hornád River. But within the framework of the reconstruction of the Main Street in the years 1996-1998, it has been re-interpreted in the northern part of the pedestrian zone. The reminder of the Čermeľ Creek in the Main Street is created as a construction of a shallow straightforward channel, in which water is circulated with the aid of pump. It is a very popular attraction of the pedestrian zone during summer months, especially for children (see Figure 5).
Figure 5. Reinterpretation of the Čermeľ Creek in the Main Street in Košice (Source: Photograph by Katarina Kristianova 2014).

**Watercourse as cultural heritage in urban structure of Prešov**

In the urban fabric of the historic Prešov, similarly as in Košice, the dominant line of the watercourse was represented by Mlynský jarok – the Mill race. It served from the 13th century for the two city mills, and supplied the fortification system of the city with water in the cases of emergency. Later it served as source of service water, with the aid of the unique wheel which pumped water into city reservoirs. During the 19th century the Mill race was used also as source of energy, driving the water turbine of the Prešov Electric Power Plant, established in 1894. It also provided water for the city bathing pool; several city baths on the Kúpeľná Street and during winter it served for the skating-ring of the local Ice-skating Society as source of water for ice production (see Figure 6 & 7).
Figure 6. The Mill race - Mlynský jarok in Prešov in contact with the historic core of the city on the map of Prešov dating from 1811-1812 (Source: Pamiatková rezervácia Prešov - zásady ochrany pamiatkového územia).

Figure 7. Ice skating ring pavilion and the Mill race in Prešov in the beginning of the 20th century (Source: http://www.presov.sk/portal/).
The single sections of the Mill race – Mlynský jarok have been gradually filled in. The section connected with the heart of the city, that time already dry ditch corridor, was filled during the reconstruction of the Okružná Street during the years 2008-2009. Simple solution of the street space, following only traffic and technical requirements, has not benefited from the architectural, cultural and historical values offered by dry corridor, has not used these values in landscape architectural design (see Figure 8).

Figure 8. With demise of the Mill race during reconstruction, Okružná street lost its identity and unique character (Photograph: Katarina Kristianova 2014).

The section of the Kúpeľná Street was gradually filled in, too, with the aim to build a bike route. But also here the valuable architectural-landscape features, cultural and historical values of the dry corridor of the Mill race have not been used to create an interesting, specific, unique and green corridor. Some other parts of the Mill race corridor, for example in the zone of single-family housing, have been parcelled and sold. The multifaceted values of that time already dry watercourse corridor, not only cultural and historical values, but also the potential to create a green corridor, a greenway, from the former watercourse corridor became lost. Even without water, as linear corridor in the urban structure of the city it had the potential to offer options of "green" solutions of walking or biking routes, and it could become an attractive historical and cultural tourist route of the city. The municipality of Prešov today declares appreciation of the values of the last remnants of this remarkable water system. In 2010 the surviving parts of the Mill race entered the list of the historical monuments of the city and the municipality plans to renovate some of the preserved parts of the system.

DISCUSSION
The study of the approaches towards the preservation and regeneration of the values of watercourses in the historic urban structure of Košice and Prešov, points out that the values which represent the corridors of watercourses for the contemporary urban structure are underestimated. Neither legal instruments of monument protection nor urban planning regulations, guiding development and building construction activities in the both examined cities, Košice and Prešov, were able to distinguish the multiple values of the watercourses, to set principles of their protection and to guide the development of the cities in the ways ensuring the maintenance of their values. Only few examples of the use and reinterpretation of the values of
historical water corridors in the urban structure of Košice and Prešov have been found. The most parts of the watercourses and their corridors vanished from the contemporary urban structure of the examined cities.

Our study has not measured the usage patterns along the watercourse corridors, as today they are used as transport and communication corridors, where the values of former water corridors are not identifiable. But observation of the few sites where certain values of the former water courses are still preserved or restored, prove that the revitalized sites attract users and visitors, as for example the artificial water channel reminding the former Čermeľ Creek in Košice, or the small park without water near the former first electric power station, in the part of the Mill race in Prešov. Successful revitalizations of urban watercourses in Slovakia, for example that of Domanižanka river in Považská Bystrica, or Dubová river in Piešťany, or examples from neighboring countries, for example revitalization of the mill race in the form of education trail “Blue axis” in Chrudim, Czech republic, show that the revitalization projects are able to change the usage patterns of the revitalized sites and increase significantly their use as public and green spaces (Wernerová, Putrová, Gécová, 2007). The still remaining fragments of the historical water corridors in the urban structure of Košice and Prešov, for example the forgotten part of the Mill race within the brownfield area of the former industrial premises and allotment gardens in Košice, or surviving parts of the Mill race – Mlynský Jarok in Prešov, hold the potential to become revitalized as attractive public spaces and green spaces, representing the cultural heritage and the continuity of the cultural identity in the projects of urban regeneration and redevelopment.

CONCLUSION

Watercourses and their corridors in urban structure of cities represent a wide range of values. Watercourses played their historical roles in formation of urban settlements, on the one hand representing benefits for urban structure, on the other hand often representing threats – of floods, or threats of waterborne diseases. The perceptions on the roles and functions of water in urban environment influenced the manmade adjustments of the watercourses during history. The perceptions of contemporary society on the roles of water in urban environment again influence their contemporary adjustments. Benefits of revitalization of urban rivers today are most often associated with their daylighting, opening from their culverts, with restoring watercourses to more natural conditions, or with the aim to pursue their ecological worthiness. Our research on the examples of mill races and watercourses in the historic environment of the Slovak cities points out the need to preserve the watercourse and its corridor within the urban structure of a city as historical and cultural heritage, and presents the need to interpret the cultural, historical, social and urban spatial values that the watercourse corridors represent for urban structure, even in the cases without the contemporary presence of water. Protection of the watercourse corridors in the urban structure, appreciating not only their ecological values, which are often hardly achievable in the contemporary urban conditions, but also their cultural and historical values, values of their urban open space and landscape architectural values, can create a base for their multiple use as attractive tourist, pedestrian, bicycle, and green corridors with recreational and environmental functions and can create the possibility of their future revitalization with recovery of water. Revitalized attractive public spaces and green spaces along watercourse corridors, enhancing local specifics and identity, are able to increase the residential and recreational values of the adjacent urban areas, serve as stimulators and facilitators of urban regeneration and redevelopment, and represent multiple benefits for urban structure.
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ACKNOWLEDGEMENTS
The research was supported by the Institute of Landscape and Garden Architecture, Faculty of Architecture, Slovak University of Technology in Bratislava, in the framework of the COST Actions FP 1204 GreenInUrbs and TU 1204 People Friendly Cities in a Data Rich World.

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ADAPTIVE BUILDING EXOSKELETONS
A biomimetic model for the rehabilitation of social housing

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Abstract
This research is an attempt to describe a new biomimetic model for the rehabilitation of social housing. In particular, the constructions built in Europe in the post Second World War period suffer of material and social degradation requiring architectural, functional and structural interventions. The analysis of the state of the art underlined the importance of the envelope in the definition of new performances and standards. Through a bio-mimicry approach, the paper shows the process leading to the definition of a building exoskeleton: a structural envelope able to solve complex sets of problems integrating different building systems. Adaptability results being a fundamental property to define an effective seismic and structural behavior but also to respond to changing user’s needs and environmental conditions. In the last part of the paper, information about feasible technologies and techniques to realize the exoskeleton are presented. Finally, the conclusions show the potentiality of the model if applied in critical contexts where intensive and diffusive interventions of recovery of social housing are needed.

Keywords: Building exoskeleton; social housing; adaptability; biomimicry; structural envelope.

INTRODUCTION
In the post Second World War period, Europe registered the extraordinary emergence of residential districts responding to the increasing demand of social housing and to the massive destruction caused by the conflict (Turkington et al., 2004). The critical economic and social conditions led to the definition of fast construction processes and simple technologies applied to specified typologies in order to realize housing at affordable prices while on the other hand being the solution to the lack of monetary and material resources and a possibility to grant new job places also for unskilled labour (Di Biagi, 2001).

The provision of green areas and public spaces for aggregative purposes resulted often insufficient or inadequate and the critical economic condition resulted in limits to the quality of residential spaces, which in long term led to situations of social and material degradation that are progressively increasing and worsening (Power, 1997; Skifter Andersen, 2003; Murie et al., 2003). At the same time the Directive 2002/91/EU, and its review 2010/31/EU, indicated existing building heritage as a fundamental sector to obtain the reduction of energy consumption and of atmosphere pollution: new technical and technological standards for social housing buildings characterized by low energy performances, bad technical devices and inappropriate comfort standards are a primary requirement.

Another important factor to take into account is that until most recent ages, social housing buildings did not require to respond to any particular regulation in terms of seismic prevention and protection, while today many European countries necessitate considering horizontal seismic loads as fundamental to define the structural behaviour and condition of a construction. These considerations showed the necessity to apply an analysis process for social housing with an integrate approach considering architectural, structural and functional characteristics.
**Problem definition**

Innovative standards for the quality and safety of living spaces are required by the new regulations in the field of seismic engineering and by the principles of economic, social and environmental sustainability. A fundamental phase of urban requalification is to apply this requirement to the process of recovering of social housing quarters, today seen as areas of “no-excellence” promoting a process able to act at different scales from maintenance, to repair to rehabilitation and that can involve all the elements of a construction (Harris, 2001).

Structural and functional interventions are of primary importance to solve problems of safety and to improve the performances of the building but in order to solve the aesthetical degradation, the architectural *remodelage* (Castro et al., 2005) of the features of the buildings needs consideration.

Although architectural requalification is often an interpretative process (Snodgrass and Coyne, 2006) in which it is important to identify the permanence elements and the features to enhance or to replace with the use of new technologies and materials, in this historical period of economic and energetic crisis, energy saving, reduction of the detrimental emissions and resources preservation are primary goals. In opposition with the tabula rasa concept there is the necessity to preserve materials and objects that at the same time must face the necessity of a deep restoration process for the existing social housing. In order to transform the residential districts from a critical part of the city to a strategic resource to revitalize it (Grecchi, 2008), it is necessary to develop new design concepts and conceptual methods in planning interventions on social housing, one of those will be presented in this paper.

**Research question**

The research analysed the feasibility of a new approach for the renovation of social housing, to be applied independently from the typology and technology of the construction and from the site condition and location. Classifications and study of the state of the art for social housing and rehabilitation of residential building were fundamental to define the strategies of action and the approach led to the definition of a model with the objective to answer to a complex set of problem with a single integrated construction element. This study considered the complex situation of social housing heritage and its requirements in terms of seismic and energy retrofitting and architectural interventions thus investigating the effectiveness of developing an integrate approach in between of civil engineering and architecture and, for this reason, the combination between different needs and considerations progresses in parallel using different tools and design methods.

**Scope of the paper**

The paper considers technologies, typologies, structural behaviours and architectural features related to the social housing constructions built after the Second World War and located in a European contest. The buildings are considered using an integrate approach (Lovell, 2010) of different building systems seen as part of a multi-layered construction (Brand, 1994) while the biomimicry approach (Pawlyn, 2011) is used to define the building exoskeleton, its properties and its characteristics in relation to user’s need and environmental conditions.

**OBJECT AND OBJECTIVE OF THE ANALYSIS**

The objective of this research is to introduce new urban and architectural qualities, better performances in building heritage and in this way to obtain a greater rate of satisfaction of the users. Considering that the objects of this analysis are buildings characterized by inadequate and obsolescent aesthetic features, the research project, referring to the principles of the biomimicry (Pawlyn, 2011) suggests interventions based on the application of a new external structural envelope that will be called ‘building exoskeleton’. In the animal world, the exoskeleton is external, light and resistant armour connected with other apparatuses and its role is to protect the internal areas of a body from external input such as excessive sunlight and temperature or...
impacts and attacks. In this way, the exoskeleton performs a very complex set of roles from the structural to the thermal, from the aesthetical to the functional (University of Bath, 2008).

Since in an ecosystem the resources are limited, Nature uses a variety of shapes to maximize the efficiency of an element using the minimal amount of material because so, for example, in a human skeleton, bones increase their section where higher strength is required and in this way greater strength is reached with a relatively small increase in weight. From a structural point of view, if we think about new constructions, the strength-weight ratio is fundamental to reach the optimization in the use of materials and the defined “building exoskeleton”, as an enclosing capsule, can protect and support the existing building, while preserving and enhancing performance, safe and safety, seismic behaviour and aesthetic quality. So this research paper has the objective to present a conceptual model of a seismic and adaptive exoskeleton for the requalification of the social housing buildings lacking of aesthetic, morphological and architectural values to translate it in a physical model, showing the process applied for the definition and the tools and methods used for the interpretation of the data.

RESEARCH METHODOLOGIES

Research method

The first phase of the research corresponded to a broad collection of applications and theoretical data focusing on urban regeneration and social housing in Europe, in order to underline different approaches and techniques applied by architects, engineers and urban planners. The choice of a qualitative method for the collection and analysis helped to detect the cultural and social aspects hidden behind the dimension of the built environment, using different types of resources and interpreting them throughout definitions, perceptions and opinions established directly by the researcher in different steps during the research (Denzin and Lincoln, 2000).

Indeed, it is demonstrated that the personal and subjective aspects of the data cannot often be detected using quantitative methods (Kaplan and Maxwell, 1994), losing and sometimes mislaying the full understanding of the existing phenomena in their real context (Yin, 1989). Among the qualitative methods, the “case study method” was used in order to obtain broader and more comprehensive definitions able to lead to further generalizations (Yin, 1993), starting from existing interventions and previous studies about social housing that were classified as in the following paragraphs. The collection and analysis of the data was conducted to the extent of a “theoretical saturation” (Glaser, 1992), with the double objective to have not extra or repetitive information and to avoid missing data in the required field of research, referred to approaches to regeneration of social housing applied in Europe.

Design method

Design often meets problems and challenges that Nature already solved in order to preserve the equilibrium and that, if correctly interpreted by critic emulation, can lead to new technologies and innovations: the idea is that a not effective design leads to the extinction of the product, so what today we can find in Nature are the successful models. However, the biomimicry design method does not only look for solution in the Nature, but it also tries to emulate its practices where sustainability, for example, is the result of bottom-up processes, optimization, diversity, adaption and evolution, shapes and materials. The classification system used by the biomimicry approach is called taxonomy and it is defined by functions and strategies: functions are the challenges while strategies are the solution found by Nature to solve them. If applied to this research, the animal exoskeleton can be one the strategy applied by the Nature to respond to a complex set of requirements, concept that will be further explained later.

The chosen route of the biomimicry design method applied in this research starts from a challenge, the renovation of social housing building with seismic, energetic and aesthetical problems, finding a solution in the biological world, the animal exoskeleton.
MAIN FINDINGS

Collection of the data about European social housing

The collection of the data related to European social housing in the post Second World War period, led to the definition of an analysis method with a classification into different categories:

- Society: this parameter gives a connection between social degradation of the areas and material degradation of buildings and spaces.
- Architecture: some social housing buildings represent an important cultural heritage for cities and countries because of their scheme or because of the architect that designed them. It is fundamental to recognize what to preserve and what to alter.
- Structure: the analysis of the structural behaviour of the existing buildings is strictly connected with the study of the typology and technology applied for the construction. Some schemes appeared in many occasions but always with some important variations. To develop a strategy to solve seismic problems it is necessary to know the structural condition and behaviour of these buildings, with all their differences and their characteristics.
- Performance: this category expresses both of the relationship between the building and the environment and between the building and the user. It is fundamental to know technical data connected with building physics but also with user comfort to develop a new strategy.

Renovation strategies applied to social housing in Europe

The study of the state of the art in this field led to the individuation of different strategies applied on the building heritage. These approaches relate with the type of obsolescence observed, which can be figurative, structural or functional (Malighetti, 2011). The classification proposed in this paper, result of the case study method, shows a first division between strategy of addition and strategy of subtraction with a series of subdivisions, which indicate different approaches, which act from the small scale to the scale of the building. The analysis underlined also the possibility of coexistence of different techniques within the same construction.

Addition: the new part adds and combines with the existing elements, which are substantially preserved.
Continuity: the new part presents no sharp breaks in the logical figurative sequence of the existing building in terms of shape, dimensions, architectural features, colour or material.

Contrast: the new part presents strict differences from the existing building in terms of shape, dimensions, architectural features, colour or material.

Completion: the new part is an element that completes the image, the perception or the characteristics of the existing building.

Absorption: the new part covers and absorbs the existing building or, vice versa, the new part is contained in the volume of the existing building.

Integration: the new part and the existing building with substantially different features collaborate and integrate to shape a new image for the construction.

Contraposition: the new part acts as a counterbalance for the existing building creating a new equilibrium in the overall perception.

Stratification: the new part is a surface element able to change the architecture features or the performances of the envelope or of a part of it.

Filling: a new volume or surface fills the gap between two or more buildings or between different parts of the same building.

Subtraction: the new part finds place in the existing building subtracting some element or some characteristic of it.

Substitution: the new part substitutes a part or an element of the existing building, its function, its characteristics and its performances.

Modification: the new part modifies and replaces some of the characteristics and of the features of the existing building.

Cut: the existing building is subjected to a sharp cut of one or more of its part accordingly to the design of the new part.

Selection: some elements or some parts of the existing building are removed accordingly to the design of the new part.

Replacement: the new part replaces a part or an element of the existing building with the same function but with different characteristics and performances.

Adjustment: the new part acts as an element of adjustment and correction of some characteristics of the building previously removed.

Revision: the new part revises the features of the existing buildings replacing them with new elements that are coherent with the previous ones in terms of characteristics or aims.

Renewal: the new part operates a conversion in the characteristics and aims of the existing building replacing some of its elements.

Figure 2. Strategies of subtraction applied to social housing (Source: Author).
The analysis wanted to be exhaustive in terms of possible methodologies of intervention applied on social housing highlighting the leading role of the envelope and its parts in defining new characteristics, performances and appearance of a construction. The envelope can be interpreted as a liminal space between inside and outside thus regulating the relationship between the building and the environment but also between the building and the users.

The envelope is also able to determinate climate control, energy performances or aesthetical values and architectural characteristics and to determinate or to influence structural stability of the building in relation to the technologies applied (Lovell, 2010).

Integration of building systems

Architectural, structural and functional considerations are necessary to develop a new strategy for the rehabilitation of social housing (Souza Cruz, 2013) and the complex of set of information to coordinate required the introduction of different methods of definition of building systems from literature. In many cases, the definition of the building systems refers to the possibility to perceive a building as a set of different layers with different roles and functions (Brand, 1994) so; for example, Howard Brand (1994) individuates six different layers corresponding to the foundation, the structure, the exterior envelope, the interior partitions, the mechanical systems and finally the furnishings. Richard Rush (1986) sees the building as the interaction of only four different systems, namely structure, envelope, interior and mechanical and, considering both definitions, the Jenny Lovell’s idea (2010) is to obtain a deeper integration between characteristics and properties and, consequently, between the different building systems. So for instance, the envelope is able to define performances of the building but also to determinate its architectural quality while the structure is able to sustain the building in different load conditions and to determinate different rates of safety for the users in relation to the material used, scheme selected and external loads.

Integrating envelope and structure in a unified physical element sharing the same space it is possible to solve with a unique building system a complex set of requirements. The result of this analysis of the literature was the identification of the structural envelope, a building system responding to many different tasks, as a possible conceptual approach to apply to social housing.

The biomimicry approach

A more specific characterisation of the structural envelope was defined using a biomimicry approach (Benyus, 2002). There are different possible approaches to biomimetic design and any different approach can lead to different solutions with different rate of optimization and sustainability and it is also demonstrated (Reap et al., 2005) that biomimetic approach will not necessarily result in a more sustainable and effective solution.

In this paper, biomimicry is seen as a source of innovation in the definition of a new design concept (Baumeister, 2007), so with a given set of problems and requirements, the question was to match those to living organisms needing to solve similar issues: it is the design looking into the biology to find a corresponding model.

The result of this analysis indicated an answer into exoskeleton of insects, which gradually adjusts changing thickness, stiffness and proprieties to respond to different strains and loads.

"In their rigid state exoskeletons are stiff laminated composite structures made of chitin fibres embedded in a highly crossed matrix. The exoskeleton acts as a detector of displacement, strain or load via special organs called sensilla, which are partly integrated into local sections of exoskeleton. These organs amplify the information for the main detector organ, which is connected to the nerve stem. The local information obtained is used to modify the exoskeleton by changing thickness, stiffness and fibre orientation depending on the situation" (The University of Bath, 2008).

The exoskeleton defines also external appearance and thermal regulation adapting to environmental conditions, so it has all the architectural, functional and structural properties that can describe a structural envelope.
The biomimicry approach underlined also a new possible issue to take into account: the adaptability in order to make the exoskeleton able to adjust and modify in the time in order to respond to the growth of the insects. This propriety has been exploited for the definition of the new model because requirements in terms of spaces and functions can change over the time causing the premature obsolescence of a building or user's dissatisfaction. The effectiveness of the process of recovering of social housing is demonstrated not just in relation to improvement in structural and functional behaviour of the building but if it is able to define new living spaces satisfying user needs (De Rossi, 2004).

**Feedback and “plus” phase**

User needs can translate not only in physical necessities but also to the perception of the space and the building where they live (De Rossi, 2004) and positive opinions about the social housing complexes were typical in the years of their construction (Murie et al., 2003), when they were considered attractive living areas.

Today, although the long list of problems (Andersen, 2001), inhabitants still feel a sense of belonging to social housing districts independently their degradation, as preliminary surveys realized by the University of Trento (Italy) and the University of Brescia (Italy) highlighted an unexpected reticence among inhabitants about changing the architectural aspect of the buildings was registered. The capacity of adaption of the exoskeleton of insects guided to the definition of a strategy to solve the problem: the idea is to provide the existing buildings of a “plus” in terms of spaces and functions. In this way, the attachment and the reticence of the inhabitants to the place are solved increasing the economic value of the flat and making the spaces adaptable to changing conditions over the time (Zambelli, 2004). This technique is able also to create a cost effective approach: the existing building is preserved to avoid the waste of material resources and the energy consumption and at the same time, the cost of construction of the new external exoskeleton is balanced by the increased values of the construction and of its spaces. This phase underlined the importance of a feedback for the proposed recovering model both in terms of money than in terms of user's perception.

**FINDINGS**

The study of the state of the art and of the literature highlighted the possibility to apply many different approaches also in situation that can appear similar in terms of site and material conditions since different political, cultural and social realities can lead sometimes to an opposite interpretation of the existing heritage. Although the variances, it is also possible to observe how European idea of building rehabilitation in the field of social housing refers to construction techniques different from the ones originally used to realize the building and usually based on lightness and flexibility principles, with the possibility to obtain reversible and removable interventions.

The objective of most of these schemes is to modify the relationship between the building and the environment, both in terms of energetic behaviour and in terms of architectural features, and to enhance the relationship between the building and the users in terms of comfort and satisfaction. For this reason, another common constant in European practice is to apply improvements through the modification of the building envelope that is indeed the element of transition between inside and outside and consequently the one regulating interactions. Additionally, when seismic retrofitting is also necessary to grant safety for the inhabitants, a structural envelope is the model able to solve the complex set of problems and the biomimicry taxonomy showed that the exoskeleton is the biologic element that better describes a behaviour ranging from structural to architectural and functional fields. The exoskeleton, encapsulating the existing building, preserves its materials and the structure giving an effective solution in terms of costs and energy consumption for the construction process.

This new structure can be designed to have an adaptive behaviour so that in static condition it can be structurally independent from the existing building, which consequently has no
to carry additional loads. On the other hands, when load conditions require additional strength such as during an earthquake, the exoskeleton activates and starts to collaborate absorbing and dissipating the energy in order to prevent the collapse of the construction. This structural behaviour can be defined “intelligent” because it is able to recognize external input and to act consequently obtaining different outputs.

The adaptability property is referred also to the fact that the exoskeleton can be designed to house new spaces and functions of different dimensions in relation to changing needs of the users enhancing the economic value of the single flats and of the whole construction. To solve the complexity of social housing field, it is necessary to define a unique model able to grant fast construction process and economy but without any restriction about the architectural features, giving the possibility of many different options and of the variety needed by different cultural contexts in terms of technologies and typologies. Repeatability and simple base elements, modifiable in relation to different real conditions, can be the key points to design easy and simple to apply while a frame structure can confer the adequate simplicity to allow a free scheme for building physics and freedom in the definition of the architectural features of the building. To determine geometrical and technological characteristics of the elements is fundamental to define the structural interaction between the new structure and the existing one and to generalize its effectiveness to a certain number of real cases where the junction is indeed the crucial element of the design because it influences the structural behaviour of the whole construction and its effectiveness. The requirement of the model and the objective of material optimization indicate the use of smart materials as a feasible solution to create the element of interaction and junction between the new and the existing structure since they are materials able to respond to a stimulus adapting to external input with a predictable and fixed action.

Among those, shape memory alloys have been studied for seismic protection (Castellano et al., 1997) in relation to their pseudoelasticity or superelasticity, an elastic and reversible response to an applied stress allowed through a phase transformation between austenitic and martensitic phases of a crystal. Shape memory alloys can grant a different range of responses in relation of different load conditions but always returning to their previous shape after the removal of even relatively high-applied strains. A superelastic alloy deforms reversibly when mechanically loaded creating a stress-induced phase but when the load is removed, the new phase becomes unstable and the material regains its original shape without any change in temperature. Since shear resistance in brickwork can be increased applying pre or post compression, shape memory alloys can be used in form of ties or cables able to respond to different external load conditions in different ways. These types of devices demonstrated to be effective in relation to building heritage (Castellano et al., 2000) to prevent the collapse of the façade of the churches or the flexional collapse of towers.

CONCLUSIONS

Social housing in Europe needs of important interventions to solve material and social detrimental conditions but it is also fundamental to preserve the existing building heritage in a period of economic and energetic crisis. When aesthetical preservation is not a concern, it is possible to develop strategies able to solve a complex set of problem using an integrate approach between different building systems and defining a structural envelope that, using a conceptual model taken from biology can be called "building exoskeleton". The visual perception of the building and of the residential district results completely modified by the application of exoskeletons nevertheless granting freedom in terms of dimensions, extensions, typologies and technologies while same basic common characteristics are able to define a unified code to obtain fast construction process and reduction of construction costs where extensive interventions are needed.

At the same time it could be possible to enhance the economic value of the buildings, thanks to the adaptability and reversibility of the operations planned, based on dry construction processes, that confer also a longer life span to the building in relation to changing conditions in
the inhabitants or the quarters. Despite these considerations, in some of these social housing districts structural intervention against earthquakes is still the main concern even if seismic retrofitting is a relatively new field of experimentation for engineers, requiring complex technical, economic and social considerations with new challenges and controversial solutions. Relatively, traditional methods of seismic retrofitting act increase the load capacity of the building working on its stiffness and strength or act decreasing the demand, for example reducing the mass of the building. Both these methods are effective to some extent but usually expensive in terms of demolition, reconstruction, and construction process and occupant relocation being generally intrusive approaches. For this reason in the last years, innovative methods have been developed in order to obtain seismic retrofitting with more friendly processes as for example applying the reduction of the stiffness of the building, increasing the period of vibration and consequently reducing the seismic action, or increasing the ductility acting locally on some elements with confinement or pre-compression.

This paper and the model proposed can be instead related to the concept of damage-controlled structures (Huang et al., 2001) which consists in two parallel structures: the auxiliary structure is designed to damage and it introduces larger stiffness and new energy dissipation capacity and in this way the primary structure can resist also to severe earthquake. The application of damage-controlled model to existing buildings imposes further considerations in terms of compatibility and interaction and in this field the definition of the building exoskeleton method can open to new research and innovations in that direction, promoting light interventions acting from the outside. Future studies about building exoskeleton are also oriented towards the optimization of the design and of the use of the materials, in relation to different typologies, dimensions and proportions of the social housing buildings in order to find recurrence factors and common strategies of action.

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SEGMENTATION OF HEARTH (PAWON) SPACE IN TENGGERESE HOUSE

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Abstract
Bonfire became the earliest form in shaping space when people gathered around the fire. It was stated by Vitruvius and developed by many theoretician of architecture. Nowadays, the role of fire to the space (architecture) lessened and even disappeared along with technology development. Contrarily, the phenomenon in Tengger showed different result. The presence of hearth (pawon) in Tenggerese house became stronger. It could be seen from the increasing number of hearth there. This research shows, there was a close connection between society structure along with time factor and the number of hearth along with its use in Tenggerese house. The number of hearth in a house could be increased if the number of family members were increased as well. It is possible that the segmentation of hearth space in Tenggerese house could be affected by the influence of the number of family members to the changes of hearth. This possibility would be explored in the research. Interpretive-Historic research method was used in the research to explore the phenomenon found in the field. By exploring field data and historical data, it was finally shown the influence of the changes number in family members to the segmentation of hearth space in Tenggerese house, particularly those related to the marriage and mortality. Space segmentation, especially segmentation of the hearth space in Tengger successfully demonstrated a close link with the change in the numbers of family members.

Keywords: Hearth (pawon); change; space; time; segmentation.

INTRODUCTION
Fire was the element of nature known since ancient time. Nowadays, it was used everyday for our daily activities. Therefore, it was not special anymore. Fire had a more significant role in its relation with space. Fire had been tamed and used for cooking, warming bodies, and lighting. Fire became the important element to form a space. There was also an opinion that space formed from fire was the first living space for human.

The first space formed by fire was where people gathered around the bonfire. Then, the idea to protect the fire from the rain and wind was emerged. Wall and roof were first built when people started to make more real and clearer borders. After fire was indoor, it was called hearth. Whereas hearth had a specific place in a space, bonfire was in outdoor and it could be moved and placed at will.

Concept of Fire and Architecture
In most area with certain climate, fire and residence were unseparable. Hearth as the source of heat and how to cook using it were known as the begininning of architecture (Weston, 2011). Fire made humans formed into group or surrounded it, it had a clear and unequivocal concentric orientation (which allowed the pattern of organized communities happened in the next era). Therefore, the formation of space was triggered by fire and developed more complex until nowadays (Vitruvius, in Morgan 1960; Crowe, 1997; Unwin, 1997; Dewi, 2000a and 2011). Besides, the knowledge of fire from some opinion (Campbell, 1987; Hae Lee, 1989 & 2003; Takwin, 2001 and Ewing (eds. Madge & Peckham, 2006) was also believed and used as a place for house guardian gods and goddesses, especially for most of the traditional society.
In the real form, the hearth form which was more and more permanent was created from fire, and developed widely into hearth space (some used it as a place to warm their bodies, to cook, to socialize, and to celebrate ritual ceremony). Therefore, it was not only used as a hearth space since the space became more complex and developed into many spaces. Because of that, the role of fire became more important.

Some opinion (Unwin, 1997; Santosa, 2000 and Zurick & Shrestha, 2003) explained that from the beginning there were no certain position of hearth. The movement of hearth was possible happened in the development of present house. The hearth could also be removed from modern house. The movement of hearth could also be influenced by the technology development of the hearth shape and the occurrence of new activities. Some example of the modern house (in the Western) showed that the hearth movement from the center to the edge was related to the present improvement of the technology.

In several cases, the position of hearth also showed the rules or relation to the other space elements, for example to the axis, openings, and furniture. According to Ewing (eds. Madge & Peckam, 2006), the clear axis with the main door and altar was owned by hearth in Tibetan house. This was understood as vertical connection between earth and gods. In his writing about Highland Longhouse, Webster (2014) explained the phenomenon of the pre-Union Blackhouse, a multiplicity of activities occurred in the living space, including cooking, weaving, sleeping, talking and entertaining. While members of a family would coexist in the same space, their individual roles and status were signified through material objects. This confirmed further about the importance of the connection between the hearth, the communities and the furniture in a house.

**Time Concept**

In the connection with time, Tuan (1997) explained that space had a temporary meaning on each individual experience day by day. The time which connected with the history and the space orientation was the aspect of a single experience. According to Tuan, the mythical time was based on the three principles, which were cosmogonic, astronomy, and human. Cosmogonical time was a story about the origin, including the creation of the universe. Human time was the journey of human’s life. Both were linear and unidirectional. The astronomical time was the experience from the sun daily cycle and natural season parade which were a repetition. Compared to the cosmogonic time, astronomical time was easier to be mapped to the spatial framework (space or place). Astronomical time was rotated and repeated and the best was represented by the symmetric space. Human time was directional (a one way journey), it was started on their birth and ended on their death. From the previous research, time factor was focused on the astronomical time (daily and annual routine). This research would focus on the human time. It supposed that the journey of human life (Tenggerese) after marriage and additional family members influenced the numbers of hearth which then would influence the change of layout pattern and its activities.

**The concept of Tenggerese Hearth**

Hayat (2003) said that the hilly natural condition made Tenggerese community grouped in one place. The logical consequences was the near location between one house to another. Because of the settlements are concentrated in one place, the interaction between the individuals became intense and informal. Anwar (2003) said that most houses was not bordered by fences. According to Ngadisari Headman, it showed that the society liked to work together. Besides house, cottages (health resort) were also built by most society on their fields. The cottage was also completed by the hearth which could be used for cooking or warming the body. As explained by Widyaprapakosa (1994), Cahyono (2000), Salviana (2003), Sulistyantingsih (2003), and Newiger (2006), each Tenggerese house would always be completed by hearths.
The importance of hearth in the house was showed all the time by Tenggerese. There were some changes of Tenggerese hearth, from the numbers, materials, fuel, and shape. The addition and subtraction of the hearth numbers had a close connection with the changes of the space in Tenggerese house. It was known that there was no certain pattern in the changes of the space in Tenggerese house. But the changes happened in Tenggerese hearth showed certain patterns which were meaningful. The depth research from the case study in Ngadisari Village was expected to explain the changes pattern of space related to the changes pattern of hearth happened.

Hearth was used as a moment to socialize with each other in Tengger. It was known as tumang or pawon with a rectangle shape and like the construction of a table. In this research, the definition of hearth used referred to the hearth known as pawon in Tenggerese. Some models of pawon used by Tenggerese were shown by Dewi (2011). Based on its characters and intention, Tenggerese pawon was distinguished between fix pawon and moveable pawon. According to its functions, there were three models, which were: 1) fix pawon with open upper hole; 2) fix pawon with close upper hole and 3) moveable pawon with close upper hole. Based on its place, pawon was placed by most of Tenggerese in dhapur (a place for cooking and also became focus activities at home) and pedhayohan (certain space to welcome guests).

**The Concept of Space Segmentation**

According to Kent (1990), multifunction hearths were used in a low complexity society. Whereas monofunction hearths were mostly used in a high complexity society. The influence of society based on its social and political condition was explained by Kent (1990). Ken also explained that the space organization would be determined by the complexity of a society, especially in regarding space segmentation. The more complex the society, the more segmented the culture, environment, space use, local materials (related to the culture), and architecture. Besides, several cases described by Kent showed that if the numbers of the family members increased, the numbers of hearths increased as well. Therefore, the separation in cooking activities done by mother, father, and daughter was needed. The theory by Kent (1990) would be developed in this research to explore more about the influence of the numbers in family members in Tenggerese to the segmentation of the hearth space.

**RESEARCH METHODOLOGY**

Critical review became domination in this research. According to Wayne Attoe (1978), criticism could be assessed because it was a facility of understanding and could be categorized into three basic groups, which were: normative criticism, interpretive criticism and descriptive criticism. Normative criticism was based on the belief of something (norms). The result of normative criticism would direct more to an objective result because it was based on the mind’s view. Interpretive criticism tried to see the estimates from right or wrong area in relation with some norms (from outside) or standard with other point of views (subjective) or sense’s view. Therefore, the result would lead more to the subjectivity of individuals. Descriptive criticism described physical phenomenon and showed the accuracy of the event as it was or in certain contexts. Therefore, the result expected was more neutral by using eye’s view.

Interpretive criticism was used in the discussion of this research since the review was performed through the recent phenomenon by looking at the past or history. The subjective view from the writer based on the previous theory had given a complete view of the occurrence of the phenomenon nowadays. Collecting data of Tenggerese house in random became the initial stage performed in this research. It was done to see the changes happened in pawon, pawon room, and in house design. Next, the exploration in several houses with fundamental changes would be chosen, especially the changes in Tenggerese pawon to explore deeper about current segmentation of pawon space.
ANALYSIS AND DISCUSSION

Analysis and discussion would be performed based on the planned research stages. Tenggerese pawon (=hearth) would be discussed based on the changes of shapes and its relation with the changes of pawon space. Finally, the segmentation in Tenggerese house would be shown. The factors which influenced the changes in Tenggerese pawon space as expected before would be explored deeper in this discussion.

The Variety of Tenggerese Pawon

The changes in Tenggerese pawon was needed to be explored first to learn the changes of pawon space in Tenggerese house. The variety of Tenggerese pawon nowadays was influenced by several things, such as fuel, fire element used, pawon characteristics, pawon hole, pawon size, and materials used. In the previous research (Dewi, 2011), the permanent pawon would always be stuck to the ground (see Figure 1-left) and it was also believed as a place for Tenggerese ancient spirits (Kek and Nek Towok). Therefore, the making process could not be offhanded. The good day would also be chosen for the making process to perform special ceremony. Besides permanent pawon, there was moveable pawon. It was not stuck to the ground. Thus, it was easily moved (see Figure 1-right). Having special ceremony and choosing good day were not needed in the making process of this pawon because it was not believed to be their ancient spirit place.

![Figure 1. (Left) Permanent Pawon (Source: Dewi, 2011); (Right) Moveable Pawon with open/close upper hole (Source: Dewi, 2011).](image)

Basically, there were two kinds of hole both in permanent and moveable pawon, which were upper hole and side hole. Upper hole was used to cook whereas side hole was used to put the fuel and warming the body (gegeni). Upper hole in moveable pawon was not used to cook. Therefore, it was usually closed by tiles (not permanent) or could be opened and closed (Dewi, 2011).
Nowadays, several changes were found in the form of Tenggerese pawon. As shown in this research, upper hole was not found in moveable pawon (see Figure 2-left) and there were efforts from the owner to adopt the Western model (see Figure 2-right) although the existence of the original Tenggerese pawon was not disappeared. Those phenomenon showed that Tenggerese changed and modified their pawon especially for moveable pawon. The changes happened due to the technology, information, or the new needs. Although the changes always happened, the basic rule of pawon was still maintained and applied until today. The following discussion about the changes of pawon space in Tengger would be explained.

All Tenggerese hearths actually had similar shape which was rectangle and used construction such as table. The numbers of upper holes were varied using even numbers (two, four, or six) and side holes between one or two holes. Unwin (1997) explained that there were some protection to the fire, such as; a row of stones, construction of tables or chairs, and a small building. From all the protection above, the protection using construction (table or chair) had similarity with the Tenggerese hearth used construction which looked like a table. According to Kent (1990), the variation of hearth shape was shown through the cases which had different socioeconomic and political condition. Multipurpose function hearths were owned by low complexity society, while mono-function hearths were owned by high complexity society. Generally, the hearth shape in Tengger was similar. Therefore, the multipurpose or mono-function hearth could be owned by all society in Tengger.

**The Changes of Pawon Space in Tenggerese House**

In this research, the exploration of the two cases chosen was performed by collecting data in the field as documentation, measurement, drawing, and interview. From the previous data research (Dewi, 2000a and 2011), continual observation was performed and the comprehensive view which covered historical data from the house was obtained.

**First Case Study**

The house from this first case had already been one of the previous research focus (Dewi, 2000a and 2011) and still became the current focus. The changes of numbers and the use of pawon which influenced the segmentation of pawon space in the period became the reason of the research focus (see Figure 3).

From the interview, it was known that the house which first built in the first case had two space separated by partition. One of the space was very dominant (based on the width) with a pawon placed in the center of the space, which was called omah (house). When the new needs occured and the social economical condition increased, pawon space (omah) was developed. It could be seen by the additional building in front of omah, which had one pawon space used to
welcome guests at a certain time. The additional family members was also believed to influence
the next development, which was the additional building in the back of omah with two
pawon space for pedhayohan. Based on the data of Dewi (1999 and 2000a), the house had one
pawon space as focus activities and three pawon space for pedhayohan in that period. The
numbers of pawon space for pedhayohan currently was related to the owner position as a village
officer (Dewi, 2011 and Dewi & Darjosanjoto, 2011).

The next progress, omah with one pawon as focus activities was removed and the new
building were made and combined with the back building. It was believed that the economical
factor was increased. The removal of pawon space as focus activities changed the use of another
pawon which was previously used only for welcoming guests, now it was used for cooking, dining
area, and for socializing.

The next changes only happened in the use of the space especially in pawon space. When
someone passed away, the ritual ceremony Entas-Entas influenced the use of pawon as one of
the ceremonial place. It was believed that pawon used for cooking had important role in the
ceremony. Previously, pawon for cooking in this house was placed in the back building, out of the
main building where the ceremony was held. Those two buildings were separated by the road.
Thus, it was forbidden by the shaman (Dukun) as the leader of the ceremony because it was
believed that the pawon was out of the ceremony territorial.

Due to the need of pawon for cooking, new pawon was built inside the building for the
ceremony. The function of the old pawon was changed because of the additional of the new one.
The old pawon became a place for welcoming guests. Thus, it changed the form of pawon as well
as the activities around it. The research of Dewi (2011) about one pawon for cooking (as focus
activities) in Tenggerese house was underlined by those phenomenon.

Figure 3. From Left to the Right - The change of omah (house) in the first case (Source: Authors).
Schematically, the changes of the space in this case could be seen in figure 4. The changes of pawon happened in this case was highly influenced by several aspects. The aspects of society structure changes also influenced the changes of pawon numbers used. Economic aspect was suspected to have a role in the changes, although it was not discussed in the research. However, from this research, it was known that the changes happened in family members had a very important role to the changes of pawon space, especially the numbers, location, and the use of pawon space.
The changes of pawon numbers was not only showed from its increasing numbers, but also the changes stage where the numbers of pawon was decreased. Besides pawon numbers, the activities around the pawon was also influenced by the changes of pawon use, which also influenced the movement pattern inside the house. The dynamic of pawon changes in the house was higher compared to the changes of the physical house. Although there were not any changes physically, but the changes of pawon use changed the use of most space in the house. The additional pawon space was not only triggered by the additional family member (nuclear family) but also triggered by the death experience.

Second Case Study

The house in the second case also became the previous focus research (Dewi, 2011). Although there was not any physical changes in the building, the dynamic use of pawon space would influence the changes of movement pattern inside the house (see Figure 5 & 6).

Based on the historical data and the trace of pawon which could still be recognized, the information of the numbers of pawon was obtained. There was only one pawon for cooking and for other focus activities and three other pawon used only for welcoming guests in Karo Day. As village officer, pawon in pedhayohan was also used to serve society. In the next period, the dining room became the new need for Karo Day. Therefore, one of the guests pawon was removed (Dewi, 2011).

The re-exploration performed in this research showed the changes of the numbers and use of pawon. Based on Tenggerese tradition, the new family member was indicated by Walagara ceremony. The needs of pawon for guests separated from others in a big family was influenced by the additional nuclear family. The function of the old pawon was changed from cooking and focus activities to pawon for welcoming guests. The changes was not only in the use of pawon, but also in its design.

There was not any pawon for cooking due to those changes. Therefore, new pawon for cooking was added outside the building. Thus, the house territory was also changed because of the addition and expanded to the side of the building. Moreover, the different territory between common activities in the big family and individual activity in the nuclear family was occured because of the changes. One of the guests pawon was removed since there were new needs (dining space for Karo Day or reception in traditional ceremony). The demolition changed the use of space.
Segmentation of Pawon Space

From the previous research (Dewi, 2011), based on the use of pawon and by considering time factor and society structure, the permanent and changeable elements in pawon were known. There was always only one pawon for cooking. The cooking activity was permanent and gegeni activities as focus community could be moved to another pawon.

The exploration performed to both cases showed the dynamics changes in pawon use. Besides the changes of economical and social status, the changes of family members related to marriage and mortality also had a role in the changes of pawon use and the segmentation of pawon space, such as:

First finding: the purpose and use of pawon could be changed from multipurpose pawon to pawon for welcoming guests and vice versa (see Figure 7). It was because the changes factor in a family due to marriage or mortality. However, the common cause of the changes was from the multipurpose pawon to the pawon for guests.
Second finding showed the additional family member from marriage greatly influenced the segmentation of pawon space. Pawon space which first was used for multipurpose activities could be segmented to one dhapur and one or more pedhayohan (see Figure 8).

Third finding showed different territorial borders for daily activities and for traditional ceremony (see Figure 9). Entas-Entas ceremony related to mortality ceremony also involved permanent pawon used for cooking. This was a part of the ceremony. Based on the territorial concept of a house as a place for traditional ceremony, it was forbidden to have permanent pawon outside the ceremonial place separated by the road. However, for the daily activities, the territorial concept of a house depended on the activity of the family members.
Fourth finding still showed the segmentation of pawon space affected to the territory of two nuclear families in a house (see Figure 10). The second case in this research showed the additional family members due to marriage influenced the numbers and the changes use of pawon. Besides, a house territory could be distinguished between pawon as the focus of multipurpose activity and as a place to welcome guests. A house with more than one family always needed one pawon space for multipurpose activities. Whereas the needs of pawon to welcome guests depended on the needs or the numbers of family members. The previous research about pawon in dhapur as focus activities survived until today was also underlined in this research (Dewi, 1999, 2000b and 2006). The result of the research showed the changes dynamic of pawon use could be influenced by the changes of social economic status and the addition of family member related to the marriage and death. It was shown that pawon space as the main space in Tenggerese house had a big effect to the house layout and the activities inside the house. The different function of pawon occured the variation of pawon (shape), the space element (furniture), community focus, and variation of activities. The quite important changes (shape) was only happened in temporary hearth, while the changes of permanent hearth was in the material. It is showed that the permanent hearth was still maintained until now. The existence of Tenggerese hearth was believed never be removed, as long as their beliefs and tradition were still continued.

As shown in the case above, the elements of pawon space were one pawon, two short, long bench and one short table. Besides forming layout (as basic unit), those elements would also form the borders of imaginary room through the layout. The pawon area was then be called as pagenen (based on the name used by Tenggerese). The layout of furniture elements had similarity with the Himalayas house layout described by Ewing (eds. Madge & Peckham, 2006), where the existence of hearth was also completed with the upper hole or sky door to take the smoke out of the house.

![Figure 9. House territorial borders as a place for traditional ceremony and for daily activities (Source: Authors).](image)

![Figure 10. House territorial borders based on the needs of pawon space as a focus of multipurpose activities and pawon for guests (Source: Authors).](image)
CONCLUSION

The findings in this research showed the phenomenon in Tenggerese could enriched the theory of Kent (1990) about space segmentation and the previous research (Dewi, 2011). The changes of multipurpose functions to monofunctions hearth was not applied in Tengger since almost all cases used those hearths. Multifunction pawon was still used in dhapur whereas monofunction pawon was placed in pedhayohan. This also enriched the previous research about the use of pawon in Tengger in relation with the use of fire element (Dewi, 2007).

Moreover, the effect of the changes numbers of family members to the use of hearth was in contrary with Kent’s theory. Kent explained the more family members, the more hearth used. Therefore, there was a separation in cooking activity done by mother, father, and daughter. In Tengger, there was not any separation. Thus, cooking was only performed in one pawon. The separated pawon between mother and children or married family was only used for welcoming guests. This article also confirmed Webster’s opinion (2013) about the connection between the community and the material components in the hearth space; a hearth, two long benches, and a low table. The elements in the hearth space would then be a marker of the community and the activities inside the house.

Besides enriching Kent’s theory (1990), the previous research was also enriched (Dewi 2000a & 2011). Time factor (weekday & Karo Day) and society structure factor (common society; cultural leaders; or government leaders) was known to have great influence to the numbers of pawon and the use of pawon. The findings in this research showed the changes number in family members was also influenced the changes number of pawon and pawon space segmentation. Moreover, the findings of this research gave new discourse about activity territorial at home or territorial concept of a house.

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**ACKNOWLEDGEMENT**
The paper is written as the publication result of Fundamental Research part I and II (2013-2014) with the title “The Influence of Hearth to the Space Morphology in Tenggerese House”.

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ANALYZING THE RELATIONSHIP BETWEEN URBAN IDENTITY AND URBAN TRANSFORMATION IMPLEMENTATIONS IN HISTORICAL PROCESS:
The Case of Isparta

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Abstract
Urban identity is formed by the entire values and characteristics of a city. Urban transformation is the strategies and activities for maintaining environmental quality and life balance. The concepts of urban identity and urban transformation, which have been quite popular in Turkey recently, are the grounds of this study. The socio-cultural and economic conditions, which have changed as a result of globalization experienced all over the world, make it compulsory to re-shape cities, so urban identity concept has gradually become more important. The aim of this study is to reveal misidentification in Turkey caused by urban transformation implementations, particularly via the example of Isparta. As Isparta is a typical Anatolian city developed after the proclamation of the Republic, it was considered worthy of analysis. At, it was observed that Isparta had developed in terms of planning until 1960s. It was concluded that turning points had occurred in urban transformation between the years 1960-1980 and after 1980, these turning points spoiled urban identity, and therefore, the city has developed and globalized without any identity since then.

Keywords: Isparta; urban identity; urban transformation; urban spaces.

INTRODUCTION
Cities are settlements facing continuous social change (Keleş, 1998). In other words, they are kinds of living organisms, which have been shaped successively in all the periods since the time of their establishment, and they have been experiencing continuous transformation. Cities, within this process, show different characteristics depending on the concepts of time and space. The urban identity refers to the reflection of city’s unique socio-economic and cultural components, which are different from other cities’, on the physical space (Sirel, 2005). The urban identity, as a continuously changing and dynamic incident, is composed not only of buildings, streets and squares, but also of active participation of all individuals living in the city. The identity of a city is determined by the authentic outputs and qualities resulting from interactions of urban individuals with their environment.

Cities wear down in time due to socio-economic and cultural changes which are experienced during historical process. Particularly, the economic crisis and the change in the social structure after World War II resulted in ruined regions in cities, which made urban regeneration necessary (Özden, 2006). At that point, the concept of urban transformation emerged. Urban transformation means conducting all these urban regeneration, rehabilitation, revitalization or protection work by taking physical, socio-economic and administrative characteristics of the city into consideration. The point here is to maintain and protect the city’s own identity while doing the work. In our country, urban transformation projects were brought to agenda after 1980 to solve squatting problem (Şişman & Kibaroğlu, 2009). Yet, they led to the losses of urban identity since they had been implemented by taking only economic and political interests into account, without any architectural and urban principles.
The aim of this study is to reveal the misidentification caused by urban transformation projects, specifically on the example of Isparta. While Isparta was an administrative, commercial and production centre in the early period of the Republic, it has changed in terms of population and socio-economic activities because of rapid and intense migration from rural areas to the city centre after 1950s. Industrial, commercial and public investments have also led to the similar changes. While new reconstruction works increased in number, the city began to change with new public buildings, collective housing and construction of new buildings for different public needs. In this urban development process, urban transformation projects were conducted in the city centre. As it is the case in the whole country, urban transformation works have caused identity loss in Isparta, as well. In the context of this study, the effects of transformation on urban identity were studied. Especially in historical process, significant spaces in Isparta such as Siramağazalar (Ranging Stores)-Kaymakkapi, Bedesten (Covered Bazaar) and the surrounding pattern, and Hükümet Meydanı (The Square in front of the Governor’s Building) and the surrounding area have been subject to urban transformation. In the study, present and past conditions of these three places were examined morphologically, visually, functionally, spatially and contextually depending on the data collected from archives and on-site analyses. In scope of this study, the results have been produced with the help of maps, old and new photos of the spaces and tables in the analysis system. The damages of urban transformation implementations to the above mentioned urban spaces in Isparta and the resulting loss in urban identity were detected through gathered data.

The Concepts of Urban Identity and Urban Transformation

The concept of identity, which has subject area with human, expresses diversity and originality. Identity is a phenomenon that doesn’t exist in the union or differentiation of similarity and repetition (Isin & Wood, 1999) as regarding with individuality and being unique (Lynch, 1960; Mach, 1993).

Identity is the sum of characteristics that are used to describe and differentiate assets with natural and cultural properties. It can naturally change in time as well as being changed on purpose (Gündüz, 2005). Coherence is an important concept that should be involved in identity. To form an identity, sustainability of certain conditions is necessary. There are four components of identity; these are origin or cultural heritage, quality and character of social needs, local features and factors depending on topography, and produced, appropriate technology (Gürsel, 1996). The concept of identity first got in the field of architecture as a result of universalism policy suggested by modern architecture. Locality against universality has produced this concept. It is possible to mention the concept of identity when there is locality, variety and authenticity.

Urban identity, as cultural incident with maintenance from the past, can be defined as the entire components differentiating one city from others (Sirel, 2005). Urban identity is a dynamic and continuously changing structure. In all historical periods, each social structure built in a city has somehow reflected physical formation of that city (Nalkaya, 2006). Urban identity is such a meaningful integrity brought by a process from past to present that influences urban image; has distinctive scale and stylistic properties in each city; is shaped by physical, cultural, socio-economic, historical and formational factors; is formed by urban people and their life style; develops continuously and maintains the concept of sustainability (Çöll, 1998).

Urban identity has been accepted as “the sum of the components in the diagnostic quality which defines a city and distinguishes it from the others” (Ünügür, 1996). Urban identity is defined with the natural and artificial elements and socio-cultural characteristics of a city and the environment. The urban identity is formed by such elements in natural environment as geographical properties, flora, climate, topography and such elements in artificial environment as buildings, monumental structures, urban regions, paths, squares and urban furniture (Hacihhasanoğlu, 1996) The shape of environment, more specifically the identity of the
environment related to the nature and human is explained with regards to the natural and cultural components in relations of human, environment and culture (Binle, Ertan, 1992).

The smallest unit constituting urban identity is neighbourhood. Geographical characteristics, architecture, local traditions and life styles are the components completing the urban identity of a city (Ilgin & Hacıhasanoğlu, 2006). The components that emerge in time and shape the urban identity are:

- Identity factors arising from natural environment (Topography, climate and vegetation)
- Identity factors arising from society (Socio-economic and socio-cultural characteristics)
- Identity factors arising from artificial environment (streets, avenues, squares, monumental architectural buildings, examples of civil architecture) (Beyhan & Ünügür, 2005).

According to Robberts, urban transformation is the composition of all activities and strategies for regaining environmental quality and life balance and improving physical, social and environmental conditions in urban areas with breakdown and deformation (Esentürk, 2009). Urban transformation implementations are based on such purposes as avoiding collapse zone in urban areas, setting a development model for improving life quality, meeting the developmental needs of urban fabric, taking urban expansion under control and involving people from different classes in planning urban policies (Karadağ, 2008).

Urban transformation concept was born with the urban renovation as a result of urban growth experienced in Europe in the 19th century. Urban transformation implementations have been developed for urban renovation in 1800-1945 to enhance inadequate infrastructure and unhealthy conditions of cities brought by Industrial Development; as re-building of cities due to the extensive damages to the cities as a result of the World War One; and as projects of urban improvement and renovation in 1960-1980 (Esentürk, 2009). With the developed technology and changed life styles in 1980s, urban transformation implementations have also begun to change, and the urban refreshment projects, focusing on locality in the global system, have appeared drifting apart from classical way of planning (Demirsoy, 2006).

According to Birsel et al., the basic point to be regarded in urban transformation implementations is to discover urban identity of the city considering its layers formed in time and to maintain sustainability preserving this identity (Birsel et al., 2003). It is especially important to save spatial meaning, abide by human scale and rate, strengthen the relationship between urban space and people, and improve urban life as well as urban culture while conducting implementations in urban places with historical features (Demirsoy, 2006).

In Turkey, the immigration movements from rural to urban areas increased in 1950s due to the decline in agricultural production because of industrialization; and ghetto areas have begun to emerge since the demand for new buildings could not be met. In order to reclaim the resulting collapse areas, the urban transformation implementations have been put into agenda in 1980s. But since these implementations have been carried out by taking political and economic interests into consideration, not by considering architectural and urban principles, they have led to loss of urban identity.

Urban Transformation Applications in Turkey

The Ottoman Empire is the basis of all urban identities in Turkey. In this period, in spatial organization of cities; inessential urban transformation applications were realized, which were in parallel with the urban availability, integrated with social life and pervasive in time in using technology (Ulu & Karakoç, 2004).

Along with proclamation of the Republic in 1923, our country adopted a modern way of development in cities and started widespread/diverse urban transformation in a ‘modern, contemporary and habitable’ way. The Republic Administration started urban transformation in Anatolian cities instead of Istanbul, which was once the administrative center of the Ottoman
period (Kayın, 2009). In this period the cities like Eskişehir, Kayseri, Bursa, İzmir, Aydın, Manisa, Nazilli and Zonguldak became prominent with their industry in addition to Ankara which is the administrative center. These industrial cities were connected to Ankara by railway.

(Bilgin, 1998) and (Tekeli, 1980) state that the modern transformation in Anatolian cities is based on an axis ‘tangent to the old city’, and consists of new public buildings such as Government Office, schools and banks surrounding ‘The Republic Square’ starting from station premises (Asiliskenden & Özsöy, 2010). Urban transformation activities of Early Republican Period were built upon ‘becoming modern’ by disseminating the state ideals and increasing social life quality, as well as enhancing the places physically (Kayın, 2009). Therefore, these urban transformations also included public places such as parks, community centers, theatres, tennis courts and swimming pools where people could gather and do cultural activities in addition to public buildings.

As of 1950s, modern urbanization movements and modern architectural approaches in Turkey started to gain strength. Due to rapid modernization in the economy and the increase in the migration from rural to urban areas, cities have been exposed to larger scaled urban transformation compared to the Early Republican Period (Bozdoğan, 2002). Anatolian cities which had had similar spatial and cultural transformations like Ankara until then started to experience new, but uncontrolled transformations. Although, in comparison with the big cities these transformations took place in a slower process, they caused early republican period architecture’s urban patterns and public areas to be destroyed (Kayın, 2009).

On the other hand, in our country in 1950s the decline in agricultural production due to the industrialization led to an increase in migration movements from rural to urban areas, and consequently housing demand could not be met and illegal housing zones/slam areas emerged (Kayın, 2009). In order to rehabilitate these urban depression areas, urban transformation projects were put on the agenda in 1980s. However, these projects were not done in parallel with architectural and urban planning principles, but by considering only the economic and political interests, so they led to the loss of urban identity.

The urban transformation projects conducted from 1980s till today have been based on enhancing the places physically considering only the urban rent and ignoring socio-economic features of the cities. Isparta’s urban identity is based on Ottoman period. As a typical Anatolian city, Isparta experienced urban transformations reflecting Early Republican Period, modernism of 1950s and current projects after 1980. This is the main reason for choosing Isparta as the area of study.

**RESEARCH METHODOLOGY**

In this study, firstly the concepts of urban identity and urban transformation are mentioned which question the link between urban transformation implementations and urban identity. Later, it is touched upon the development and urban identity change of Isparta and in historical process. The materials of the field study consist of Governor’s building, the old Municipality Building, Municipal Park, Firdevs Bey Bedesten (Covered Bazaar), Ranging Stores and Shoe-Kebab Shops Arasta (Ottoman Bazaar). In the formation process of urban space; morphological, visual, functional, spatial and contextual characteristics have indicated alteration in urban built environment (Ünlü, 2006). In this context; the above mentioned places have been analyzed morphologically, visually, functionally, spatially and contextually after categorized in three periods; the ones built before 1960, the ones built between 1960-1980, and the ones built after 1980. Architectural fabric, street patterns and urban blocks were examined in morphological analyses and in visual analysis the structures/buildings in the area were studied in terms of their architectural period and their locations in the skyline/silhouette of the city center. As for functional analysis, use of space and zoning, spatial analysis of urban place, and contextual analysis of relationships of structures and areas among
each other, local identity and the characters of the architectural buildings were examined. While examining them, maps for supporting morphological analyses, archive review, on-site observation and monitoring, and old and new photos of these places have been used.

**Identity Change and Development of Isparta throughout Historical Process**

Isparta is at the center of Region of Lakes within Mediterranean Region (see Figure 1). While its total surface area is 8933 km², its center’s surface area is 585 km²². It is almost 1035 meters above sea level (Anonymous, 2003). The city is surrounded by Afyon on the North and northwest, by Burdur on the west and southwest, by Antalya on the South and by Konya on the east and southeast.

Figure 1. Location of Isparta City in the Region of Lakes within Turkey (Source: Website of Loadtr, 2014).

Isparta, whose history dating back to Hittite Period was first, settled around Isparta (Belönü) Stream flowing from east to west. In the foundation period of the city, the main streets were arranged in parallel to Belönü Stream; however the streets going through North-south directions go on disorderly. This planning, which was created to make walking easier on windy days (Çakmakçı, 1943), indicates that urban schema have been shaped considering topographical and climate characteristics (see Figure 2).

Figure 2. Spatial Development of Isparta City: this plan indicates the urban development direction and size in the period of before 1960s, between 1960-1980 and after 1980 (Source: Website of Isparta Belediyesi, 2011; Türk, 1995, Authors).
In later periods, the axis of urban settlement developed more towards the north. While it seemed a small Anatolian town in the Ottoman period, Isparta gained a new center by building a mosque in the north of Belönü Stream, and by building Bedestens and open public places around it, all lying on the axis of the mosque. Although the city maintained its old structure and surface area for a certain period of time, it was re-shaped with the development plan implemented in 1938-1943. According to the Ölsner Plan, surroundings of Belönü Çayı-as the first settlement area- and the centrum were kept, but new development axis was established through northeast and northwest. Since the aisles going through main roads are perpendicular, this has made a new more geometrically designed city fabric contrary to the city centre (see Figure 3).

Figure 3. Ölsner Plan for Isparta City (Source: Anonymous, 2001).

Isparta, which had been a small agriculture based Ottoman city in spatial formation until the Proclamation of the Republic, has begun to develop since early Republican Period in general sense. After the Proclamation of the Republic, the efforts for modernizing Isparta began and the Governor’s Building, Municipality Building, Railway Station Premises, İş Bank Building, Community House and Isparta Municipal Park were built in the city centre, particularly between the years 1923-1940 when there were intensive reconstruction works. Thus, the city centre undertook a symbolic function for the power of the young Republic at the time.

Isparta, like many other cities, was also affected by rapid urbanization which started in 1950s. While it was a small city of administration, commerce and production with 16,000 populations at the beginning of the Republic period, it changed in terms of population and socio-economic activities as a result of rapid and dense immigrations from rural to urban areas after 1950s, and of industrial, commercial and public investments (Anonymous, 2006). In this period, carpet washing factories, as urban images, were removed and new development activities were accelerated. The city has begun to expand and develop, and the city center has gained new functions (Kayalı, 2005).

Isparta has become a city experiencing modernism at the end of 1950s and from 1960s to 1980s. When looking at the urban identity regarding periodical character of the structures, the period before 1960, the period between 1960-1980 and the period after 1980 can be shown as turning points. The components making up of Isparta’s urban identity are Bedestens and mosques reflecting Ottoman architecture, structures of early Republican Period, modernist structures built between the years of 1960-1980, civil architectural examples such as Turkish, Greek and Iranian houses and urban squares. However now in Isparta city, it can be seen that the above mentioned buildings are vanished or damaged due to urban transformation implementations.
The Urban Transformation Process in Isparta and Its Impact on Places and Its Relation to Urban Identity

The most significant examples of urban transformation implementations in Isparta, without considering urban and architectural identity, are six-storey Municipal Office Block replacing small-sized stores and the unqualified urban square built after Shoe-Kebab Shops Arasta (Ottoman Bazaar). On the mentioned area, many urban transformation implementations were realized between the years 1960-1980 and after 1980 (see Figure 4). In this part of the study, the effects of the selected urban transformation implementations on the urban identity was examined morphologically, visually, functionally, spatially and contextually.

Figure 4. Location of Study Area in the City (Source: modified from Google Earth, 2014).

Analysis of the Period Before 1960s

In Isparta, a small Anatolian town in Ottoman period, foundations of the present city center were laid by Dalboyunoğlu and Bey Turkish Baths as well as Mimar Sinan Mosque and Firdevs Bey Bedesten built on the North-south axis of the Mosque in 1560s to bring income for it. After proclamation of the Republic, the efforts for modernizing Isparta began, and particularly with the development activities accelerated in 1940’s, Governor’s Building, Municipality Building and Municipal Park were established in the city center (see Figure 5-6). Along with the city’s development between 1950-1960. Ranging Stores were built in North and northwest sides of Firdevs Bey Bedesten and Shoe-Kebab Shops Arasta (Ottoman Bazaar) was built in the east part of it (see Figure 7 and 8).
Figure 5. General View of the City Center in 1959 (Source: Foto Venüs, 2011).

Figure 6. Governor's Building and Municipality Building in 1959 (Source: Foto Venüs, 2011).

Figure 7. Shoe-Kebab Shops Arasta - Ottoman Bazaar - and Governor’s Building in 1960 (Source: Foto Venüs, 2011).
Morphological Analysis: At that period, it is observed that urban blocks and street patterns were shaped organically in time. Firdevs Bey Bedesten created an urban axis between Ranging Stores and Shoe-Kebab Shops Arasta (Ottoman Bazaar) in its north and gives them a chance to be used efficiently. While The Grand Mosque, Municipality Building and Governor’s Building were the identifying features of the square, the ways going through it also formed a completing axis (see Figure 9).

Visual Analysis: Governor’s Building, The Grand Mosque, Municipality Building and Prison Building were placed in L shape so as to define a square in the urban block. Governor’s Building and Municipality Building have Early Republican Period characteristics in terms of architectural identity (see Figure 10). Ranging Stores and Shoe-Kebab Shops Arasta’s fabric identity and the square fabric involving public buildings are different from each other in terms of visual perception. The common significant feature of all these structures is architectural proportions considering human scale.
Functional Analysis: Zoning caused by pedestrian walk in time between Ranging Stores and Shoe-Kebab Shops Arasta emphasizes functionality of urban space. The relationship between Public Square and Arasta and Ranging Stores formed by organic streets for shopping has not been overlooked.

Spatial Analysis: When studying the square in front of Governor's Building, Municipality Park and the open bazaar area behind Ranging Stores in northwest side, it is observed that built environment-open area relationship is balanced. It is possible to explain that settlement pattern has developed organically in the built environment. All those structures can be accessed directly from the way. The square identified by Governor's Building and Municipality Building and spatial arrangement of landscape areas inside Municipality Park also identifies the area.

Contextual Analysis: The mentioned urban places have been used efficiently in time and have all become an urban image, taking their place in urban memory, and influencing the development of the city. ‘Kövke’ stone, as a local construction material, was used in Governor’s Building and Municipality Building and it emphasizes local character. When looking at Ranging Stores and Shoe-Kebab Shops Arasta, it is seen that the dominant structural characteristics in the city and local styles and urban identity have been preserved.

Analysis of the Period Between 1960-1980

Between the years 1960–1980, modernism movement ruled almost all development implementations in Isparta. Under the influence of this movement, many public and residential buildings were built in the city. As a result of periodical character, it is observed that transformation implementations in the city center did not care about the local identity at all. To prove that, demolishment of old Municipality Building in 1970s can be put forward (see Figure 11).
Figure 11. View of Governor’s Building and its surroundings in the 1980s

Figure 12. Firdevs Bey Bedesten and Shoe-Kebab Shops Arasta - Ottoman Bazaar - in 1966
(Source: Anonymous, 2001).

Figure 13. Ranging Stores and Old Grape Bazaar in 1960 (Source: Foto Venüs, 2011).
**Morphological Analysis:** The organic fabric and street pattern in these Ranging Stores and Shoe-Kebab Shops Arasta still remain as characteristics of the settlement (see Figure 12-13). Their lying through The Grand Mosque and Governor's Building and their concentrating on the square are also seen as morphological features of the area. Along with the urbanization process started in 1950s, pedestrian movements and usage density have been detected to increase in those areas as a result of the increase in population and construction of public buildings such as banks, schools, and hotels (see Figure 14).

![Figure 14. Morphological Analysis of the site between 1960–1980 (Source: Authors).](image)

**Visual Analysis:** While the square in front of Governor’s Building lost a bit of its identification value in 1970s as a result of pulling down the Municipality Building, the structure bearing characteristics of Early Republican Period also lost its place in the urban identity. Accordingly, Governor’s Building, due to its prevailing location and height, has become focal point in the area (see Figure 15).

![Figure 15. Back elevation of Governor’s Building in 1970 (Source: Foto Venüs, 2011).](image)

**Functional Analysis:** The urban space resulting from the demolishment of Municipality Building was arranged as a green area. However, dense pedestrian axis flowing from Shoe-Kebab Shops Arasta and relevant street patterns to Municipality Building was damaged. Therefore, the circulation through the square was also decreased functionally. In terms of the use of Municipality Building, an important pillar for the public use disappeared.
**Spatial Analysis:** Municipality Building, The Grand Mosque and Governor’s Building’s surrounding of the square in L shape has disappeared with the demolition of Municipality Building. Besides, local characteristics in the structures, which complete each other, have also diminished. Arasta and the Ranging Stores have still kept their organic fabric. Governor’s Building has remained as a single building lying on the same plane as Municipal Park. The axis from Firdevs Bey Bedesten and relevant organic streets which is shaped by pedestrian axis and supplies the square has also weakened after pulling down the Municipality Building. In this case, a square which is in relation with front side of Governor’s Building has emerged.

**Contextual Analysis:** The spatial, structural and local harmony between Governor’s Building and Municipality Building disappeared along with the demolition of Municipality Building. As Governor’s Building has remained single in the area, both periodical architectural power of expression and public relations have weakened.

**Analysis of the Period After 1980**

In the period after 1980, the authority for planning urban transformation implementations was transferred to local governments and capitals have been urbanized in parallel to local identity’s gaining importance worldwide as a result of globalization (Polat and Dostoğlu, 2007). Therefore, it is possible to claim that urban transformation implementations after 1980 have been shaped by political decisions and economic concerns. In 1992, Shoe-Kebab Shops Arasta, on the west side of Firdevs Bey Bedesten, was pulled down and its area was arranged as a square involving historical Dalboyunoğlu Bath and a few remained stores. The Ranging Stores in the Northwest of Bedesten were replaced by a multi-storey Municipal Office Block (see Figures 16-17-18). Today, only the Ranging Stores in the north of Firdevs Bey Bedesten named as Old Grape Bazaar still exist.

Figure 16. Examples of Shoe-Kebab Shops Arasta before destruction in 1990 (Source: Website of Haber 32, 2014).
Morphological Analysis: With the demolition of Ranging Stores and Shoe-Kebab Shops Arasta, all the urban blocks and street patterns that were shaped organically in time were damaged. The oriel-shaped upper floors of these adjacent structures, called as Ranging Stores, cover pedestrian way in column order and extend to the road, and this has brought a different understanding of urban place to the identification of street and square. However, small parcels have been replaced by an undefined square and a multi-storey office block after the demolition of Ranging Stores. Thus, the compactness-space ratio in the centrum has got unbalanced. With the pulling down of Arasta, the urban circulation between Shoe-Kebab Shops Arasta and Ranging Stores was broken off and this affected the use of Firdevs Bey Bedesten negatively. With the disappearance of Arasta-street fabric facing entrance and exit gates of Bedesten, the spatial order to attract humans has gone and the structure’s relationship with the surroundings has weakened. Today, Bedesten is only used as a corridor to pass through (see Figure 19).
**Visual Analysis:** Building a multi-storey Office block instead of two or three-storey Ranging Stores has influenced urban silhouette and damaged urban identity (see Figure 20-21). In addition, the ratio and scale unity among the structures has been lost. The front of Firdevs Bey Bedesten has been reshaped by local governments without considering its architectural identity. The chart of stores in Old Grape Bazaar also makes it difficult to read their architectural values and harms urban identity.
**Functional Analysis:** The zoning formed in time due to pedestrian walk in the land of Ranging Stores, Shoe-Kebab Shops Arasta disappeared, and urban area’s functionality reduced. After these Ranging Stores pulled down, traditional way of shopping has changed. The relevant streets and avenues have also been affected by that. Arasta’s pulling down has both decreased functionality of Bedesten and weakened branches of work in the street pattern. After 1980, Municipal Park, one of the significant images of urban identity, was re-functioned and renamed as Atatürk Park. Although this implementation can be regarded positively in rearranging the park as a place for urban gathering, the fact that it is closed during winter months decreases its rate of use.

**Spatial Analysis:** In contrast to easily accessible Ranging Stores from road elevation, Municipal Office Block has been broken off the ground by steps. Therefore, it cannot join urban circulation. The urban space resulting from demolishment of Shoe-Kebab Shops Arasta has been also arranged as a square for many times. Using such images in the square as clock tower, column order, which are not peculiar to urban identity, led to identity confusion. Breaking urban circulation axis with Ranging Stores prevented efficient use of square. However none of the arrangements of the square could ever reflect its old arrangement quality and level made up of organic streets and small squares in between. After 1980, area arrangement of Governor’s Building and Atatürk Monument at the square in front of it was changed; landscape arrangements at the square were removed; and these were used in the vacant area appeared after demolishment of Municipality and Prison Buildings.

**Contextual Analysis:** Local styles and urban character in the site were damaged with pulling down of Ranging Stores and Shoe-Kebab Shops Arasta. The relationship between the Ranging Stores and Old Grape Bazaar broke off. Thus, Old Grape Bazaar and Bedesten lost their meaning. The shopping environment including Bedesten was demolished after Shoe-Kebab Shops Arasta was pulled down.

**EVALUATION**

In the study, a historic area in Isparta city which had undergone a significant urban transformation was examined through different periods. These periods are: before 1960, between 1960-1980 and after 1980, all of which are of great importance to the city and the area, and a kind of breaking points architecturally, socially and economically. In the field study, the obtained results were revealed with the help of tables by stating and comparing changes and transformations between the periods. In this manner, the results were stated in a particular analytical system. The tables include the whole results arising from the field study, discussions on maps, archive research and comments on the present photos of those places. (see Tables 1, 2 and 3).
### Table 1. Results of the Morphological Analysis of the Site (Source: Authors).

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<td><strong>Morphological</strong></td>
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<td></td>
<td>The organic fabric and street pattern in Shoe-Kebab Shops Arasta and the Ranging Stores was observed.</td>
<td>The organic fabric and street pattern in Shoe-Kebab Shops Arasta and the Ranging Stores were still observed.</td>
<td>After the demolishment of the Ranging Stores and shoe-kebab shops Arasta, organic structure block and street patterns got spoiled.</td>
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<td></td>
<td>The landscape and firm ground of the square in front of the Governor’s Building changed.</td>
<td>The streets’ axis was towards the Grand Mosque, Governor’s Building, and all arranged to meet at the square.</td>
<td>The axis and ways heading towards the square got disappeared and misidentified.</td>
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<td></td>
<td>The ways to the Square form a completing axis</td>
<td>The streets’ axis was towards the Grand Mosque, Governor’s Building, and they all arranged to meet at the square.</td>
<td>The axis and ways heading towards the square got disappeared and misidentified.</td>
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<td>Despite dense structuring, no urban density is experienced because of small scale.</td>
<td>The structural density diminished after the demolishment of the Municipality Building and the Prison.</td>
<td>The place of the demolished structures was preserved as a green area, so the proportion of built environment-green area changed.</td>
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<td>The array of structures is single or two-storey, semi-detached and detached, and they have small-scale and organic pattern.</td>
<td>A new structural arrangement behind the Ranging Stores emerged; other arrays were in traditional pattern.</td>
<td>With the destruction of Arasta-street fabric, the spatial array that attracts people’s attention got lost and spatial use got less.</td>
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Table 2. Results of the Visual analysis of the Site (Source: Authors).

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<td>Visual</td>
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<td>The buildings have Early Republican Period characteristics.</td>
<td>Along with the demolition of Municipality Building the architectural features of the early Republican Period have weakened in terms of representation.</td>
<td>After the Ranging Stores and Shoe-Kebab Shops Arasta had been demolished, the examples of Early Republican Period became even less in number.</td>
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<td></td>
<td>Buildings constitute of common architectural identity with material, scale and facade, etc</td>
<td>Local identity components weakened.</td>
<td>Local identity got harmed, the urban silhouette was influenced.</td>
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<td>Commercial buildings are small-scale, harmonious, rhythmic and effective in street and urban silhouette.</td>
<td>The same architectural pattern in small-scale structures located in the area was still sustained.</td>
<td>The proportion, scale, rhythm and harmony among the structures spoiled.</td>
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<td>Ranging Stores and Shoe-Kebab Shops Arasta’s identity and the square involving public buildings are different from each other in terms of visual perception.</td>
<td>The Ranging Stores and Shoe-Kebab Shops Arasta preserved sustainability in visual perception, but square perception became different since the area had changed.</td>
<td>Only the Governor’s Building formed visual perception as the focus in one-structure scale.</td>
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<td>Analysis</td>
<td>PERIODS</td>
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<td><strong>Functional</strong></td>
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<td><strong>Before 1960s</strong></td>
<td><strong>Between 1960-1980</strong></td>
<td><strong>After 1980</strong></td>
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<td>Functional zoning caused by pedestrian walk</td>
<td>Pedestrian axis flowing from Shoe-Kebab Shops Arasta to Municipality Building reduced.</td>
<td>Functional zoning caused by pedestrian walk disappeared.</td>
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<td>The buildings for commercial, administrative, social, religious and cultural purposes in the city center created public focus.</td>
<td>After the demolishment of Municipality Building public use reduced.</td>
<td>After the demolishment of the Ranging Stores and Shoe-Kebab Shops Arasta, the commercial function disappeared.</td>
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<td>The relationship between Public Square and Arasta and Ranging Stores is strong</td>
<td>The circulation towards the square functionally diminished.</td>
<td>The park near the square, as an urban meeting place is used less now.</td>
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<td>Structural arrangements, street patterns were formed according to array of functions and the relationship of buildings with each other.</td>
<td>The functions and usage frequency of the other structures relevant to the demolished ones in the square were also influenced.</td>
<td>The demolition of the Ranging Stores and Arasta removed street pattern and structural arrangement completely.</td>
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<td>The square identified by Governor’s Building and Municipality Building</td>
<td>The principle of surrounding the square was destroyed along with the demolishment of the Municipality Building.</td>
<td>The landscape arrangements in the square, in front of the Governor’s Building were removed and the landscape elements were used in the space of the demolished Municipality and Prison Buildings.</td>
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<td>Built environment-open area relationship was balanced</td>
<td>With the demolition of the Municipality Building, the open area system changed.</td>
<td>Broke off the urban circulation.</td>
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<td>Publicity and socialization were emphasized in Squares and Marketplaces.</td>
<td>There was a sense of square relevant to the front side of the Governor’s Building.</td>
<td>The demolition of the Ranging Stores broke the relationship between the area &amp; Old Grape Bazaar/Bedesten.</td>
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<td>The mixed settlement pattern composed of streets and square was legible.</td>
<td>The axis flowing through the square weakened with the demolishment of the Municipality Building and so legibility of the settlement pattern diminished.</td>
<td>The square formed after the demolishment of the Arasta cannot be used efficiently.</td>
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<td>There was a fluent and continuous horizontal circulation net between walking trails and meeting areas.</td>
<td>The horizontal circulation net heading towards the square became inefficient.</td>
<td>Because the Municipal Office block was built much above the ground level, urban circulation to the building also broke off.</td>
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<td><strong>Spatial</strong></td>
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<td>The architectural context which showed the features of the first National Architectural movement</td>
<td>The spatial, structural and local harmony disappeared</td>
<td>Local styles and urban identity were harmed.</td>
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<td>Square and landscape arrangements had monumental features.</td>
<td>There were differences in public sphere formation and monumental representation.</td>
<td>The expressive meaning of the Old Grape Bazaar and Bedesten diminished.</td>
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<td>Urban places became an urban image</td>
<td>Periodical architectural power of expression weakened</td>
<td>The contextuality between buildings and open area broke.</td>
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<td>Local construction material and local character ‘Kövke’ stone</td>
<td>The buildings with local styles reduced in number.</td>
<td>The facilities/structures in the new square are deceptive in terms of periodical characteristics.</td>
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<td>Local styles and urban identity have been in the forefront</td>
<td>Along with the demolishment of the buildings, open area use, square arrangement and urban facility identity changed.</td>
<td>The image, meaning and identity of historical center and its locality were weakened.</td>
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Table 3. Results of the Functional, Spatial and Contextual analyses of the Site (Source: Authors).
All the results coming from morphological, visual, functional, spatial and contextual analyses were restated in the tables. After all those periods had been investigated in five parameters, the general results concerning these periods were listed. With regard to the periods mentioned above, these results can reveal the effects of changes on the whole city in terms of architectural identity, urban dynamics, urban identity, urban change, urban transformation, space use etc.:

The period of before 1960s
- Until 1960s, the components of urban identity are defined and strong.
- Urban places correspond to social, socio-economic and cultural structure.
- The buildings show the architectural characteristics of Early Republican Period a general architectural tendency peculiar to that period.
- In terms of urban and architectural scale, identity defining components are in good harmony.
- Urban axis, organic street patterns have distinctive characteristics in terms of street-square unity.

The period of between 1960–1980
- The significant buildings of the relevant period, which have shaped physical structure of city center, still exist.
- In line with the urbanization process in 1970s, some of the structures of that period began to pull down and there occurred some damages on the architectural pieces.
- The square identifying the environment is the one that experienced loss of identity in settlement fabric first.
- The efforts for avoiding locality and approaches for taking rapid steps on modernism caused deep damages in urban identity.

The period of after 1980
- In terms of urban identity, quality was overwhelmed by quantity and this was reflected in architectural identity.
- Buildings, roads, squares, settlement patterns, landmark, monuments and symbols have all disturbed and disappeared.
- The mentioned touched/harmed areas also caused social structure to change negatively.
- It was detected, in the process of transformation that nobody had concerned about which, how much and how urban identity would be preserved and which, how much and how environmental component would be changed.
- At that period, while local values were gaining importance against globalization, this was not observed in Isparta. In contrast, local values consisting urban identity were destroyed rapidly.

CONCLUSION
While the concept of urban transformation that became popular in our country in 1980s was previously considered something about transformation of physical environment, its natural, artificial, social and socio-cultural components are revealed today. At that point, the relationship between urban transformations and urban identity is a hot issue that needs to be discussed.

Isparta is a typical Anatolian city which has developed rapidly after proclamation of the Republic. The results of the study have acknowledged that Isparta had experienced similar transformations to other Anatolian cities. Until 1960s, the city centre had developed in a planned way and this gave the city its new identity. Between the years of 1960-1980 and after 1980, urban
development sustainability could not be achieved in development activities, and that led to damages to places consisting urban identity due to wrong implementations, decrease in their value of use, and to demolishment of most of these places.

While Isparta was a city with an identity before, it is now losing its authentic identity, especially the city centre. In conclusion, it is possible to claim that the city center has become globalized without any identity in terms of urban transformation implementations. Nevertheless, urban identity of today’s Isparta is made up of urban memory.

In the study, it has been drawn attention to the fact that urban transformation implementations in the city centre are not only away from urbanization methods, architectural principles and urban identity concept but also not able to meet requirements of urban people. As it could be seen from the study on Isparta, the decisions made for transforming urban areas could destroy a city’s social, economic, cultural and architectural values. The urban transformation did in Isparta in these three significant areas have greatly harmed urban identity. In Isparta, it is really difficult to gain identity again for a place that was touched and lost its identity thirty years ago.

Today, it is also detected that loss of identity still continues. Urban places without any local features are tried to be built. So, loss of urban identity also bring along monotony and sameness. The distinctive features peculiar to the city have disappeared and the same architectural understanding has started to become dominant all around the city. To sustain urban identity, characteristics of the city should be preserved and continued. In this context, present and past identical features of a city should be questioned and its past, current and future identity should be preserved and maintained.

For Isparta, it is required to develop urban transformation strategies which are in line with keeping/protecting Ottoman and Republican periods and also with modern architectural heritage. In this regard, structures, urban aisles, organic/authentic street fabrics/patterns and street-square setup, which can be qualified as architectural heritage, should be kept, and a type of structuring compatible with the city’s historic identity should be adopted for the new housing around the centrum. On the other hand, in preparing an urban transformation project to keep and develop the city center, while taking decisions, the people of Isparta should be involved and asked for their opinions. The decisions that will be taken in accordance with these strategies will shed light on new projects to be prepared for other Anatolian cities, which had similar urban transformations.

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Abstract

Industrial revolution in the late nineteenth century in Western societies was a new emerging phenomenon promising a better life for the future of humanity. However, its development and growth exposed human values to fundamental changes. The challenge shaped between the development and growth of the industry and human values spread quickly to other sections. Artificial environment were one of these sections. Before the emergence of the industrial revolution the development and growth of cities were through a ritual process and there wasn’t any challenge between the development process and values. Urban values can be categorized on three parts issues of cultural-historical values, issues of skeletal-physical values, issues of environmental perceptions values. The aim of this research is to study the challenges between the development and conservation of the urban values, raising the question that ‘what has been the position of urban values in the development of the cities of Iran?’ In spite of the fact that the historical cores of the cities are valuable, there has been no attention to the present values in the process of the urban contemporary development. The present research is of the fundamental-development research type using the interpretive-historical method by data-gathering and qualitative analyses. The research revealed that the development process was based on the identity and cultural values in the cities of Iran before the advent of modernity and since the city met the existing needs, a desired coordination was shaped between urban values and development; however, the arrival of new urban elements supported legally by the government led to ignorance of many urban values in the contemporary development.

Keywords: Urban value; urban conservation; historical context; Isfahan.

INTRODUCTION

The formation of conservation was associated with the fundamental and basic changes in the world. Tendency toward industrialisation caused parts of the human and cultural values to be exposed of destruction and it is considered to be an inappropriate trend for the culture of the societies. Human values are the product of behavioural and social actions originating from the culture; meanwhile, the danger of their extinction makes conservation necessary. City and the architectural elements are the obvious cultural signs of the societies; therefore, they cannot be considered just formal and superficial elements. Conservation was defined in preserving and maintaining the frame and concrete architectural structure; however, growth of awareness alongside attention to other aspects caused different aspects to be effective in recognizing and evaluating the values.

Research methods

The question raised in this research is that what relationship has been between the architectural values and urban development and their conservation in Iranian historical cities? Hypothetically, it seems that in spite of the fundamental and direct connection between the value and conservation in the historical cities, the performed conservation has been without considering the values in many cases. This article aims to find the approaches and methods of conservation in the historical cities from the perspective of attention or lack of attention to the recognition and evaluation. The previous researches show that the approach of the ones who intervene is mainly based on the recognition and conservation of the frame as the only value of the architecture and
urban development. In addition, in the urban interventions the aim has been to equip new facilities inside the old structure of cities and little attention was paid to the existing intangible values in the cities. However, the present research tries to evaluate the present supra-material values in the cities of Iran and as case study deals with Isfahan so that through this case study an appropriate approach of conservation could be selected. The methodology applied in this research is fundamental-theoretical type of researches which uses historical-interpretive method and the required information and facts for the research have been gained through gathering the field data and library studies. In the end the conclusion comes on the basis of the qualitative analysis.

**Literature review**

Nowadays, in urban conservation, existence or non-existence of value is not an issue. Since almost everybody has accepted historical works have value, “the necessity of studying of heritage and cultural value does not need to be proved, almost every book related to this field with similar sentences has given the cultural heritage values” (Hojjat, 2001: 94); hence topic of value in historical relic is the quality of value assessment. In this context, the final goal, is to understand the point that what factors are effective in the value evaluation in historical monuments, in this field, Alois Riegl was the first person who provided a system for more valuable monuments. Alois Riegl author and the first methodical analysis of heritage values, in fact, was a founder of the restoration theory (Jokilehto, 2002: 237); he presented category of values in his paper titled ‘The modern cult of monument: its essence and its development’, he divided values into two categories named memorial and modernisms; the necessity of studying values in historical relics indicate that not only historical and old values are important in conservation but also other values could be important beside these values. However, researches of Getty Institute in USA and people such as Jukka Jokilehto, Bernard Fielden could present the process in the field of identification, assessment and recognition of the value in the field of historical and cultural monuments.

**VALUE AND ITS EVALUATION**

Value is norms of every society. In Oxford Dictionary value is defined as, principles or standards of behavior; one’s judgment of what is important in life: they internalize their parents’ rules and values; the price of everything is the first impression that is achievable form the word of value and use that for assesment cost of every architecture in economic view, value is the quality of a thing that makes it useful or desirable (Zancheti, 1997: 40).

The meaning of values in the society is accepting publics’ musts and others, in addition, “values are entities derived from the context which is called morality that humans accept via consensus, values can be updated through traditions and religions, mythus, aarchetypes” (Falamaki, 1999: 345). It is clear that value in society is equivalent to community’s norms that can arise via traditions and customs; Shiekh Mohammad-Taqi Ja’afari says “value consists of utilitarian derived from abstract facts, despite its value perse, it is not in itself an objective truth, the theory of the origin of abstraction that is helpful in general, deemed to be a reality” (Ja’afari, 2006: 197). According to the above definitions value has true essence and could be relevant in two context of ‘Intrinsic value’ and ‘Instrumental value.’ ‘Intrinsic value’ is that when something is intrinsic placed against something with object value depending on the objective or other things value. Meanwhile, the ‘instrument value’ is unlike intrinsic value, mainly is when a value and its cost can be attributed to the goal or other” (Fahimi & Mashhadi, 2009: 197). Generally, it can be said that there is a direct relationship between value and value understanding in the community with actions, behaviors, cultural and social beliefs.

But the position of this word in different sociopolitical and cultural areas shows that the value has a concept beyond its lexical meaning and it has a close and defined relationship with the cultural structure and framework. “The value or the belief having validity and has turned into a desired general norm, however, when it takes a visual and tangible aspect to itself, it changes
into the identity and becomes the origin of distinction, prominence and a source for distinguishing different phenomena such as countries, nations, and especially the cities" (Rahnama, 2009: 9). In addition, value is a criterion for judging behavioral actions between the individual and the others. In fact, values determine what the people of each society should search or believe.

Different factors affect acquiring value in a phenomenon. In this regard, the reference can be made to the biological, psychological, social and environmental factors which could be relevant to the individual, group or society. When evaluating a value, it should be noted that the value has a qualitative nature and in order to evaluate it qualitatively it is necessary to know the affecting qualitative components. “The values are measured by different methods; the most significant ones are: 1) Regular observation, 2) Personal Interview, 3) Content Analysis, and 4) Questionnaire” (Rahnama, 2009: 25). In order to understand the urban values in Iran, the nature of this study relies on the content analysis method in a way that the existing values in them could be identified and analysed qualitatively.

![Figure 1. Affecting factors to assessment of values (Source: Author).](image1)

![Figure 2. Urban values categorized and studied on three parts (Source: Author).](image2)
Evaluating urban values

Although value has conceptual and theoretical dimension, it can also manifest itself in the tangible and physical areas and this is a phenomenon which is not formed abruptly but based on the cultural context of each community it emerges. For example, it is possible that the beliefs together with the culture and tradition of each community create infrastructure for shaping the form and especial shape of the architecture and urban development such that its existence in the architectural elements and community urbanism to be considered a value.

The studies in the field of affecting factors in urban value show these values can be categorized and studied on three parts “issues of cultural-historical values, issues of skeletal-physical values, issues of environmental perceptions values” (Nejad Ebrahimi, 2014: 86). In order to identify values in historical centers three components should be studied; first component is skeleton that show form, shape, geometry and proportions, materials and decorations; in the second step in assessment of urban values beside the issues of skeletal-physical values some values such as old, cultural landscape, vernacular management manners, social relations, religious interaction and etc. can affect the assessment of existence of urban values, “the visual confirmation of the past provides a fixed reference point of inestimable value” (Larkham, 1996: 5). Finally, environmental perceptions that mean human presence in historical environment area is a decisive factor for value assessing which has direct relation with individual and historical environment and related to every person is possible change of value of the historic center; with understanding of this section deeper study for identification of historical environment must be done.

Value and urban conservation

Urban conservation involves two important parts: one part includes physical structure and knowledge with the emphasis on conserving the frame and involves structural and material values such as passages, neighborhood centers, squares, gates and other architectural elements. The other part includes urban intangible values meaning that the urban conservation is not defined only in the material structure but immaterial aspects should also be considered.

For preservation of historical cities, some researchers find identification of values for conservation unnecessary and believe urban conservation should be viewed in science discussion but understanding this point is necessary that it seems impossible to reach the urban conservation without understanding and identifying of values; “even though, perhaps somewhat polemically, planners have stated that value judgments did not influence their work, the methodology is, and needs to be, referred to value judgments” (Zancheti, 1997: 38). Articles 65 and 66 of the Athens Charter ratified by International Congresses of Modern Architecture (CIAM) in 1931 emphasizes on conserving the values. Article 65: states, “Fine architecture, whether

**Figure 3. Recoverable urban value and impact in cities (Source: Author).**
individual buildings or groups of buildings, should be protected from demolition,” and article 66 states that, “the grounds for the preservation of buildings should be that they express an earlier culture and that their retention is in the public interest” (Athens Charter, 2013). It is clear that the value is directly related to the culture “studies on the concept of value cannot be separated from culture every society has its own distinct culture and concept of value shared by its people” (Guiren, 2006: 237). As a result their preserving alongside representing the values would also help creating the values and from other side understanding the values would help deciding on setting goals for conservation. “Selecting special goals, how to face and the level of intervention in properties whether movable or immovable properties are directly related to the values which have been approved by the society for different cultural properties” (Hodjat, 2001: 95). Therefore, in order to conserve the historical cities it is necessary that the historical works to be identified and evaluated thoroughly so that according to the achieved values to act for their conservation.

![Image](figure4.png)

Figure 4. Government buildings and king’s square in Daralshinh map (Source: Shirazi, 1995).

![Image](figure5.png)

Figure 5. Isfahan’s historical context and contemporary streets (Source: Karimi, 2009).
CASE STUDY: ISFAHAN

Isfahan is one of the valuable cities of Iran with transnational identity and has come into the consideration of the researchers in the researches of the history of the architecture and urban development of Iran. It is due the fact that Isfahan has preserved the historical and urban values during the 15 centuries of formation and this city enjoys a vivid history with Islamic identity. If we regard the definition of the city as the one containing a Congragational Mosque in the earlier centuries, Isfahan is the city which had already been formed with two settlements of ‘Judea’ and ‘Jay’ before having ‘Jameh’ Congragational Mosque. After the conquest of the village of ‘Jay’ by Muslims, a mosque was built there and Isfahan began to develop. Then and following the decline in the defensive importance of ‘Jay’ due to the political stability, the governing center is transferred from ‘Jay’ to ‘Khuzinap’ (a village between Jay and Judea) and a palace and the Mosque are built beside Farsan shore” (Ministry of Housing and Urban Development, 2009: 93). At this stage, the development of Isfahan centered on the congregational Mosque and its adjacent market. The situation continued until the time of Seljuq dynasty when Isfahan was chosen as the capital of Seljuq Empire and this led to much development in this city. Isfahan witnessed its development once again at the time when Safavids moved their capital from Qazvin to Isfahan and it got much more value when Naqsh-e Jahan Square and Chahar Bagh street were constructed in it.

The present values in the cultural historical context of Isfahan

Iranian cities are prone of having earthquake which cause to destroy historical buildings, yet, lack of earthquake occurrence in Isfahan has protected its urban values from destruction; therefore, their studies can reveal the values existed in each political period “cultural heritage undoubtedly has communal value and links between cultural objects and national identity have long been understood” (Orbasli, 2001: 13); studying the present values in the urban context is coming in the following.

Religious and political values: Isfahan was chosen, as the capital of the two most powerful empires of the Muslim world; the empires each of which had their own religious believes different from the other. The differences caused special events to happen in each of the periods, which had a direct impact on the shape of the city. One of them was once the city was chosen as the capital of the Sunni Seljuq Empire. “Malik-Shah was one of the greatest kings of Seljuq Empire, who reigned from 1072 until 1092 A.D. The governing center of the expand territory was the historical city of Isfahan” (Shafaghi, 2007: 273). The other one was once when it was chosen as the capital of Shi te Safavid ruling. “Relying on Shi te Islam, the ruling of Safavid dynasty was known as the most central ruling of Iran after the advent of Islam. Feudal system changed into a very powerful central ruling; the meetings and visits were made in Isfahan in this period”. The existence of mosques and great tombs such as ‘Takht-e-foulad’ show its importance and value.

Architectural Value: Isfahan contains different kinds of architectural species, incuding significant mosques such as Mosque of Isfahān, Mosque of Abbasi, Hakim Mosque, Sartoughi Mosque, and Seyed Mosque. In addition, to other historical markets, Qaysariyyeh ,palaces of from the Safavid period, great schools of Islamic sciences, hostels, caravansaries and many more, all have placed the city among the cities with the significant architectural value.

Figure 6. Naqsh-e Jahan Square in Isfahan belonging to the Safavid dynasty (Source: Author)
Alongside the fact that Isfahan is a city which has accepted in it two different concept of the religious architecture such that Sunni and Shiite architectural elements (whether the shape or form or inscriptions) can be noticed in it, it has another feature and that is shaping the element of dome at the architecture of the mosques. “In the recent era, some changes were made at the building of the mosques and different constructional and ornamental works were made. The major changes were at the plan of the mosques and a four-porch mosque was added to it during the 6th century Hijri” (Pirnia, 2007: 181). Although at the time of the formation of the dome, it didn’t have any relation with semiology; however, it turned into a sign.

Environmental values: Attention to the nature has ever been considered in human artifacts and human beings have ever equated their life and survival with the life and survival of the surrounding environment; however, emergence of the new phenomena of the life and the need for more construction caused more sensitivity in this case. Regarding paying attention to the environmental issues, Iranians have ever paid attention to the environment both from semiology aspect and material aspect and Isfahan is one of these valuable examples. “Thus, constructing the gardens has ever been the focus of attention in Iran and the oldest record in this regard is Pasargad garden. Iranian garden construction grows in different periods and it reaches a peak in Isfahan city at the time of Savafid with the emergence of the garden city idea.” (Haghighatbin, 2009: 20). Paying attention to environmental issues in Isfahan had made it valuable. It means that a model of urban development can be extracted that the environmental issues had been considered in it at the time of construction.
Economic values: Isfahan historical context enjoys economic value from two perspectives. One is from the perspective of construction, re-production and lack of adding environmental pollutants in the frame of constructional discarded objects and the other is from perspective of having high capacities for investment with capabilities for attracting truism and presence of local and foreign tourists.

![Image of Hakim mosque of Isfahan- Safavid dynasty](Source: Author)

Intervention in the cultural historical context of Isfahan: Isfahan had its natural development and growth until 1921, however, at the beginning of the current century it subjected to many fluctuations like other cities of Iran. This posed the distortion of its values. “Naqsh-e Jahan Square was at the ending part of the bazaar component and was considered its final point. However, in the new era, with the traffic of the cars in the city, it turned into the entrance area of the bazaars and gradually has found the role of station for the cars. The middle area of the square has been allocated to the public garden and the surrounding streets, being floored and asphalted, is ready for operation and this is whilst that nobody is aware about the dangers threatening the square” (Jabal Amoli, 2008: 330).

Severe interventions were made to change the appearance of the cities in all around Iran. The interventions caused disruption of the communication relations and city structure in Isfahan. Then by starting widespread street construction around the Naqsh-e Jahan Square and the Jameh mosque we can observe that many of the values lose gradually their nature such that they turn into anti-value after a while.

“Street is offered as a band and direct space for demonstrating new trappings and maneuvering vehicles among the proposed solutions and regarding that in Isfahan what place is more suitable and more appropriate than Chahar-Bagh Street which continues form Darvazeh-Dowlat until the northeast part of the city with gardens and open spaces surrendered it. Therefore, considering its geographical situation with regard to the cultural-economic center of the city (i.e. bazaar) it was connected from Darvazeh Dowlat to Portico of Qaysariyyeh by the simplest link. With this in mind, Sepah Street was constructed after 1921. In addition to giving a very different concept to Chahar Bagh with regard to the past, this connection had a definite double negative effect on Naqsh-e Jahan Square and its surrounding bazaars, which were the continuation of the traditional main and old axis of the city towards Khaju Bridge. This meant that the urban-trade activities were changed and diverted from traditional axis into the new axis of Chahar Bagh (its new concept) and let to the dissociation of old axis. Following to this situation, Sūr-e-Ésrafil street (the present name is Ostandari) branched from Sepah Street was constructed during 1936-1941 by passing through the neighborhood of Safavid Royal Citadel and so divided the district in two sections. At this time, most governmental offices centralized at the sides of Ostandari
Street in the governmental neighborhood and the west bazaar of Naqsh-e Jahan Square was destroyed and divided between them and the square space changed into a city park” (Shirazi, 1995: 13).

According to the remained maps from Isfahan before the Pahlavi dynasty period, the urban context of Safavid period until the end of Qajar period had remained almost safe with the present values in it including the palaces, gardens and access arteries within the city and so on. The oldest of these maps was the map prepared by Capitan Perskoriakov in 1831. What has been shown from Isfahan on this map is almost the same Isfahan described by explorers. The same description is noticed on the map prepared by Soltan Seyed Reza khan, the administration officer of the great office in 1923, expressing that Isfahan had kept its urban values of Safavbid period. It is after the date that Isfahan subjected to street constructions the same as other cities of Iran according to the ratified laws, which affects many of the urban values.

“More serious actions for absorbing the old context on the way of the new system started since 1930 onwards. until this time the organic and old context of the city had almost remained safe from street construction; however, after this date we witness the construction of the streets of Hafiz (1931-1932) alongside Sepah street (1932), Neshat (1935) alongside Chahar Bagh Sadr, Nazar (1939) and stretching Chahar Bagh from north along Chahar Bagh Abbasi street and Kamarbandi street, each of which affect the organs of the old city and impose new system on it. Street construction in Isfahan focused on widening the present passages or ranging present paths of the streets and passages before the World War II.” (Shirazi, 1995: 18).

After this, we witness implementing plans in the frame of master plan and urban development which didn’t have any relation with the cultural historical contexts of Iran. In general some of the activities of Isfahan in the contemporary period are as follow:

**Kuks Plan**

The first development plan of Isfahan was prepared by the technical office of the interior ministry and via a German consultant named Kuks in 1958. The plan is famous for Kuks plan.

First detailed plan: the third development plan of Isfahan is the detailed plan of the city which is based on the organic master plan and was prepared and ratified in 1973. The mentioned detailed plan was also prepared by the organic consultant. This plan is the first formal detailed plan of Isfahan.

Second master plan: the fourth urban development plan of Isfahan is the plan to revise the master plan of the city which is considered as the second master plan of the city and was prepared by the general department of housing and urban development of Isfahan Province of that time and was ratified by the high council of urban development and architecture of Iran.

The second detailed plan: the fifth urban development plan of Isfahan is the urban detailed plan which was prepared on the basis of the revised plan in the master plan (master plan ratified in 1988) prepared by Pars Naqsh-e-Jahan Consultant and was ratified by the Article-5 Commission of the law of establishing high council of urban development and agriculture of Iran between 1992-1996.

The revising plan of the detailed plan: the six urban development plan of Isfahan is the revising plan of the detailed plan of the city which was prepared by Isfahan Municipality based on the agreement made between Ministry of Housing and Urban Development and municipality of Isfahan and city council of Isfahan in fifth of December of 1996. This plan was considered as the third detailed plan of Isfahan, which was prepared by the municipality for the first time.

**Kuks Plan and urban values**

Based on the researchers, Kuks the master plan has had the most damages and destruction with regard to dealing with the historical context of Isfahan.

“Regarding the presented plan by kuks consultant engineering for the city center of Isfahan in terms of master plan of 1961, this plan has been prepared without
paying any attention to the cultural historical values and urban development principles at the old contexts and pure special qualities of historical center of Isfahan. It would be enough just to pay attention to some following gross mistakes: crossing east-west artery of the city from bazaar area and from south of Hakim Mosque; crossing the east-west artery of the city from Hasht Behesht (Eight Paradises) garden and the context of the back of Imam Mosque; the whole destruction of East-West spaces around Naqsh-e Jahan square including market of coppersmiths and an area from bazaar in order to replace it with the new commercial office spaces and heterogeneous with the city context; the anomalous traffic node of Darvazeh Dowlat; fragmenting Chahar Bagh axis and in general the cultural historical space of the historical center of Isfahan and negating the fundamental values” (Shirazi, 1995: 21).

In conclusion, what is left from Isfahan today in comparison with the values which we could imagine them in the past the result is is different. “The new modern network of the city has become as the surface structure of the city and all new streets are basically more coherent than the rest of the network. The old and Safavid structure of the city has been amazingly destroyed. The old and new squares and their city coherence have lost their concept and their main streets are not distinguishable on the map anymore. Chahar Bagh Street is the only street from the past which has kept its old shape. Expansion of the street towards north and south has added to the evolution rate of the streets. Safavid period Construction in in the north of the old city has become the very important part of the city. It seems that the evolution core of the city has moved from the old center to the Chahar Bagh and it’s around.” (Karimi, 2009: 16). These happenings occurred for improving and smoothing urban environment regardless of the present urban values in Isfahan which was once considered as the capital of Shia world and had been built on the basis of Shia Islamic thinking and this is whilst that the plans were entrusted to the consultants who measure everything according to the their new thoughts which have learnt.

![Figure 11. Comparative study that show new street on historical context of Isfahan (Source: Author).](image-url)
Figure 12. Revised Isfahan’s Development Plan
(Source: Department of Isfahan Housing and Urban Development).

Figure 13. Plan for the context of the Naghsh-e Jahan Square by Kuks Consulting Engineers
(Source: Shirazi).
Figure 14. The historic center Isfahan which was produced in 1932 by the French engineer Bvdvyn (Source: Shirazi, 1995).

Figure 15. Design of the Safavid state quarters have been prepared by consulting engineers specifically Abarkuh (Source: Shirazi, 1995).

Figure 16. Position of destroyed bath Khosro Agha in Ostandary Street (Source: Shirazi, 1995).
Contemporary Interventions

Although Isfahan was seriously damaged due to the interventions of the early decades of the present century and lost many of its cultural values because of executing unconscious plans of the city officials - some typical and clear examples are destruction of Khosro Agha bath and construction of Jahan Nama Tower and crossing of subway under the Chahar Bagh street etc. However, in the past two decades the attempts have been made to represent some part of the city by relying on the present urban values and preparing plans based on representation of the values.

War affairs and the problems caused by the lack of proper management in the historical districts of the city and the changes in the main residents of the city led to the fact that the new residents not to have any special belonging to the old neighborhoods and finally the land would lose its economic value. Therefore, investment in these sections was reduced to its lowest part. Consequently, the activities related to the neighborhoods and the historical sections found a new life upon the establishment of Renovation and Restoration Organization of Isfahan. Salehi (2005: 33) added that:

“Studying the city comprehensively and regarding the detailed plan as a valid and well-founded plan Isfahan municipality identified eight historical-cultural axes simultaneously with the main cultural-historical axis of Isfahan starting from Tughchi Square and continuing up to the Hezar Jarib gardens with the aims such as making the tourists stay more at the city, creating jobs in the neighborhoods and promoting public culture in the context etc. After the introduction and making the early arrangements such as measuring the power, recognizing the historical elements, economic justification and performance anticipation, the places were introduced for revitalizing. The mentioned eight axes included Jolfa-Jouibareh-south of Naqshe-e-Jahan Square and back of Imam Mosque Bidabad-Dardasht-… and Imam Square - Takht Foulad. By starting the constructional activities and renovating the old context, the scope of the activity in the context was divided Renovation and Restoration Organization and housing and urban development organization.”

These plans were performed for rehabilitating the historical contexts through creating an atmosphere of social belonging and having a sense of security with economic capacities relying on the presence of the tourists.
<table>
<thead>
<tr>
<th>Rank</th>
<th>Dynasty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Early centuries of Islam</td>
<td>Construction of Bazaar and Jameh mosque called Khoozein (a village between Juy and Judea), construction of mosque and bazaar caused to Isfahan’s developing</td>
</tr>
<tr>
<td>2</td>
<td>Buyid dynasty</td>
<td>Barbican constructed around the city over 21 thousand steps(foot)- formation Tvqchy-Karan-Dardasht-Jiybar and Gulbahar districts. Isfahan—in this dynasty—had 5 gate and called New gate-Dardasht gate-Tvqchy gate-Jybarreh gate-Sead gate</td>
</tr>
<tr>
<td>3</td>
<td>Seljuk dynasty</td>
<td>Destruction Isfahan by Tugrul - Malakshah selected Isfahan to Seljuk capital — construction Isfahan’s old square in front of Jameh mosque — accession “Posht-baru” known to Bidabad to Isfahan areas. Formation the four-iwan format mosque in Islamic world-construction of brick minarets as exterior symbols of Islam- genesis of square in city center as government, religious and economic center</td>
</tr>
<tr>
<td>4</td>
<td>Ilkhani dynasty</td>
<td>Lake of development in city — abandoned and destroyed part of city - Annexation sanctuary and shabestan of Oljaitu to Jameh mosque of Isfahan</td>
</tr>
<tr>
<td>5</td>
<td>Timurid dynasty</td>
<td>Expanding of city Barbican to south-Isfahan neighborhoods is Kahrnan-Gulbahar-Koshk-Juybar-Juybarre-Myrhamadabad-Tvqchy. Bazaar had linear growth between urban gates and old square</td>
</tr>
<tr>
<td>6</td>
<td>Safavi dynasty</td>
<td>Transformation Iranian capital from Qazvin to Isfahan, the city began to growth and constructed famous building such as Naqsh-e Jahan square-Ali Qapu-Khajur Bridge-est. Construction of new neighborhoods and city centers such as Jolfa and Ghrabah caused to change of urban development to south of Zayandehroud River</td>
</tr>
<tr>
<td>7</td>
<td>Ghajar dynasty</td>
<td>According to Isfahan’s map from Ghajar dynasty, city have more gates than safavi’s dynasty. Isfahan in this time like safavi’s city, but some of the buildings have been destroyed</td>
</tr>
<tr>
<td>8</td>
<td>Pahlavi dynasty (1925-1941)</td>
<td>Construction of new street such as: Sepah (after 1921), Hafez (1921-1922), Hestaf (1922), Neshat (1925), Nazar (1926). Constructing these streets led to the changes in the old and traditional structure of the context and faced the existing communication system of the city with new challenges and, in addition, faced Naqsh-e Jahan Square placed at the end of the passage of the bazaar with new artery and took the motion from the axes</td>
</tr>
<tr>
<td>9</td>
<td>Pahlavi dynasty (1941-1879)</td>
<td>Preparation: first master plan known Kuks plan(1958), second master plan known organic master plan(1971), formal detailed plan(1973). Mentioned plans include the plans prepared without paying any attention to the historical and cultural values in which their fully implementation could lead to the destruction of many values at long last, though some of them were executed</td>
</tr>
<tr>
<td>10</td>
<td>Islamic republic of Iran</td>
<td>Isfahan’s master plan passed by urban and architectural supreme council in 1988, detailed plan prepared by Naghshe Jahan Pars consulting engineers between 1992-1996. Despite the destructive actions which Isfahan has witnessed at this period such as destruction of Agha Khosro bath and construction of Jahan-Nama Tower and so on, the municipality authorities of Isfahan defined historical and cultural axis for Isfahan at eight axes including the axes of Jolfa-Joultbareh- south of Naqsh-e Jahan square and back of Imam mosque-Bidabad-Dardasht-Jamaleh-Haroun-velayat-Nanjamol-Molk-Imam Square-Takht Foulad by comprehensive studying of the city.</td>
</tr>
</tbody>
</table>

Table 1. Formation urban and conservation intervention of Isfahan (Source: Author).
Table 2: Conservation Interventions in some part of Isfahan (Source: Author).

<table>
<thead>
<tr>
<th>Goals</th>
<th>strategies</th>
<th>Policies (guidelines)</th>
<th>proposed usage</th>
<th>Intervention methods</th>
<th>Executive agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jolla zone</td>
<td>• creating educational and cultural excellence</td>
<td>• identify valuable buildings and renovation their</td>
<td>• Educational and cultural accommodation zone</td>
<td>• rehabilitation • renovation</td>
<td>• Isfahan municipality • Renovation and restoration organization of Isfahan</td>
</tr>
<tr>
<td>• conservation of permanent values</td>
<td>• special attention to walking in the way</td>
<td>• Granting a new compatible usage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• tourism development</td>
<td>• Preparing environment for tourism</td>
<td>• Regeneration of neighborhood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• create of space unity</td>
<td>• accepting tourists</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• restoring of historic passage</td>
<td>• Facility of traffic</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>• Preparing environment for tourism</td>
<td>• increase residents’ sense of belonging</td>
<td></td>
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</tr>
</tbody>
</table>

Bid Abad zone

• creating roadway lanes along walkway
• creating cultural and tourism centers

• Restoration of historic elements and renovation their
• construction of new path
• Granting new usage to old space

Cultural and tourism
• rehabilitation
• renovation
• Rebuilding
• Isfahan municipality
• Renovation and restoration organization of Isfahan

Javaher zone

• creating of cultural and service centers
• Employment centers and Crafts Sale
• renovating valuable building
• Provide parking and green space

Cultural and tourism
• renovation
• Rebuilding

• Conservation of structure and morphology of complex
• Raising the economic level of the residents
• Facility of traffic
• Revival of ancient culture

Jamshidieh zone

• creating roadway lanes along walkway
• creating cultural and tourism centers

• Restoration of historic elements and renovation their
• construction of new path

Cultural and tourism
• rehabilitation
• renovation
• Rebuilding

• conservation of historical context’s identity
• revival of old tradition
• reborn of building
• Renovation and restoration organization of Isfahan
• ministry of housing and urban development

CONCLUSION

Urban conservation was a ritual matter before the industrial revolution; however, development of the industries within societies raised a challenge and necessity of conservation. When the new challenges of the cities began to emerge, conserving the urban values made sense only in the physical means of conservation. However, growing the awareness of the societies from the present supra-material values in the cities made conservation of the supra-material values necessary. Furthermore, getting to the sustainable conservation through recognizing effective elements on urban values came to the attention the people involved in conservation. This research tried to analyse previous procedures in Isfahan and achieve positive results by understanding the urban values and their relationship with conserving the historical districts. Some of these values can be summarised as follows:

1. Value is a mental and conceptual matter but once the concept appears in a tangible form it finds a direct connection with the identity and culture of the societies. Therefore, understanding the elements and affecting components in the urban values is necessary.
2. Components affecting the understanding and evaluating urban values can be referred to the environmental, economic, tourism, cultural, art, and historical values which understanding these components has a direct relation with the conservation process.

3. Conservation will not be a comprehensive and thorough without considering the present values in the body and content of the historical cities.

4. Basic attention to conservation in the cities of Iran was focused on the frame rehabilitation and strengthening with severe interventions in the historical cores. Supra-material values had no place in these interventions and posed some of the present values in the historical cities to be exposed to some serious dangers.

5. Intervention in the historical city of Isfahan was firstly made without understanding and evaluating the values and this matter led to the destruction of the many of the values of the city which had regional and international identity. Understanding the quality and the way of intervention in the historical cities and their pathology can help exact planning for the future conservation.

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PRIVACY AS A CULTURAL VALUE IN TRADITIONAL IRANIAN HOUSING; Lessons for Modern Iranian High Density Vertical Development (HDVD) Housing

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Abstract
The role of value of privacy in shaping Iranian culture is vital. In contrary to modern middle-class Iranian high density vertical development housing, this cultural principle plays a great role in shaping spatial organization of Iranian traditional housing. The aim of this study is to establish a framework to improve spatial organization of modern Iranian high density vertical development (HDVD) housing through lessons learnt from traditional Iranian housing. In this regard, to reach the aim through qualitative approach and case study strategy, this value of the Iranian traditional housing was investigated. The data collection methods to collect data from middle-class traditional and modern high-density vertical development (HDVD) housing, were multiple tactics as direct observation, open-ended expert interview, semi-structured and focus group interviewing, taking photo, and plan layout. As conclude, it was reached that privacy as a principle governing all aspects of life has had deep impacts on spatial organization of traditional Iranian housing. Thus through using the spatial concept of privacy learnt from traditional Iranian housing can formulate recommendations to betterment spatial organization of middle-class modern Iranian HDVD housing.

Keywords: Culture; privacy; Iranian traditional housing; high-rise housing; hierarchy

INTRODUCTION
One of the most important principles which are considerable in Iranian traditional architecture, especially after Islam, is the principle of privacy (Pirnia, 2005). This cultural value is much related and influenced by the physical environment where people live in (Rapoport, 1969). From this point of view, this study will highlight the important principles relating to cultural value of privacy found in traditional Iranian housing and establish a framework for designing better spatial organization for modern Iranian housing. This is because the Iranian traditional housing portrays excellent evidence of how housing spatial organization are shaped by the values of privacy (Ardalan & Bakhtiar, 2000). This paper is a position paper within a larger study attempting to determination of the better relationship between Iranian cultural values and spatial organization of Iranian middle-class high density vertical development (HDVD) housing. In this regard, two cases of study in terms of middle-class Iranian traditional and modern HDVD housing have been selected. To study middle-class traditional housing, the Taj house located in Kashan, Iran as the most common ordinary and excellent conserved original middle-class traditional housing was chosen. Additionally, to find the privacy problems faced by families within middle-class Iranian high density vertical development (HDVD) housing, three blocks of this type of housing located in the new town of Parand, Iran as the symbols of the future trend of Iranian architecture (Kalantari Khalilabad & Eskandari Noudeh, 2008) were selected.

This paper has been divided into five sections. It starts by providing a theoretical framework introducing some related theories and perspectives in terms of culture and its’ values and principles. The next section describes the concepts and foundations of traditional Islamic-Iranian architecture and especially housing to develop a critical concerning of the Iranian principles toward
achieving desire privacy. This section includes three subsections to describe some important physical principles of traditional Iranian housing toward obtaining privacy. The following section discusses the aim, research methodology, and data collection methods and procedure. In addition to, the selected cases for study and related sampling strategies will be clear in this part. The forth section of this article includes the analysis procedure. The last section of this paper is the part of conclusion and recommendations which includes the conclusions of the study and proposes some recommendations to improve spatial organization of middle-class modern HDVD housing through lessons learnt from traditional Iranian housing in terms of the value of privacy.

THEORETICAL FRAMEWORK

The house is an institution created for a complex set of purposes. Since a house is a cultural phenomenon, its form and organization are greatly influenced by cultural milieu (Rapoport, 1969). Culture can be broadly defined as the beliefs, value systems, norms, mores, myths, symbols, language, behavior and structural elements of a given group or society (Onibere, Morgan, and Mpoeleng, 2001). Additionally, Rapoport (1969) believes that culture is the total equipment of ideas and institutions and conventionalized activities of a people. In short, culture is multi-layered. Stephan (2004) suggests two layers (visible and invisible), Lee (2004) propose three layers (basic assumptions, values and artifacts); Spencer-Oatey (2004) argue for four layers (basic assumptions and values; beliefs, attitudes and conventions; systems and institutions; artifacts, products, rituals and behavior). Based on figure 1, it can be proposed combining basic assumptions and values to form the inner core of culture. It is argued that ‘basic assumptions’ are factors which are deeply held by the society, constituting the invisible core ideas that inform the other layers, whilst ‘values’ involve observable culture that the society claims to hold. Group members are unlikely to share identical sets of ‘beliefs and attitudes’ which make up the second inner layer, which consists of expectations of how people behave in various situations. The second layer influences the third layer, consisting of systems and institutions. These are structures of a society within which values and norms are transmitted. Culture is associated with social groups, and people are simultaneously members of a number of different groups and categories. The third layer consists ‘rituals and behavior’ (non-material elements), and finally the forth layer is encircled with a split outer layer of culture composed of material items like architecture (building). Cultural products include the visible and easily described elements of culture which have an immediate emotional impact. Designers tend to overlook incorporating the inner core layers of culture and design products that are based mainly on the outer layer (Lee, 2004).

Figure 1: Layers of culture Adapted from Spencer-Oatey (2000)
On the other hand and based on Rapoport (1969), buildings and settlements are the visible expression of the relative importance attached to different aspects of life. It means that, the house expresses the fact that societies share certain generally accepted goals and life values in terms of religious, social, and familial values. In this regard, religion affects the form, plan, spatial arrangements, and orientation of the house (Rapoport, 1969). In determining nature of religion, it can be said that it is not a universal or inevitable characteristic, merely one of the cultural choices possible. Since religion forms an essential part of cultures. It means that, the physical setting provides the possibilities among which choices are made through the traditional ways of the culture (Rapoport, 1969).

All traditional architecture has a cultural base (Norberg-Schulz, 1993; Rapoport, 1990). Cultural values are qualities which are essential for building houses and sustaining them over time. In this regard, Bianca (2000) said that tradition means the chain of revealed truth, wisdom and knowledge, which is transmitted and renewed generation by generation. This linking is various successive layers of temporal existence to the primordial reality which originated them (Ferdowsian, 2002; Khalili et al., 2014). In this regard, one of the most vital values which supported by religious and beliefs is privacy. It means that privacy is the most important feature of cultural values within architecture. Based on figure 1, privacy is derived from the second layer of culture as figure 2.

Privacy is usually an interpersonal happening that deals with interaction among people. The key point in the concept of privacy is the ability to control people or groups in visual or audio interactions. In this regard, there are various theoretical approaches to privacy analysis. Based on Westin (1970), the first type of privacy is loneliness, which means the person takes full advantage of his privacy. He considers closeness and intimacy as the second type of privacy. This type of privacy is more sensible in cases like closeness of family members. From other view of point, Altman and Werner (1985) believe in human’s tendency to set their closeness and distance with others, and consider any imbalance in this relationship as undesirable. Moreover, Ittelson, Proshansky, and Rivlin (1970) conclude that the important and effective factors in privacy facilitate controlling and restraining space - or territory- and determining the condition of the territory. Additionally, based on Rapoport (1980), privacy is the process of setting a boundary between people and it determines how a person interacts with others.
Based on mentioned theories and through conceptualization of the privacy, the surrounded physical environments play an important role in shaping people's life (Little, 1987). Thus it can be said that the residents' life environment is in strong relation with their cultural, personal, and social identity (Dovey, 1985; Proshansky, Fabian, and Kaminoff, 1983). Thus, the role of physical environment to obtain privacy is complicated and vital (Hill, 1969; Jourard, 1966). In addition to, Chermayeff and Alexander (1963) suggest that there must be physical audiovisual boundaries both between family and outside world, and between family members. On the other hand, the role of gender is defined as another aspect for distinguishing and appropriating. The house that was related to women’s territory was entirely distinguished from the men's public space (outside the house). But even inside houses there were gender differences related to functional specialization of internal space (Roberts, 1991).

**TRADITIONAL IRANIAN-ISLAMIC ARCHITECTURE; CONCEPTS AND FOUNDATION**

After the arrival of Islam to Iran, the culture, religious and art of this land mixed with new factors. Beliefs, religious rituals, principles, spirit of thinking, traditions, characteristics, attitude of generations and other characteristics of people are illustrated are merged with the existential nature of Iranian housing whose track is traceable in all of the past architectural works.

The principles governing Iranian traditional housing have deep roots in the culture, religious, and attitude of this country. Privacy, as an Islamic-Iranian principle governing all aspects of life, has formed Iranian traditional housing and has had deep impacts and outcomes on its spatial organization and function. In this regard, with a look at the related verses of the divine Quran, as the strongest source of learning the principles, the features of privacy from Islamic perspective will be understood.

The development of Islam provided mental work and knowledge especially in relation with guidance and direction in life according to religious principles and obligations (Seyfian & Mahmudi, 2007). Qur'an, aside from the basic materials and principles, determines a tool whose parts have to be explained and completed. The recurring order to obey God puts the acts of the prophet immediately after God’s word as a source of law (Hakim, 1989). Therefore recognizing the custom, sayings and the deeds of prophets and infallible Imams as a divine source that completes Quran is very important. On the subject of privacy it can be referred to verses 27, 31, and 61 of Noor surah and also verse 23 of Nesa surah and also verse 80 of Nahl surah. In these verses the way of clothing, the private territory of a house and privacy of conversations are objectively referred to. Respecting other’s privacy and not intruding that even with direct look are stressed. In this regard, Quran explains different behaviors according to respecting other people’s privacy and the way of acknowledging one’s arrival to the house members and others. The verses 27, 28, 29 of Noor Surah states some points on how to enter house and how to ask for permission to enter and codes of behavior (Hakim, 1989). The verses 30 and 31 of Noor surah, discuss the matter of intimate people and recognizing them and the importance of not looking and respecting privacy (Nayyeri Fallah et al., 2014, 2015). Recognizing intimate people is important because it is necessary to an appropriate design and observance of the principles and valuable rules.

According to Makarem Shirazi (1982), verses 59 and 60 Noor surah elaborates the ways of entrance and asking for permission to parents’ private space and in verse 61 there are some exceptions for those who can enter the houses of relatives and the like without permission and can even eat without asking, and indeed these verses discuss how to enter other people’s sanctum and its manners. Knowing these rules and principles we can make a suitable design. The fact that Islam mentions that immature children should ask for permission before entering parents’ sanctum, shows the allocation of separate spaces for children and parents even in immature ages and verses 23 and 24 Asra Surah, discusses intimate people and behavioral and verbal manners for people living together in the same house, and it is actually presentation of approaches to consider while designing internal spaces of a house.
Additionally and based on mentioned issues, traditional Iranian housing consists of elegant design, grace and accuracy since Islam and along with it Islamic principles of worldview has had undeniable impacts on the identity and its formation. In this regard, explaining privacy in order to identify the determining factors, its formation origins, and its effects on the spatial-structural organization of Iranian traditional housing to improve the spatial organization of the modern Iranian housing is vital. Because the value of privacy had a great role in shaping spatial organization of all the buildings like the value of spatial hierarchy, introversion, and linkage with nature ranging from huge and large public buildings to houses and from public urban spaces to semi-public and more private places during Iranian traditional era. Some of these spatial characteristics are as follow:

**Introversion as a Key Concept**

Introversion involved in the formation of traditional Iranian housing. This principle is a concept that has existed in Iran's architecture as a value and it is visible and understandable in different forms which have deep roots in the Iranian cultural attitudes. By emphasizing on the importance of culture, it should be mentioned that Iranians considering their idea of housing and family, have tended to a sort of introversive architecture (Seyfian & Mahmudi, 2007). Principally, in the formation of traditional housing, residents’ special beliefs have been influential.

After the new worldview in Islam and formation of values such as privacy it was renewed and apart from security issues (Omer, 2010), it showed new principles and values to buildings with yards in the best way possible that can be considered as the perfection of buildings with central yards (Nayyeri Fallah et al., 2014). It means that the territory of family and public life was distinguished from each other beautifully.

![Figure 3](Figure: Introversion; The indoor yard of Taj House, Kashan, Iran (Source: Authors))

**The Linkage between Architecture and Nature**

Based on the Iranian cultural beliefs, the important point in the link between the architecture of traditional houses and nature is the emphasizing on the privacy (Seyfian & Mahmudi, 2007). Buildings are always built in such a way that in combination with nature and using its elements, bring inside the natural environment and hold it. From this point of view, architecture is significantly released in the nature to join it and lends itself to nature. In the Iranian traditional architecture, the main link with nature is bound with more important and valuable principles that derive from worldview of the architect and society. That is why gardens and yards in many cases whether in public buildings or private ones, natural spaces are embedded in artificial ones (Ardalan & Bakhtiar, 2000).
Figure 4: The yards of traditional Iranian housing as a linkage with nature
(Photos: Left: Taba taba ei ha House. Right: Taj House. Kashan, Iran) (Source: Authors)

As summary, according to Stierlin (2012) the origin of the symbolic existence of structural bodies of Iranian architecture is seen in paradise. This matter is a pattern that comes from the elements of paradise gardens in the view of the architect which emphasize to the link with nature. Even in designing and building Iranian gardens it can be seen that tall around walls form the private inside space.

The Design Value of Hierarchy

The value of hierarchy, as one of the main principles in the world has had the most influences in the formation of privacy in the framework of Iran's traditional architecture. Hierarchy is one of the principles governing the sets and parts of the objects that are either naturally in the universe as a whole or are designed and created by humankind and considering the fact that technically the existence of creatures in the universe is bound by certain defined hierarchy, therefore its undeniable role in defining the parts of a whole and giving identity to it is noticeable (Seyfian & Mahmudi, 2007).

According to Naghizadeh (2000), in the Islamic worldview, in the universe, any object has a particular place and status whose value and status is determined by its characteristics of its hierarchy. The built environment also follows this rule and its parts have particular status according to its values and status of the activities that is done within it and the people inside and their relationship with other adjacent parts. These features are related to the physical characteristics and adjacent spaces. Also, to form to an architectural building, the principle of hierarchy causes the formation of spatial territories with different functions and forms spatial boundaries. In this regard, when the elements of a building are divided into different territories with distinguishable framework and function, actually transfer from one territory to another immediately and without preparing the necessary conditions is undesirable (Ardalan & Bakhtiar, 2000). In short, the important point is that applying the principle of hierarchy in spatial urban and architectural systems, with separating public territories from private ones and classifications in usage have more significant role in emphasizing privacy in spatial organization toward creating spatial continuity.

RESEARCH AIM AND METHODOLOGY

This qualitative research seeks to identify the cultural values of traditional Iranian housing in terms of features of privacy. This study then will use the learnt values as a guideline to improve the quality and spatial typology of the middle-class modern Iranian HDVD housing. Based on the aim
of this research, through constructivism paradigm (Creswell, 2007), qualitative approach and instrumental multiple case study strategy, physical features of privacy as an important part of Iranian-Islamic cultural values within middle-class Iranian traditional and modern high-rise housing will be investigated. In this regard, three cases of study of the middle-class Iranian traditional and modern housing were selected. Accordingly, through criterion sampling strategy, one middle-class traditional Iranian housing (Taj house located in Kashan-Iran) which is empty conserved and original house, and also though random purposeful sampling strategy (Abolmaali, 2012), three blocks of modern middle-class Iranian HDVD housing located in Kuzu district of new town of Prand-Iran, which is the symbol of the trend of Iranian housing in the future (Kalantari, 2009) were collected.

To increase the accuracy of findings, the data collection methods through triangulation are a combination of direct observation, open-ended expert interview, and taking photo for traditional Iranian housing and direct observation, semi-structured single face to face, semi-structured focus group interviewing, and taking photo for collecting data from modern Iranian HDVD housing. The phase of data collection procedure was done by main researcher and two research assistants during 4 weeks. After the preliminary investigation by technique of overt direct observation, and during the phase of final investigation, the researcher and research assistants did semi-structured interview with 5 experts about traditional Iranian middle-class housing and 15 respondents of the residents of middle-class modern Iranian high-rise housing. The time of each single face to face interview which was with Farsi language was around 25-35 minutes and for focus group interviewing, this time became around 50-65 minutes.

FINDING AND DISCUSSION

Based on analysis, the results show that the physical environment of traditional Iranian housing had a great role to achieve desire privacy for settled families. It means that, the ability of architecture within traditional Iranian housing is one of the most focal parameters to enhance the quality of residents’ life. These parameters like hierarchy and introversion cause shaping human values which are under cultural understandings of residents about housing and its’ quality in terms of privacy. Additionally, the findings of the research show that the spatial organization of these housing is as a complex mechanism to support residents’ religious and familial life through very exact space differentiation. These differentiations lead people to have their personal and interpersonal territories. As a result, these territories created opportunities for residents to have better housing environment.

Based on the plan layout analysis and interpretation, the findings indicate that the middle-class Iranian traditional housing consists six different layers in terms of level of privacy. It means that this spatial organization is the solution to answer residents’ higher level of needs which are based on their cultural values. These layers are public, men social, women social, semi-private, private, and personal private (Figure 5). Additionally, each layer of the mentioned sextette layers conforms to the cultural values and has exact spatial hierarchy toward achieving ideal privacy. Thus these houses were conducive for their residents culturally.
The spatial organization of public layer as outer layer which consist the entrance complex of house, shows the spatial system of privacy from outside to inside the house (Figure 6). This space besides the communicational function is a place to stay, wait and converse. In some cases there are some platforms at the sides for sitting which are used to welcome or companion the guests. In this regard, the entrance was built in a way that people would not directly and immediately enter the building. Thus, after entering to the vestibule, they would enter to a corridor placed on the sides of the vestibule and then enter the yard and other internal spaces of the building (Nayyeri Fallah et al., 2015). The entrance would be built in a way that people couldn’t watch inside from it or from vestibule; because the privacy of the family shouldn’t be intruded by strangers. Additionally, the importance of privacy causes men and women to have two different slots with specific shapes on the door. The slot with low pitched sound was for men and the slot with high pitched sound was for women. This difference helped the house members and the one who opened the door know the gender of the guests from the sound of the slot and be prepared to see them.
Other important points in the Qur’anic verses which have mentioned earlier (the verses 27, 28, and 29 of Noor surah) are the matter of security and freedom in house environment. Undoubtedly, the existence of human consists of two dimensions, personal and social dimensions and therefore he has two private and public life with their particular features and customs and rules. The special boundaries and conditions that people have to observe in their society don’t exist in their private life and they have a sort of freedom in their privacy. Islam has certain orders on this matter and there are several quotes by the prophet and infallible Imams which refer to the smallest points even on the way of knocking, asking, and entering and Iranian Muslim architects do their best to objectify these points.
The second proposed privacy layer is men-social layer which is located after public area (Figure 7). This part is especially for men social communication. In this regard and based on observation and plan layout analysis, the corridor which connects entrance to this space does not have any sight possibility to inside the house. This part of house usually includes two parts for main guests (Predominantly) and their servants (Gholam Gozar). This separation which is based on social class also emphasize on the principle of hierarchy within each layer of the house.

![Men Social Layer Diagram](image)

Figure 7: Analyzing men-social layer. Taj house. Kashan. Iran (Source: Authors)

The inner layer after men-social layer is women-social layer where is around outdoor yard of the house (Figure 8). This recent layer of the house has a few sight limitations because of users’ gender. To hosting men and women who are coming to the house’s social layers the outdoor service spaces like outdoor kitchen, sanitary spaces and food storages have been predicts. To show the importance of guest for Iranians and their hospitality which is rooted within their Iranian–Islamic worldview, through linkage architecture and nature, have been tried to make desirable social parts of the house for guests.

Based on analyzing of the data collected from experts open-ended interviewing, the next layer is semi private zone of the house which includes guest bed room and man work room. This part of house is located as a border between women-social and private layer. Thus to reach to the private layer of the house this border must be crossed (Figure 9).
Women Social Layer
1- Corridor (Dalaan)
2- Outdoor Courtyard
3- Family Room (Women Room)
4- Cooking Room (Matbakh)
5- Crew Room
6- Easy access storage
7- Pesto (Closet)
8- Pishkam (Eyvaan)
9- Main Storage
10- Outdoor yard cellar

To Semi-private Layer

View (a) View (b) View (c) View (d) View (e) View (f) View (g) View (h)
After this layer, the layers of private and personal (completely private) as the most inner layers have been organized within Iranian traditional housing. Based on expert interviewing, these layers are completely for family life and entering stranger without permission to these areas is forbidden (Figure 10, 11, 12). Based on plan layout analysis, the private layer of the selected traditional case study involved three levels (First floor, ground and under-ground floors) and the personal layer (completely private area) was designed just in the first floor.

Figure 8: Analyzing women-social layer. Taj house. Kashan. Iran (Source: Authors)

Figure 9: Analyzing semi-private layer. Taj house. Kashan. Iran (Source: Authors)
Figure 10: Analyzing first floor of private layer. Taj house. Kashan. Iran (Source: Authors)
Figure 11: Analyzing ground floor of private layer. Taj house. Kashan. Iran (Source: Authors)

Figure 12: Analyzing under-ground floor of private layer; Taj house. Kashan. Iran (Source: Authors)
Because of the physical distance of these parts of the house from the outside, through using water, flowers, and trees the symbolic heaven have been designed for family part. Base on content analysis from expert interviewing, this technique not only creates symbolic meaning but helps family to have more desirable environment and climate.

On the other hand, the findings of the study show that the residents of modern middle-class HDVD housing suffer from the disability of the spatial organization of their housing units in terms of achieving desirable privacy. This is because of lack of strong thoughts and incorrect understanding of modern architecture, in the collapse of past architecture. Based on analyzed data, the spaces of these units can be known as the before entering space, entrance space, kitchen, living room, sanitary space, bath room, and bed room(s). As can be seen in the figure 14 the privacy problems of each mentioned spaces conform to the neglecting the cultural values within spatial organization of modern middle-class Iranian HDVD housing.
CONCLUSION AND RECOMMENDATIONS

The findings of this study indicate that privacy as a focal Iranian cultural value plays a great role in spatial organization of Iranian traditional housing to response family cultural and religious needs. As the results, the sextet layers of privacy can be proposed. In contrary, because of neglecting the multi-pronged concept of privacy as Iranian family cultural value in the design process of middle-class modern Iranian HDVD housing, the settled families suffer from this architectural weakness. In addition to the mentioned problems, this neglect has had a negative impact on Iranian modern families' indoor and outdoor lives as the most important features of Iranian cultural and religious values. In this regard, this study suggests some recommendations learnt from spatial concept of traditional Iranian housing in terms of privacy to betterment the spatial quality of the modern middle-class Iranian HDVD housing.

In addition to applying the proposed privacy layers within architectural design process, designing conjunctive spaces between each layer by emphasizing on the principle of hierarchy are recommended. Additionally, by considering the space limitation, designing pause spaces and rotating them within the joint lines of each zone can improve spatial quality in terms of improper direct sight. Also, the principle of linkage with nature can provide the possibilities to reach more private spaces. It means that by designing different forms of some semi-transparent spaces where include the features of nature and artificial lights, the spatial arrangement of each unit can be
divided to two or more parts. This situation can be used as an opportunity to adapt introversion characteristics learnt from traditional Iranian housing into the modern context. It means that using the lessons learnt from traditional context can improve Iranian modern middle-class HDVD housing physically and culturally.

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CONTEXTUALIZING PALIMPSEST OF COLLECTIVE MEMORY IN AN URBAN HERITAGE SITE: Case Study of Chahar Bagh, Shiraz - Iran

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Abstract
A landscape or site, which has been inhabited for long, consists of layers of history. This history is sometimes reserved in forms of small physical remnants, monuments, memorials, names or collective memories of destruction and reconstruction. In this sense, a site/landscape can be presumed as what Derrida refers to as a ‘palimpsest’. A palimpsest whose character is identified in a duality between the existing layers of meaning accumulated through time, and the act of erasing them to make room for the new to appear.

In this study, the spatial collective memory of the Chahar Bagh site which is located in the historical centre of Shiraz will be investigated as a contextualized palimpsest, with various projects adjacent one another; each conceptualized and constructed within various historical settings; while the site as a heritage is still an active part of the city’s cultural life. Through analysing the different layers of meaning corresponding to these adjacent projects, a number of principals for reading the complexities of similar historical sites can be driven.

Keywords: Heritage; palimpsest; collective memory; urban memory; Chahar Bagh

INTRODUCTION
Heritage is a series of socially constructed interpretations of the past, which might be represented through historical sites and contexts. This social construction might be either visible through the perspective of historical architecture in a heritage site or semi-buried layers of destruction and reconstruction, which might be still present in the collective memory of city dwellers.

Discipline of Geography seems to be the founder of studies on the interface collective memory and space focusing on the spatial presentation of social memory, cultural memory and collective memory. However, scholars from the Geography discipline has mostly focused on monuments, memorials and museums as places of sacralisation of national imaginaries (Till, 2003), and there seem to be a gap in addressing the role of historical sites as a heritage in the collective memory of a nation or the architectural discourse of a city. Although numerous studies have been conducted on the interface of memory and the sites of memory as a built environment, the built environment perspective has hardly been investigated in the literature. Additionally, most of these studies are considering the heritage spots that have been designed and planned to retain and keep the memory (such as museums and memorials). Each heritage site can be a potential case study for investigating through the layers of memory in the city and among the residents.

In this sense, a site/landscape can be presumed as what Derrida (1998) refers to as a “palimpsest” in the collective memory of city dwellers. A palimpsest whose character is identified in a duality between the existing layers of meaning accumulated through time and the act of erasing them to make room for the new to appear, and therefore to allow life to continue on it.

There is a duality very much like the one inherent in the heritage as palimpsest, in the discipline of architectural design and other neighbouring disciplines of landscape design or urban design: the duality between pure conservation of the existing, or its erasure in the favour of the new. This reading of Derrida’s “palimpsest” can create a new approach to reconciling this duality or rather utilizing it as
an asset in the process of analysis and design; therefore, crafting a new method of understanding the site and its context with all of the complexities. In reading the context as a palimpsest, it becomes a sheet of paper which preserves indefinitely, but is quickly saturated. A slate, whose virginity may always be reconstituted by erasing the imprints on it, does not conserve traces. The palimpsest, similar to the ‘mystic pad’ (Derrida & Mehlman, 1972; Freud, 1961) fulfils both these roles: conserving the traces, and being receptive to the new writing.

The approach of this study to context is based on an architectural analytical process of design to read the context and derive the landscape historical potentials as a heritage. In both acts of erasure/destruction and writing/building, there is a creative or hermeneutic potential to create new layers of meaning or to manipulate the present layers of historical meaning existing of the site. So not purely conserving them in their totality, but using their complexity as a pivotal point of reference for the design.

Countries with a vast and tumultuous history may be filled with urban palimpsests, which contain layers of social and cultural history and memory. The City of Shiraz with more than 2000 year history of urbanity consists of historical sites, which have been situated in the process of destruction/construction through the history of the city. The ‘Cha har Bagh’ site in the historical centre of Shiraz is chosen as a case study for this paper. Chahar Bagh is located in a context with various projects adjacent to one another; each conceptualized, constructed and reconstructed in various historical settings. The site is still an active part of the city’s cultural life representing a perfect case for a palimpsest heritage site.

SPACE AND SOCIAL MEMORY

Social perspectives on memory became prominent in the late nineteenth and earlier twentieth centuries. Collective memory has been defined as the shared experiences of a community or society. According to Till (1999), collective memory is not the accumulation of dwellers’ memory, rather it consists of the activities that have made a version of the past which resonate with individuals. Foot and Azaryahu define collective memory as "a matrix in which time and space are used separately and in combination to embed shared historical experiences and a sense of a shared past in the public life of a community or of a religious or social group" (Foote & Azaryahu, 2007).

Studies on the collective memory have been conducted on a wide-ranging interdisciplinary literature, including psychology, history, geography, sociology, archaeology, and built environment. However, when it comes to the studies toward the interface of memory and spatial configuration, city or heritage, the number of these disciplines decreases dramatically. In the literature written on the interface of social memory and sites of memory, the works of the Maurice Halbwachs as a sociologist and Pierre Nora as a historian have been particularly significant and the founder of more recent spatial collective memory studies particularly in geography and built environment.

Halbwachs’ studies upon places and sites of memory provided a convenient entree for collective memory studies in geography and built environment. Halbwachs (1992) has argued that when there is a double focus such as a physical object or a material reality (which he exemplifies in a statue, a monument or a place) group remembrances can remain in existence. In this sense, a historical site as a heritage can be considered as a material reality in order to resonate a social or collective memory in the architectural representation of a city.

Following Halbwachs’ work, Nora (1992) has discussed how certain sites, by provoking emotional effects, may embody some memories of the nation. She has argued that the self-reflexively of memorial sites may be necessary to embody certain memories because the real memory had withered away in modern society. As sometimes the place of a certain memory changes through time and the nation no longer live in the environments of memory, Nora argues that creating archives, maintaining anniversaries and organizing celebrations might be necessary in order to preserve a national memory (Nora, 1989: 12).

Halbwachs and Nora’s works have inspired several scholars, especially in geography, writing on the material landscapes and cultural performances of collective memory. However, the literature on place and memory is mostly focused on national commemorations or the political dimensions of public memory in relation to expressing power and authority. According to Foote and Azaryahu most
research on the collective memory of specific sites has focused on wars, revolutions, and other major historical events especially from the last three decades (Foote & Azaryahu, 2007). Atkinson (2007) also argues that most discussions has revolved around higher profile heritage sites and places of commemoration. He suggests that there is a need to look further into the everyday places and social memories that are constituted throughout society at different scales.

Till (2003) in identifying the sites of memory counts museums, monuments, cemeteries, statuary, public buildings, squares, streets, historic preservation projects, plaques, and memorials, as well as the rituals, images, and practices associated with them as places of memory. However, the literature of collective memory has been mostly focused on more high profile (and to some extent political) sites of memory (such as memorials, monuments and museums) and the role of other heritage sites such as streets and squares have been overlooked. Although cities serve as powerful symbols and sources of memory, the number of studies on the collective memory of urban spaces from a built environment perspective is very limited and exclusively focused on Western cities and context (Boyer, 1996; Crinson, 2005).

Architectural theorist, Aldo Rossi, inspired by Halbwach’s study, was the first person who introduced the concept of urban memory to the literature of built environment (Rossi, Eisenman, Ghirardo, & Ockman, 1982). Rossi had a unique approach to the idea of collective memory in a city. He has anthropomorphized the city, in a sense that the city has a memory that remembers through its buildings. Therefore, for Rossi the preservation of heritage sites and buildings is parallel with the preservation of memories in the human mind and can serve as a preservation of a nation’s urban identity.

Following Rossi, Boyer (1996) in her book, The City of Collective Memory, seeks to link the collective memory and urban transformation. Boyer has argued that the city fabric contains memory traces of earlier architectural forms and city plans. Boyer through investigation of some case studies has explored how city images are developed and how they relate to the everyday urban life and collective memory. She argues that political and economic concerns direct representational images of the city and influence its collective memory.

Most recently, scholars such as Crinson and Huyssen has studied urban memory and collective memory through different case studies, mostly focused in European and American cities (Crinson, 2005; Huyssen, 2003). According to Foot and Azaryahu the scholarship on the collective memory and space is rich for some periods and places, but weak in others, particularly in Latin American, Asia, and Africa (Foote & Azaryahu, 2007). Therefore, what is lacking in the literature is the gap of sufficient collective memory studies in the Eastern or Middle Eastern context. This study aims to investigate the layers of history in relation to the collective memory and architectural representation of the city, in the context of a historic site (Chahar Bagh) in the Middle Eastern city of Shiraz.

**Urban heritage as the palimpsest of collective memory**

Sometimes collective memories of a nation are grounded in particular places within a city. In this sense, urban space can perform as a receptacle of collective memory. However, the process of this reception is somewhat complicated. Halbwachs in stressing this complexity have argued that:

“The place a group occupies is not like a blackboard, where one may write and erase figures at will. ... The board could not care less what has been written on it before, and new figures may be freely added. But place and group have each received the imprint of the other. Each aspect, each detail of this place has a meaning intelligible only to members of the group, for each portion of its space corresponds to various and different aspects of the structure and life of their society, at least of what is most stable in it” (Halbwachs, 1980: 128).

It was Halbwachs’ belief that the urban space is more complex than just a blackboard of collective memories. Yet, this composite structure might more resemble a palimpsest. A palimpsest refers to a “writing material or manuscript on which the original writing has been effaced to make room for a second writing; monumental brass turned and re-engraved on reverse side” (Sykes, 1976). Creation
of a palimpsest occurs through the tripod stages of writing, erasure and rewriting (Galpin, 1998). However, the boundary between erasure and rewriting does not seem to be rigid. Sometimes erasure might eventually happen through the act of rewriting.

The palimpsest concept is frequently used in various scientific fields. It has a long usage in archaeology (Bailey, 2007) and most famously in Freud’s study of the unconscious. According to McDonagh (1987), Freud's Mystic Writing-Pad is one of the models of the mind that flank the concept of the palimpsest. The mystic Pad is a common children's toy, which fits Freud's theories of the human "perceptual apparatus" (Galpin, 1998). In identifying the difference between a mystic pad and a palimpsest, McDonagh has argued that both mystic pad and palimpsest allow the retention of the inscription; however, unlike the palimpsest, the mystic pad is not able to bring about the inscription recollection (McDonagh, 1987). Resultantly, Jacques Derrida in his essay, "Freud and the Scene of Writing", have stressed on the significance of palimpsest for its historical specificity (Derrida & Mehlman, 1972). Traces of history may be conserved through the act of destruction while being receptive to the new writing (construction).

The urban space can be conceived as a palimpsest, conserving traces of identity elements specific of each historical eras (Robinson & AlSayyad, 2001). In an architectural exemplification of a palimpsest, the tripod stages of writing, erasure and rewriting change their nature to construction, destruction and reconstruction. Similar to the inscription stages, in the architectural representation the boundary between destruction and reconstruction can be blurry.

The collective memory of city dwellers is the interface where the past is embodied in the present by means of shared cultural productions and reproductions (Foote & Azaryahu, 2007) and architectural representation of an urban space can perform as a form of this production or even reproduction through the act of erasure/reconstruction. Rossi, as an architecture theorist, has argued that the urban space itself is the locus of collective memory.

“One can say that the city itself is the collective memory of its people, and like the memory it is associated with objects and places. The city is the locus of the collective memory. This relationship between the locus and the citizenry then becomes the city's predominant image, both of architecture and of landscape, and as certain artefacts become part of its memory, new ones emerge. In this entirely positive sense great ideas flow through the history of the city and give shape to it.... Thus the union between the past and the future exists in the very idea of the city that it flows through, in the same way that memory flows through the life of a person; and always, in order to be realized, this idea must not only shape but be shaped by reality” (Rossi et al., 1982).

Sometimes a part of a city may turn into a “memory-scapes” (Edensor, 1997) encompassing the history of a nation in layers of architectural configuration. Layers pertaining to different historical eras may occur through buildings and structures; some might have been demolished and reconstructed, but the traces of the past eras are blurred even in the demolished.

A BACKGROUND TO THE HISTORY OF SHIRAZ

Shiraz, the sixth largest city in Iran after Tehran, Mashhad, Isfahan, Tabriz and Karaj is the centre of Fars province in southern Iran. The city is located 895 km south of Tehran and 100 km north of the Persian Gulf. The earliest reference to the city, as Tiraziš, is on Elamite clay tablets dated to 2000 BC found in the south western corner of Shiraz city (Cameron, 1948). According to some Iranian mythological traditions, it was originally erected by Tahmuras Diveband, and afterward fell to ruins (Conder, 1827). Although the foundation of Shiraz was before the Islamic period, the city became the provincial capital only in 693 A.D, after the Arab armies conquered Estakhar (the nearby Sassanian capital). As Estakhar fell into decline, Shiraz grew in importance under the Arabs and several local dynasties. The Buyids (945-1055) made it their capital. Although Shiraz was spared from destruction during the Mughal invasion, the town was devastated by Timur (1387 and 1393), by great floods in 1630 and 1668, by the Afghan invaders in 1724, and by the earthquakes which partially destroyed the city in 1789,1814, 1824 and 1853 (Clarke, 1963; Lockhart, 1939; Wilber, 1962). During the Safavid
period (1502-1722), security and prosperity returned to Iranian cities and was maintained for about two centuries. The governor-general of Fars put great effort in beautifying Shiraz. He duplicated Shah Abbas’s famous Chahar Bagh at Isfahan (Arberry, 1960; Lockhart, 1939) and constructed a magnificent palace in the great square of Shiraz.

Shiraz was initially circular in shape; however, the regular pattern of the city soon changed to an organic structure like other Iranian cities, comprising the main elements of such cities. The form of the city stabilized in the 15th century and its shape from that time until the 20th century exhibited a fair representative of a typical traditional Iranian city before modernization (Karimi, 1998). Shiraz’s decline started with the Afghan raids in the early 18th century, several earthquakes, and an internal uprising. In the middle of the eighteenth century, the city again came back to life and splendour under the benevolent attention of a regent-ruler, Karim Khan Zand (Boyle, 2011; Wilber, 1962). Twenty-seven constructions in Shiraz, of which sixteen remain today, was attributed to Karim Khan Zand. Although the prosperity of Shiraz was seriously interrupted by the decline of the Zand Dynasty (1794) and Tehran took the place of Shiraz as the Capital, Shiraz remained one of the most important provincial cities during the Qajar period. The city consisted of eleven distinct quarters (mahalleh), inhabited by separate communities with powerful social cohesion (see Figure 1).

The metamorphosis of Shiraz into a modern city began with the attempts of Reza Khan (1925-1941), the founder of the Pahlavi dynasty (1925-1979). After the first period of modernization, the growth and development of Shiraz became radically different from its traditional pattern. A regular pattern of modern networks was superimposed on the historic core as the common pattern of expansion, and the organic shape of the traditional area has been trapped inside the enclosed and segmented historic core (see Figure 2).
The development of the city has been historically focused along two perpendicular axes. The north-south axis, which is named as Hafez Street has been consistently present in the different periods of Shiraz development. This axis has been the backbone of the structure of the city. However, the east-west axis has changed with every key era of development. Since the Buyid era, the east-west axis has moved toward the south with the three key historical periods in the development of Shiraz (see Figure 3).
A BACKGROUND TO THE HISTORY OF SHIRAZ CHAHAR BAGH

Chahr Bagh is a Persian-style garden layout originated from the time of Achaemenid Empire. In Persian, chahar means four and bagh means garden. The Chahar Bagh in Isfahan, Iran, built by Shah Abbas in 1596, and the garden of the Taj Mahal in India are the most famous examples of this style. In Shiraz, the north-south axis or Hafez Street is considered as Shiraz Chahar Bagh, which was built to be a duplicate of the Safavid Chahar Bagh in Isfahan. The axis connecting the Quran Gate to the Isfahan Gate at its furthest southern point has always been a key focal point in the city’s historical development. In the contemporary situation of Hafez Street, or Shiraz Chahar Bagh, only a few historical gardens and buildings have remained intact (Asadpour, 1386).

Investigating the old paintings, pictures and tales about Shiraz reveals a few characteristics about the historical city and specifically the north-south axis. Interestingly, there have been several visitors mentioning this axis in their stories, descriptions, paintings and pictures, which can indicate the layers of memory registered within the history of this street. Exploring and comparing the painting by Andre Daulier Deslandes in 1664, tale of Charden, the French tourist that visited Shiraz in 1674 and several other visitors afterwards may uncover the tale and layers of history in this street (Table 1). The Chahar Bagh Street had been a road with a great gate (Quran Gate) surrounded by vast gardens with semicircular gates and a pool alongside the way. Through the gardens’ gates, there were pavilions and square fountains. The street was ended with the grand bazaar famous as Vakil Bazaar.

Table 1. Tale of travelers (Source: Author based on Faizi & Asadpour, 2013 & Asadpour, 1386).

<table>
<thead>
<tr>
<th>Traveler</th>
<th>Year</th>
<th>Tale</th>
<th>Sketch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andre Daulier Deslandes</td>
<td>1664</td>
<td>The image is a cityscape from the edge of Allahoakbar and Quran Gate showing a street surrounded by gardens and trees.</td>
<td><img src="image1.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Jean Charden</td>
<td>1674</td>
<td>The image is a vast street surrounded by gardens as long as 180 meters that all have semicircular gates. Upon the gates, there are pavilions. The doors of the garden are symmetrical and in front of one another. In the middle there is a square fountain with marble edges filled with water. This street ends with the Grand Bazaar.</td>
<td><img src="image2.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Cornelis de Bruyn</td>
<td>1704</td>
<td>The image is presenting Quran Gate, which opens to a linear street surrounded by gardens and tall trees.</td>
<td><img src="image3.jpg" alt="Image" /></td>
</tr>
<tr>
<td>Niebuhr</td>
<td>1765</td>
<td>Niebuhr image is not as green as previous travelers. The picture has been drawn after the reign of the Safavids. Although the Ali Ebne Hamzeh Shrine has been drawn, there is no sign of gardens and palaces. The reason could be the damages occurred during the time in between the over through of the Safavids and the start of the reign of the Zandis.</td>
<td><img src="image4.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>
Brugsch 1860

In Brugsch painting, there is no sign of Quran Gate. However, the gardens seem to reappear on both sides of the street. The garden that is on the right side has an entrance from the north. In this picture there seems to be no sign of a fountain.

One of the most important elements of the north-south axis is the Gate of Quran and the edge of Allahaokbar in the north and the bridge over the Khoshk River in the south (see Figure 4). These two elements denote the physical border of the axis. The history of the gate over the Khoshk River goes back to the time of the reign of the Al Buyid’s and has been reconstructed many times. Another major element of the axis is the shrine of Shah Mir Ali Ebne Hamzeh located in the southern part of the axis. The shrine is originally from the era of Azadollah E Deylami. During the Safavids and then during Shahryar Zand, vast reconstructions were done on the memorial centre (One was by Seyed Morad Khan Zand another from Mohammad Zakhi Khan and finally by Moyed Aldole Tahmaseb Mirza). For the convenience of travelers and pilgrims, Karim Khan built a bathhouse and a motel in front of the memorial centre, which were torn down eight decades ago and replaced by a school and a street. During the Ghajar period, the memorial cemetery was destroyed by an earthquake in 1239 but then renovated and restored in 1260.

Figure 4. The Chahar Bagh axis in Pahlavi Dynasty (Source: Author based on Sane, 1382).

Different gardens around the axis of the Gate of Quran to the bridge of Ali Ebne Hamzeh and the flow of water in between were the key features of the Chahar Bagh constitution in Shiraz. The gardens were all placed one after another by the natural gradient of the ground. One of the gardens with many historic references is famous as Jahan Nama and was originally part of the dessert of Jafar Abad. During the reign of the two monarchies Ale Mozaffar and Ale Inju, this is before the attack of Teymor Gorgani; this garden was very much exquisite. In 1607, the greatest of the Safavid monarchs, King Abbas I, planted a tree in Jahan Nama. Later the garden went on to become famous for all of its grand and sublime trees. Jahan Nama Garden was originally named Vakil Garden and constructed by Karim Khan Zand half a century before its name was replaced by Jahan Nama.

Karim Khan Zand built another garden close (with about 10 meters distance) to Jahan Nama and bordered it using brick walls. The natural slope of the land caused the gardens to be in two levels. As a result, this garden has been named as the Nether Jahan Nama (Jahan Nama Payin) in the Persian historical texts. There is also a possibility that this garden has been constructed in the Safavid era (Asadpour, 1386). About 50 years ago, Shiraz’s first textile factory was built in this garden.
Right across from Jahan Nama, there was another garden famous as Garden No (see Figure 5). No was placed close to the Gate of Quran and just across from Jahan Nama and had a great and complex pavilion. This garden was originally built during the Safavid’s era and was quite abandoned for a while after, but during the Zand and Qajar eras it was renovated and was even complemented with a great place. Writing by both Charden and Tavernier indicate that the mentioned gardens were, in fact, built in the Safavid period (Asadpour, 1386).

The other determining element of the axis is water. The water from Rokn Abad, which would travel from the heights of Bamo Mountain in the north, would pass the edge of Alahoakbaar irrigating all of the Shiraz gardens. The well of Rokn Abad was founded by Rokn Aldoleye Deylami in the year 924. It could be concluded that the cemetery, building of the Gate of Quran and the well of Rokn Abad have all existed for centuries and the axis that connects all of them was constructed during the Safavid Empire.

![Diagram of historical elements in the Axis](Source: Author based on Asadpour, 1386).

**SHIRAZ CHAHARBAGH AS AN URBAN PALIMSEST IN THE COLLECTIVE MEMORY OF SHIRAZ ARCHITECTURE AND HISTORY / CITY DWELLERS**

There are two questions that this argument seeks to respond to, first of all how the Chahar Bagh site in Shiraz is a palimpsest, and secondly, how the appropriation of this terminology to this particular site helps to elaborate a comprehensive reading of the site that does justice to not only the remnants of the history it bears, but also to the unrepresented and the unembodied. The second question is how the concept of regarding sites of cultural heritage as a Derridian palimpsest can help create a more comprehensive and totalizing urban view of those locations.

In regards to the first question, this site, the Chahar Bagh axis, bears the remnants of almost every key historical period of the city’s transformation, its conflicts and socio-political changes. In the Safavid and Zand periods, this street was the key entrance axis to the city from Isfahan. Therefore, it had been a pathway for several travelers and visitors as well as the war troops that have marched down this path to invade Shiraz or to defend it. Through the cities’ many structural transformations,
the start of this axis has remained the key entrance to the city and thus it holds a certain weight in the public and historical image of Shiraz; a conclusion that can be drawn from the Daulier paintings of Shiraz in 1664 (see Figure 6).

![Figure 6. Daulier painting of Shiraz in 1664 (Source: Asadpour, 1386).](image)

The Chahar Bagh axis is reaching out of the historical core of the city into its key entrance in the north. In a totalizing look, the axis development is attributed to the modern city of Shiraz (not the traditional core); however, Chahar Bagh holds an important place in the cultural heritage of the historical city of Shiraz, because of its relative small distance to the historical core, the importance of the burial and memorial locations and also the importance of the gardens located adjacent to the axis (see Figure 7). Its actual development in the modern periods with the national garden and Shiraz University main campus during the Pahlavi era strongly weaves the site into the contemporary urban life and public memory of the city.

![Figure 7. The placement of modern buildings (Source: Author based on a Google Earth Map).](image)
The city of Shiraz, with more than 2000 years of history has been through a tumultuous past, filled with dramatic socio-political changes. With the key structural location of the Chahar Bagh site through this long history, the street has been prominently present through Shiraz changes and developments. In the contemporary post-revolutionary Iran, the site and its adjacent plots have been further developed, and now the ministry of culture and guidance headquarters and the national library are located in it. Therefore, Chahar Bagh still remains canonical in the cultural life of the city. Several tourist attractions and two hotels are also placed on this site.

These changes have always been a combination of loss of the old and creation of the new. Their history has always been a locus of oblivion and remembrance. In the case of Chahar Bagh, with its key role in the image of Shiraz and specially its image as a tourist attraction and a land of gardens and roses, Shiraz image has turned into a very fantasy-like garden image. There can be traced an overall tendency to forget the losses and turmoil’s in favour of all that is in keeping with the fantasy-like image of the city, which has existed through its history. Even now in the off-hand analysis of this location, what is recalled is first and foremost, these remnants in keeping with the image of Shiraz as "The city of Gardens". The socio-political turmoil has been repeatedly painted over in favour of the picturesque and the poetic. These parts of the palimpsest, the forgotten and the invisible are what the introduction of this paper may add to a comprehensive understanding of the site.

As much as the built environment concerns in an initial look, the Chahar Bagh heritage site has offered several layers of history in forms of building and remnants. However, what is not vivid in this initial look is the layers that have been destructed, removed or forgotten unintentionally or sometimes knowingly to overlook a memory. Chahar Bagh as a palimpsest embraces these memories thorough buildings, landscapes, art and crafts, tales and occasionally stories. Sophisticated and Comprehensive studies may reveal the deeper, more destructed/forgotten layers of this palimpsest and there is always a possibility for the heritage researchers to discover the more profound intangible levels of history.

The Chahar Bagh site consists of memories, layers of meaning and cultural implications as well as architectural remnants in the form of objects or spatial configurations. In the discourse of urban morphology when the concept of palimpsest is referenced, it is mostly concerned with the architectural and the urban objects and the historic layers. The relation between these layers is supposed to have a static property, or at the very least they are ruled over with certainty. This is also the case in a palimpsest, when just the appearance of the layers of partially erased texts is concerned. In this sense, cities are not comparable with the human mind. However, when the focus is not just put on the appearance of the physical construct of cities but on the intangible underlying spatial systems, deep similarities between cities and human mind, as it is understood by Freud, can be uncovered. Spatial layers in cities and their interrelations, like unconscious and conscious memories in a human mind, are dynamic and ever changing. The reference to the metaphor of palimpsests can be useful when the content of the texts, and not just their appearance, is the focus of consideration. The concept of palimpsest has been used for opening the discussion and directing the attention towards the intangible and dynamic aspects of historical layers in cities. The dynamism of the intangible layers in urban systems is most clearly explained through the concept of spatial configuration, pioneered by the founder of space syntax theory (Hillier & Hanson, 1984).

Exploring these sites of cultural heritage and in general the spatial configuration of urban space in the light of history, not as mere transformations, but with the complexity and contradiction of the erasure/construction duality, allows the room to interpret all that has been wilfully ignored or forgotten. The palimpsest of Chahar Bagh has retained remnants of these historical events, sometimes in form, aka the Ali Ebne Hamzeh Shrine and the battle marks left on its decorations and sometimes in public memory and culture, like the memories of the 1979 revolution and the 2009 uprisings, in which the Shiraz University Campus locations were entangled with. In other words, a palimpsest is a politicized collective memory which doesn’t ignore the agency of history in removing parts of itself (the role of oblivion). The memory/oblivion duality is highlighted in this concept rather than downplayed, the same way the erasure/construction dialectic is. And therefore a memory archive or a palimpsest offers what history can no longer offer, and fills in the blanks of what history wilfully forgets.
CONCLUSION

This paper, through investigating the literature of collective memory and its interface with the concepts of memory and images of the city, investigated a historic street in the city of Shiraz famous as Chahar Bagh. Chahar Bagh of Shiraz has been a historical palimpsest consisting of several layers of history as a backbone to the historical structure of the city. However, memory performs in a twofold way. Wherever there is remembering/construction, there exists oblivion/deconstruction. This paper explored two research questions in its argument. First how the Chahar Bagh Axis can be considered as a palimpsest and second how the appropriation of this terminology to this particular site helps to elaborate a comprehensive reading of the site that does justice to not only the remnants of the history it bears, but also to the unrepresented and the unembodied.

In most cases the concept of palimpsest is used to describe historical sites, which have been through a tumultuous and destructive past, as the palimpsest does not ignore the complexity and contradiction of the erasure/construction duality. A palimpsest such as the historical site of Chahar Bagh preserves the traces of what it chooses to erase. As opposed to a modernist semantic that never talks about the things it has chosen to erase or replace, a palimpsest like a historical site is an unclean mess filled with traces of the destroyed, the destructed and the lost. The act of erasure has a corresponding cultural equivalent, which is forgetting. This can be an addition of new layer/layers to the urban palimpsest. To control this process so that it improves the urban qualities in both local and global level, there is a need for an objective understanding of the dynamic interrelation between the intangible (configurational) layers in the urban spatial system. The main intention of this paper was widening the perspective of this kind of understanding.

In short, utilizing the concept of palimpsest for the analysis of urban memory centres can help to reintroduce the invisible remnants of an urban history, which might or might not be a part of its present day culture, into the argument for the design of its future. In the Shiraz Chahar Bagh site, there is at least one important icon from every decade for the past few decades. None of these iconic constructions have ignored the context in which they were located yet they all immensely fall short in comparison to their complexities, dualities, contradictions and dynamism. Utilizing the concept of palimpsest (even at times of a simplistic approach to the concept, which suggests playing with the dualities and dynamics of remembrance/oblivion and erasure/construction) into the process of analysis and design of these historic sites will help reintroduce the concepts that a modernist semantic to analysis leaves behind. This can lead to a more substantial understanding of historical sites; not only in terms of their morphological history, but also in terms of their human history to play into the design process of their future, which in turn is necessary for new constructions that have a more substantial relationship with that history.

All in all, the built environment has a limited capacity for dragging various stages of history to the contemporary realm. As a result utilizing the concept of palimpsests in heritage studies either for research or future developments in relation to the heritage sites may facilitate in uncovering traces of the destruction/oblivion or at least acknowledging the potential for the presence of these layers. Considering each heritage site as a potential palimpsest assists the heritage and other neighbouring disciplines’ researchers to decipher the history in its layers while according the written history to the built one. Matter of course, there will be always a potential for some layers, complexities and dynamics to be decoded in the future through more precise readings and perusals.
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REGENERATION OF THE HISTORICAL URBAN CENTER AND CHANGING HOUSING MARKET DYNAMICS: ‘FENER-BALAT’

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Abstract
The Fener-Balat districts, located in the Historical Peninsula, are among the most prominent historical and cultural sites in Istanbul. The rapid growth of the city since the 1950s, mostly due to rural migration, has affected the quality of life in various sections of the city including Fener and Balat, leaving them almost completely derelict. The Rehabilitation of Fener-Balat Districts Programme is a joint program of the European Union and the Fatih Municipality (sub-municipality of the Istanbul Metropolitan Municipality). It was carried out during the period between January 2003 and June 2007. Regeneration, revitalization and rehabilitation of historical urban centers, which have become degraded and dilapidated due to sub-urbanization has been successful in most cases. The gentrification process has also paralleled the resulting socio-economic revitalization and regeneration process. Therefore, the purpose of this study is to examine and investigate the rehabilitation process and its results in these districts, with special emphasis on the gentrification that occurred as a result of this process. In order to explore how the increase in housing prices in the historical residential Fener and Balat districts after the rehabilitation program affected the social structure and how this process resulted in undesired gentrification, a survey design was conducted and social and economic aspects in Fener-Balat has been analyzed and explored in depth with respect to the individual, immediate surroundings and the urban social structure. The resulting gentrification phase is more important than the preceding phases of revitalization and renovation, because it influences the housing market the most.

Keywords: Historical urban center; revitalization; regeneration; gentrification; changing housing market dynamics.

INTRODUCTION
Located at the conjunction of two continents along the Bosphorus Strait, Istanbul has a population of more than 14 million people, constituting 18% of Turkey's total population (Turkstat, 2011). Further to this unique characteristic, the city comprises a wide palette of natural and cultural treasures like the Historic Peninsula, the Golden Horn and the Bosphorus. Since the 1970s, part of that heritage has been listed and is thus under protection. However, since the second half of the past century in particular, Istanbul has become a magnet for investments and individuals, with the result that these heritage sites are now targeted under an ongoing pressure of rapid urban growth and urban regeneration (Dincer, Enil et al., 2009; Akkar, 2011). The main reason of this rapid growth is migration from rural areas, which inevitably has led to a decrease in the quality of life as a result of uncontrolled and fast urbanization. In the last three decades, the urban structure of Istanbul has been undergoing a remarkable transformation due to a number of reasons including gentrification of historical and poorer areas and geographical expansion. Such rapid and huge changes have brought about a series of problems in the newly formed neighbourhoods, both physically and socially.

The new polycentric urban pattern has rendered some districts more appealing to the inhabitants, while some historical districts have lost their attraction and deteriorated, particularly with the settlement of low-income immigrants (Onder, Dokmeci et al., 2004). The historical city center of Istanbul has fallen short of meeting the inhabitants’ needs such as land and high quality communication facilities. As a result, local inhabitants started migrating from the city center.
(Ozus, Dökmeci et al., 2007). This process triggered rapid urbanization in the peripheries of Istanbul, and these areas replaced the historical city center as the new business districts. Istanbul has thus fully become a multi-centered metropolitan area (Tekeli, 1998). Therefore, various measures had to be taken to revive the decaying neighbourhoods of the historical center, mostly by the local authorities.

Within the scope of various revitalizing projects in the historical districts, old deteriorating buildings have been restored and sold to new users, which has created another urban regeneration in the area. This time, the low-income immigrant groups have been replaced by the high socio-economic groups, leading to an abrupt increase in the housing prices in the historical districts. Therefore, considering the above process, the purpose of this study is to investigate the whole regeneration process aiming at the rehabilitation of the Fener-Balat districts. Its results with special emphasis on the gentrification have occurred as a result of this process. This phase is more important than the preceding phases of revitalization and renovation, because it influences the housing market the most.

In the following sections urban regeneration and changing housing market dynamics, their effects on the gentrification process and factors such as physical, functional, socio-economic, environmental, locational and neighbourhood quality will be examined.

**URBAN REGENERATION AND CHANGING HOUSING MARKET DYNAMICS**

The contemporary general concerns of urban generation which have been highlighted and summarized by Hall and Barrett (2012, 148) in terms of physical environment, quality of life, social welfare, economic prospects and governance are: 1) **physical environment**: urban regeneration has attempted to improve the built environment, concerns having now embraced environmental sustainability; 2) **quality of life**: urban regeneration has sought to improve physical living conditions, or local culture activities, or facilities for particular social groups; 3) **social welfare**: urban regeneration has endeavored to improve the provision of basic social services in certain areas for certain populations; 4) **economic prospects**: urban regeneration has sought to enhance the employment prospects for deprived groups and areas through job creation or through education and training programs; 5) governance: here there has been a shift from city government to city governance within urban regeneration, and public policy more generally highlighted by the rise in importance of partnership, community engagement and multiple stakeholders in the process and delivery of urban regeneration.

The main purpose of large-scale urban renewal projects is to create new attraction centers in historical districts as well as deserted industrial areas. These projects are implemented as part of ‘urban management’ policies marked by the recent trends of ‘public and private sector partnership’. Naturally, the renewal projects are accompanied by great land speculations, which divert the original aim of these projects on behalf of the private sector usually supported by local municipalities. The historical districts are changing into areas of prestigious office and housing areas. As a result, the original intention of renewal of these areas to meet the needs of local people has turned into solely a financial gain: obtaining a good share from the urban land speculation.

According to Smith (2002), the difference between increasing land values and deteriorating buildings determines the restructuring of city centers. All actors involved in this process pursue this value difference. All these urban changes have caused both advantages and disadvantages for these areas, reflecting housing demands and prices. The 2011 census results reveal that 67.3% of households in Turkey are owners, while 23.8% are tenants. On the other hand, in Istanbul, 60.6% of the households are privately owned, whereas 31.5% are tenants (Turkstat, 2011). The lower rate of house ownership in Istanbul compared to Turkey is a clear indication that housing prices in Istanbul are higher.

The housing market operates on a continuum of prices, with the housing of one quality level substituting another housing of the next quality level. In this system, not only does the increase in income levels trigger the demand for better housing, but also leads to a rise in housing prices of one quality level. Any change, though small, in the prices of a certain quality
level should lead to immediate rearrangement of housing prices in lower or upper quality levels. Thus, the continuum is highly dynamic.

The literature on residential succession and neighborhood change is related to both filtering models and house price dynamics. The substitutability of housing in different locations is key to the model’s predictions. Summarizing Grigsby’s (1963, 1987) contributions to models of neighborhood change, Megbolugbe, Hoek-Smit, and Linneman (1996) pointed out that for Grigsby, urban areas were similar to aggregations of submarkets linked with each other through changing supply and demand dynamics. However, they noted that Grigsby’s research did not include price dynamics extensively enough, with only occasional price estimates based on the changes in a neighborhood.

In Stein’s (1995) model, equity effects are incorporated into the housing market. Stein specifically intended to explain large price swings in housing markets, as well as the positive correlation between transaction volume and changes in house prices. In this sense, his model is extensive. Even though his formal predictions are based on a static process, the extensions to a dynamic setting are fairly transparent. His predictions about the dynamic consequences of equity constraints include: 1) a positive correlation between the trading volume of residential properties and changes in house prices, 2) a negative correlation between the time-on-market for houses and house price changes, and 3) house prices being more sensitive to crisis, which constrain more homeowners in the area.

The recent studies show that contrary to the original purpose, the construction of new residences has increased the prices of other residences in their immediate surrounding (Ding and Knaap, 2003). Almost all studies reach a common conclusion that renovation or reconstruction of old buildings will, in the long run, increase home ownership, decrease the stagnation in the area, change the physical structure, and increase property prices (Ding, Simons et al., 2000; Abraham, 2001; Criekingen and Decroly, 2003; Fang and Zhang, 2003; Keskin, 2008).

The factors leading to the increase in land and house prices such as physical, functional, socio-economic, environmental, locational and neighborhood qualities are also the main issues triggering a phase of gentrification. Obviously, there have been different implications of these gentrification and rehabilitation processes. For one thing, the physical characteristics of historical surroundings have transformed rapidly. Secondly, the social structure in these areas has undergone a sharp change. Finally, more research that is academic has been conducted to analyze the residential characteristics in the gentrification processes, especially to investigate the social impacts of these processes on the socio-economic structure (Atkinson, 2000; Milanovich, 2001; Dutton, 2003; Levine, 2004). The transformation of historical centers constitutes a special case within the gentrification studies.

REGENERATION OF HISTORICAL CENTER AND GENTRIFICATION PROCESS

Urban regeneration projects generally aim to improve quality of life, balance the rapid increase of global pressure and economic inequalities, as well as prevent housing shortage. However, the current urban renewal projects have been far from realizing this target in the long run. In other words, these projects have not been able to address the needs of local residents, who are generally from low-income groups. Instead, middle and high-income groups now inhabit these areas. Therefore, while urban regeneration projects reshape the physical environment in order to reach contemporary living standards, they generate an irreversible social change called gentrification.

Gentrification (Glass, 1963) is the process of changing the socio-economic status of a neighborhood populated mostly by lower-income households by replacing them with higher-income households with renewed interests and investments. Once the general characteristics of a neighborhood alter tremendously, socio-economic changes are quickly inevitable. Gentrification encompasses a number of processes of change in demographics, land uses and building conditions in an area, accompanied by a rapid increase in a neighborhood’s property, influx of investment, and physical remodeling and renovation. In many cases, the lower-income residents
who originally lived in the neighborhood have to move out of the neighborhood because they can no longer afford to live there.

Higher-income households, including house investors, renters, and commercial investors from outside the neighborhood, change the general characteristics of a neighborhood, resulting in a widespread displacement of lower-income locals as well local businesses. In this regard, a broader definition of gentrification is necessary. It places social change as a central variable in the process to incorporate redevelopment (Cybriwsky, Ley, et al., 1986) as well as renovation of both commercial (Jones and Varley, 1999; Kloosterman and Leun, 1999) and residential units in both rural and inner city areas. Gentrification commonly stands for the process that challenges and, almost inevitably destroys the authenticity of established and sought-after urban qualities and precincts (Radovic, 2010).

Following the replacement of low-income inhabitants by the high-income households, the socio-economic structure has lost its original quality, leading to huge changes in neighborhood relationships, businesses, and education level. Under these circumstances, property prices increase unexpectedly in a short period of time.

It has been determined that two major factors lead to gentrification: the rise of property prices and rents, and the erosion in socio-economic quality. The growth in higher-income population in these areas increases the education level unevenly, creating a huge social gap between the better-educated newcomers and the locals. As a result of this polarization, social problems arise.

The 1980s witnessed tremendous global changes in politics and economy, which were reflected in the development of foreign trade in Turkey. The social and economic implications of this development were immediately seen in the urban areas of the country, most notably in the residential areas of Istanbul. While middle and high-income groups started moving to the peripheries of the city, the residents in the historical centers frequently changed hands as a direct consequence of renewal and restoration projects in these areas.

As well educated intellectuals move into a historically valued and important district such as Cihangir, Galata, Fener, and Balat in Istanbul, there is an extraordinary increase in property prices and the deformation in the social structure. The local inhabitants are forced to leave the area since as the property prices they own increase, the tax values increase. The markets, stores, shops and neighborhood relations get affected negatively from this instantaneous change.

We may clarify gentrification in Istanbul in three stages. The first stage was seen in the 1980s in Bosphorus villages like Kuzguncuk, Arnavutköy and Ortaköy. Then in the 1990s, the upper class moved into districts like Beyoğlu, Cihangir, Galata, and Asmalmescit. The last process was seen in the Fener-Balat districts by the end of 1990s as the European Commission declares that it supports a rehabilitation project in the district. Tarlabası and Tophane are two other areas that are expected to face this problem.

**METHODOLOGY**

The Fener-Balat Historical Urban Centers and the process of the Rehabilitation of Fener-Balat Districts Programme will be examined. Based on the observations that the increase in housing prices in historical residential Fener and Balat districts, caused by the replacement of low-income groups with high-income groups after the rehabilitation program have affected the social structure. This process has resulted in undesired gentrification. A survey design was realized. At this stage, a more comprehensive site study and a report on these districts’ rehabilitation program has been organized.

In order to realize this survey design, first of all, two main official publications: 1) the Fener-Balat Districts Survey Report (2004), prepared by Foundation for the Support of Women’s Work, and the Rehabilitation Programme supported by the European Commission, and 2) the Rehabilitation of Balat and Fener, Analysis and New Proposals (1998) prepared by IBB-Fatih Municipality, EU, UNESCO World Heritage Center, and the French Institute of Anatolian Research were examined.
Secondly, a survey design has been conducted among the stakeholders and inhabitants who were involved in the Fener-Balat Project. The survey instrument used in the study was a self-designed standardized questionnaire. The questionnaire was carried out on a total of 200 respondents: 100 respondents in 2008 and 100 in 2014. Then, the data as a result of the survey design realized in 2008 and in 2014 were compared with each other at the same time with the data taken from the 2004 ‘Fener-Balat Districts Survey Report’. Social and economic aspects considering the sub-issues: 1) educational background in the districts, 2) immigration to the districts, 3) the change of the neighborhood, 4) income level of the families living in the districts, and 5) the property prices and rents in the Fener-Balat have been analyzed.

Resulting from these comparisons and analyses, the critical role of housing market dynamics on gentrification was once more proven. The Rehabilitation of Fener-Balat Districts Programme and its results in terms of preventing gentrification, and once more highlighting the critical effects of the housing market were shown.

FENER-BALAT AS TWO NEIGHBORING HISTORICAL URBAN CENTERS

The Fener-Balat districts are among the most prominent historical and cultural sites in Istanbul due to their location on the Historical Peninsula. Creating a rich architectural and cultural heritage, various ethnic groups have lived on the site throughout its history. These residential districts with exceptional Bosphorus views possess both Ottoman and European architectural characteristics; among which it is possible to mention the grid pattern with narrow streets, historical city walls and entrance gates to the Golden Horn region.

During the Ottoman period, an important segment of Greeks who lived in Fener, and who were well educated and fluent in several languages, held high government positions as interpreters or diplomats. Greek habitants living in Fener lived out their lives by translating, by being involved in the Ottoman Empire’s governmental frame or by dealing with trading. Fener habitants got rich and had an important place in Istanbul's socio-economic frame by dealing with money changing, trading, navigation and commission brokerage. In the 17th century, Fener became the residence of upper classes and the bourgeoisie with its hewn stone buildings and richly ornamented house facades. Habitants of Fener also worked in various external affairs with their high level of foreign language and high level of culture and education. Looking at the urban master plan made for the district in 1930 by the urban planner H. Prost; the dwelling settlement on the shoreline was replaced by industrial buildings, chandleries, and factories that completely changed the socio-economic structure of the district.

This historical quarter is located on the southern shore of the Golden Horn, which consists of housing built during the 19th century and inhabited by minority groups. As the minorities left the neighborhood, the resident type changed drastically and new immigrant families with lower incomes started to take over after the 1950s. Moreover, in a relatively short period of time, there was a sharp fall in the socio-economic status of the quarter. As a result, single-family houses were divided into smaller units, where more than one family began to live with lower rents under inadequate conditions. The already poor social and economic conditions worsened when trade activity was cued by the relocation of the industry in the Golden Horn during the 1980s.

Fener and Balat districts with their deteriorating building quality were about to fall into ruin. Some buildings were completely demolished and the 20% of the rest were not in good condition. According to the statistics, at the beginning of the renewal project, among the 1401 lots, 102 (7%) were empty; 68 buildings (5.4%) were completely and 124 buildings (9.7%) partially empty (Foundation for the Support of Women’s Work, 2004). One of the reasons for the physical and social poverty was the move of the docks of the Golden Horn to Tuzla.

Balat was declared as a “historical urban site” according to 1973 and 1974 national laws describing the historic protection process. UNESCO listed it as a World Heritage site in 1990. Therefore, legal authorities had to be included in the urban regeneration process (see Figure 1). The main impulse for an urban regeneration in the 1990s was the special Rehabilitation of Fener and Balat Districts Programme (IBB, 1998).
THE REHABILITATION OF FENER-BALAT DISTRICTS PROGRAMME

The anti-pollution activities of the city of Istanbul on the shores of the Golden Horn began to produce several results for these districts. For example, bad smells from the Golden Horn disappeared towards the end of the 1990s following the transfer of industrial uses and cleaning projects in the waters of the Golden Horn in the later part of the 1980s.

Figure 2. Green spaces along the Golden Horn (Source: The Greater Municipality of Istanbul Archive).
It seems that the municipality played a significant role at the beginning of gentrification, and newly provided green lands by the side of the water encouraged the residents to use the shoreline exclusively (see Figure 2).

![Figure 3. Historical Peninsula Zone Plan for protection (Source: IBB, 2003).](image)

The rehabilitation of Fener-Balat was also included in the seventh Five-Year Development Plan by the National Assembly in 1995, and the process was designed to protect the cultural heritage and aimed at socio-economic redevelopment (see Figure 3).

The European Commission, the Fatih Municipality, the French Institute for Anatolian Research and UNESCO carried out a feasibility research with the support of local NGO's in Fener and Balat in 1997-1998. This research targeted the social rehabilitation as well as the rehabilitation of buildings, thus the improvement of the living and environmental conditions of the locals by providing housing solutions which could be applied inside the historical districts. This was designed as a pilot project that included the active participation of the local residents. As a result of this project, a report titled “The Rehabilitation of Balat and Fener Districts, Analysis and New Proposals” was produced (IBB, 1998) (see Figure 4).

![Figure 4. Fener-Balat Rehabilitation Project, 1998 (Source: Rehabilitation of Fener-Balat districts)](image)
The UNESCO Project, which aimed at the preservation of the local architecture by rehabilitating it, eased the adverse effects of the above-mentioned features of the quarter, and has provided an attractive incentive to the gentrifiers who plan to buy and restore residential buildings. The rehabilitation of the historical area of Fener-Balat reinforces Istanbul’s position as one of Europe’s great historical cities, and is a significant contribution to Istanbul’s role as the European City of Culture in 2010.

Out of 1401 parcels, 750 have houses in the historical districts (IBB, 1998). The Rehabilitation of Fener-Balat Districts Programme is a 7 million euro investment funded by the European Union and implemented in partnership with Fatih Municipality. The program aimed to rehabilitate about 200 houses selected in advance, (which constitute one-seventh of the total housing stock in the two neighborhoods) between 2003 and 2007 (see Figure 5). It was originally planned that loans would only be given to the existing homeowners who had bought their properties before 1997. However, in time, this multi-million euro investment served as a catalyst for gentrification without any outside interference (Islam, 2005).

The program continued to work under four categories: restoration of houses, social rehabilitation, renovation of the historical Balat Market and establishment of a waste management strategy. It encourages education of local artisans and creation of new job opportunities for them; like inclusion of local artisans in restoration processes, providing support for small-scale investments by the locals under the social schemes and support of the trade in the historical Balat Market. Some buildings received structural support against earthquake risk.

An important phase of the program was the establishment of a social center for youth and women of the districts. Being a meeting point of the residents, the social center provides courses for literacy, basic profession education, nutrition and childcare, as well as serving as a health clinic and nursery. One of the main improvements in the physical environment is the restoration and renewal of the Historical Balat Market that consists of little shops with characteristic vaulted ceilings, and located on Lapçinler and Leblebiciler Streets. All together 33 shops, 28 shop interiors, roofs and facades were restored; streets lamps and pavements were renewed.

By tackling the above mentioned issues, the program: 1) realized socio-economic regeneration and sustainable rehabilitation of the Fener and Balat districts, 2) created economic activity for the members of the community, 3) strengthened the technical capacity of the Fatih Municipality, and 4) created a replicable, successful model of urban rehabilitation.
Social and Economic Aspects of the Rehabilitation of Fener-Balat Districts Programme in Relation to Gentrification: Social aspects can be classified as educational background in the districts, immigration to the districts, and the change of the neighborhood in the districts while economic aspects include the income level of the families living in the districts and property prices and rents in the districts.

**Social Aspects of the District Educational Background in the Districts:** The generality of the Fener-Balat district’s population has a low level of education. According to a survey report made in 1997, 10% of the household heads were illiterate; 14% were not illiterate although they did not go to school; 63% graduated from primary school; 11% continued on to secondary school and only 2% graduated from a university. The education level of the women living in the district was worse than that of the men. 21% of the women had never been to school and were illiterate; 9% of them had never been to school although they are literate; and finally 70% of them had been to school (Foundation for the Support of Women’s Work, 2004).

The data received in 2004, 2008 and 2014 give an idea how the education level has increased slightly (see Figures 6 and 7). The university level was 1% in 2004, 8% in 2008, now it is 37%. In 4 years the education level of university grads increased 7%, and in 10 years increased 36% which is possible only as an effect of immigration. Therefore, it can be said that as a result of change in occupation level, gentrification is formed. The educational level has increased a great deal and is a signal to show the displacement in the district. It is clear that these immigrants who moved to the area in the past 4 years are well educated.

![Figures 6 and 7. Education level in the district](Sources: Foundation for the Support of Women's Work, 2004; survey design in 2008 and 2014).

**Immigration to the Districts:** It is clearly seen in Figures 8 and 9 that there is an increase in the number of people who lived in the area for 4 years, and for the following 6 years. This shows us people moved to the area in the past ten years. The new residents who came to the area during the transformation period are in the minority. Most of the inhabitants are original residents and the rest of the group came after the gentrification and districts improvement.

The Change of the Neighborhood in the Districts: As can be seen in Figure 10, according to the 2008 data, 40% of the users agree, 24% strongly agree, while according to the 2014 data 27% of the users agree, 22% strongly agree on the change of their neighborhood after the Rehabilitation of Fener-Balat Districts Programme. More people agree with the immigration to the district and changes in the district. They have a positive perspective about the gentrification process.

Figure 10. The change of the neighborhood after the Fener Balat districts rehabilitation (Source: Survey design in 2008 and 2014).

Economic Aspects of the District

Income Level of the Families Living in the Districts: The inhabitants of the Fener-Balat districts were socially and economically low income. While the poverty border of a four member family was 261.59 euros per month in Turkey, in 2004 (T.R. Prime Ministry, Turkey Statistics Institution, 2006), 46% of the families’ income was less than 243.90 euro/month (see Table 1).

<table>
<thead>
<tr>
<th>Monthly Income</th>
<th>% of Families within the Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.97-121.95 Euro (100-200 TL)</td>
<td>10</td>
</tr>
<tr>
<td>121.95-243.90 Euro (200-400 TL)</td>
<td>36</td>
</tr>
<tr>
<td>243.90-365.86 Euro (400-600 TL)</td>
<td>38</td>
</tr>
<tr>
<td>365.86-487.80 Euro (600-800 TL)</td>
<td>6</td>
</tr>
<tr>
<td>487.80-609.75 Euro (801-1000 TL)</td>
<td>8</td>
</tr>
<tr>
<td>609.75 Euro and above (1000 TL and above)</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 1. Monthly income of the families living in the Fener-Balat districts (Source: Foundation for the Support of Women’s Work, 2004).

38% of the families’ income was between 243.90 and 365.86 euro/month, 14% of the families were between 365.86 and 609.75 euro/month, and 2% were above 609.75 euro/month. The majority of the participants (92%) stated that they spent almost all of their income for the home and 78% of the women complained that they could not find money for their personal expenditures (Foundation for the Support of Women’s Work, 2004: 27). All of these figures revealed the poverty problem in the district.

As an economic activity, there are two main businesses in the district. The first one is craftsmanship that is the most important feature. The second type of economic activity is oven, glass and shoe manufacturers, hardware sellers and other kinds of craftsman work in the quarter. Another important facility center beyond the district is automobile mechanics, turners, greenery, and hardware sellers (Gur, 2009).
When people were asked about their income level in 2004, 41% of them stated that it was between 201 and 400 TL while 26% said it was between 100 and 200 TL that is a lot lower than the lowest income level that the government announces every year.

Percentages for answers given for “the family monthly income” are respectively: in 2008 46% of them earned less than 400 TL, 44% between 400 and 800 TL, 8% between 800 and 1000 TL; while in 2014 4% earned less than 400 TL, 19% between 800 and 1000 TL, 23% between 1000 and 1400 TL, and 53% above 1400 TL. As can be seen in Figures 11 and 12, the income level of the families increased extraordinarily in the districts in 10 years. This unbalanced increase in income level is a result of the immigration of high-income levels of educated people to the district.

**Property Prices and Rents in the Districts:** Percentages for answers given for the “increase of property prices and rents in the districts after the Rehabilitation of Fener-Balat Districts Programme” in 2008 are respectively: 55% increase above 100%, 19% between 51% and 100%, 4% between 21% and 50%, 9% between 1% and 20%, and 13% no change; while in 2014 they are respectively: 59% increase above 100%, 20% between 51% and 100%, 11% between 21% and 50%, 8% between 1% and 20%, and 2% no change (see Figure 13). The property prices and rents in the district express that the price raising process continues at constant acceleration.

**Assessment of the Rehabilitation of Fener-Balat Districts Programme in terms of Preventing Gentrification:** The Rehabilitation of Fener-Balat Districts Programme aims to regenerate the socio-economic structure and has taken some precautions in order to prevent gentrification and to control the housing market. There are two major precautions that have been taken in order to prevent gentrification: 1) The strategy to not choose the buildings which changed hands after 1997 for the restoration work in order to prevent speculation was the first precaution. 2) There was an agreement (signed between the Fatih Municipality and property owners before the restoration work started) stipulating the property owners are not to sell their
houses for a five-year period nor increase the rents above the inflation rate during this period (http://www.fenerbalat.org/).

These precautions sounded good in theory, but were not adequate in real life due to the lack of legal sanctions. It was observed that before the local elections, the legislation was not applied as forcefully as they should have been, and speculations could not be prevented. Many houses changed owners through notary public agreements without a real ownership document that should actually be a title deed. There was pressure on tenants that the rents would increase during the Fener-Balat Districts Rehabilitation Programme. Despite all the precautions, the increase in the property prices and rents in these districts could not be prevented. There was a social change after the program resulted. Immigrants and the well-educated affected the social life in the district.

Unfortunately, the Rehabilitation of Fener-Balat Districts Programme does not have any provisions about what could happen in the region after the first five years. Only 200 of the houses among 1400 in these districts were chosen for the rehabilitation. Therefore, only 200 buildings were under precautions against speculations, but there were no restrictions for the remaining 1200 buildings.

There was a lack of concrete precautions to prevent gentrification in the districts after the program is completed. The short period of time, through which an unbalanced increase in property prices occurred, triggered a social gap between the locals and new residents. In this content, The Fener-Balat Rehabilitation Programme cannot be accepted as successful in terms of keeping the local community in the site from preventing gentrification.

GENERAL EVALUATION AND CONCLUSION

Balat is an example of institutional gentrification. Expectations of the implementation of an internationally supported project which promised investment in the neighborhood induced the prospective gentrifiers to stay in the quarter. This process was also enhanced by putting into force the rehabilitation and beautification projects concerning the shores of the Golden Horn. It is expected that existing investment trends, coupled with openings of universities, hotels, art galleries and a miniature park, and a planned International Center of Congresses and Cultural Activities will also contribute greatly to the regeneration and revitalization of the neighborhood. The potential of religious tourism is not negligible in the neighborhood where not only numerous churches and old tombs but also the Greek Orthodox Patriarchy are located.

During the visits to the sites, it was observed that old and new residents in Fener and Balat have not yet created an interacting neighborhood. Considering the rising housing market and the interaction problems, it is generally observed that at the final stage of gentrification the old residents generally move out, taking their own traditions and elements of existing social structure. The data collected with the site visits supported this general expectation, as well; even though the existing property owners have not yet moved out, most of the tenants had to move to other districts. Nevertheless, it was surprising that the interviewed present users have not yet realized that they might have to move out in future.

Social aspects such as educational background in the districts, immigration to the districts, and the change of the neighborhood in the districts and economic aspects such as income level of the families living in the districts and property prices and rents in the districts had been analyzed. Data from 2004, 2008 and 2014 give an idea of how the education level has increased slightly as an effect of immigration. So it can be said that as a result of change in occupation level, gentrification has been formed. It is clear that these immigrants who moved to the area in the past 4 years are well educated. The users agree on the change in their neighborhood after the implementation of the Rehabilitation of Fener-Balat Districts Programme. The income level of the families has extraordinarily increased in the districts in 10 years. This unbalanced increase in income level is a result of immigration of high-income level of the educated to the district. The property prices and rents in the districts after the Rehabilitation of Fener-Balat Districts Programme have increased to high values.
As a general observation, people living in Fener and Balat all agree that this transformation process would be beneficial for them. In particular, the property owners are quite content with the rising property market. It was recorded that some academics from the universities around these districts and some media personnel have started to buy some of the properties in these districts. Even though the local shop owners are not satisfied with the present trade conditions, they are optimistic that it would turn into a better situation in the near future. However, spaces that are commonly shared and used by the first newcomers as well as the existing users have not been created yet; both parties expressed their contentment with each other.

Among the socio-economic characteristics, the length of time the inhabitants have lived in Istanbul, the average income of the household and neighbor satisfaction, as variables in the behavior characteristics, have positive impacts on housing value, as expected. Earthquake risk as a locational variable has a negative impact. While restoring a district, the territory should be preserved and kept alive not only physically, but also socially and culturally. The hardest part, which a rehabilitation program faces, is to keep the social life alive in urban renewal projects. The social life in the Fener-Balat districts that has formed over many years should not be changed in a 5-10 year period of time.

Istanbul, one of the oldest cities in the world, is about to reach its expansion limits. As well as trying to protect natural water basins and forests around the city in order to protect ecological balance, authorities are faced with a huge problem of urban regeneration within the historical parts. Considering the huge population growth and immigration housing has always been one of the key issues. Therefore, projects like the Rehabilitation of Fener–Balat Districts Programme have vital importance in both contributing to prevention of unplanned expansions at the outskirts of the city and regaining the existing building stock.

It seems that in Istanbul, gentrification has mostly been the result of the rehabilitation of old inner-city housing, and when it comes to the Istanbulite gentrifiers, they are the products of the same occupational, cultural, and demographic restructuring processes that have taken place across the globalizing cities of the 1980s.

Ideally, after the application of the urban regeneration project, it is desired that the districts’ existing users could still get the most benefits from the project. However, the transformation process experienced in Istanbul has been forcing the existing low-income groups to move out. Even though the Rehabilitation of Fener-Balat Districts Programme has several unplanned results, it should also be emphasized that it can be regarded as an example of a comprehensive approach, not only considering the facade quality and physical aspects, but also dealing with socio-economic aspects of change.

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SPACE AND MEANING CHANGE IN URBANIZATION AND MODERNIZATION PROCESS: An Urban Park in the First Capital of the Ottoman Empire

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Abstract
The foundations of Westernization Movement in Turkey were laid in late Ottoman Empire. Following the fall of the Ottoman Empire and the proclamation of the republic, urban space became highly important and modernist architects from the west planned a large number of Turkish cities. The concept of urban park was introduced and parks became significant components of modern life in this period. Bursa, too, was influenced by this movement; it was planned by western planners and an urban park was built. However, the meaning of urban parks within the ideal of modern life in Turkey and in Bursa has changed over time. This study is based on urban development periods in Turkey and it presents the change Bursa Kültürpark in Bursa, the early modern city of Turkey, underwent during the process from modernization to globalization.

Keywords: Urban park; modernization; urbanization; space.

INTRODUCTION
After the Industrial Revolution, parks became spaces open to whole segments of society and distinctive elements of modern urban planning as city governments sought healthy open areas as a countermeasure to the cramped neighbourhoods of the working class and the poor, and spare time phenomenon spread to all layers of the society (Demir, 2006).

Industrial revolution, which took place in the Atlantic Coast of Europe, and the project of modernity developed in Europe after enlightenment started to alter the economy and organizational structure of the Ottoman Empire as of 1840s. It is only natural that these changes reflected on urban space. The transformations in Europe necessitated significant transformations in Ottoman cities as well. The Ottoman Empire was, on the one hand, changing its governing structure by means of central reforms in order to accommodate itself to the new conditions; on the other hand, it was having transformations in its economic structure by opening its economic structure to foreign countries. These changes necessitated significant changes in cities. Business centers of cities were being restructured, and public transport vehicles were taking the place of cars. Populations of cities were increasing, and cities were expanding to new areas (Tekeli, 2010).

In the process commenced with the proclamation of republic, cities shaped by urban plans designed by western modernist planners and architects made up the space stage of Turkish modernization. Public spaces were one of the most important components of this stage and the earliest examples of urban park emerged in this period as a new type of public space. Several studies have been made about urban parks in Turkey. These studies are generally empirical studies aimed at measuring the park users’ expectations of the park and their level of satisfaction through surveys (Erkip, 1997; Oguz, 2000; Yılmaz et al, 2007; Çakcı, 2009; Yavuz & Kuloglu, 2010). There are very few studies about the meaning of parks from the perspective of changing socio-economic level (Uludağ, 1998; Özter, 2005; Demir, 2006).
Bursa, which dates back to 8000 BC, was the first capital and early modern city of the Ottoman Empire. This study aims to present the factors paving the way for the emergence of Kültürpark, built in Bursa in the republican period, as a space characterizing modern city and the changes it went through based on the transformation periods of urban space in Turkey.

**METHODOLOGY**

The transformation of cities in Turkey has been reviewed in five different historical periods by Tekeli (1998). By this study, the social and spatial change of the park has been analyzed based on Tekeli’s review. To determine the role of the park in public life in the past, newspaper reports and other written sources has been examined and the texts in these sources mentioning the role of the park in peoples daily life has been put together. Moreover, an oral historical study has been made in order to compare the way of use between the period of time when the park was used as focal public space and the way of use at present time. People to be interviewed has been choosen among those who have witnessed the construction of the park. Questions about how they have used the park in the past and now has been directed to these people, the interviews have been recorded and resolutions of these records have been made later. Totally 6 persons have been interviewed.

The park has been visited and photographed periodically since it was opened for the competition in 2001. During these visits the users way of using the park has been observed and interviews has been made. Written sources, oral historical study and the results of observations and interviews made at different times in the park has been associated to the Tekeli’s classification. The transformation of the park has been put forward in five different urban development periods and the results has been discussed.

**TRANSFORMATION OF THE TURKISH CITIES AND BURSA KÜLTÜRPARK**

The first urbanization period of Turkish cities, covers the time between the second half of the nineteenth century, when Ottoman Empire opened the doors to world capitalism, and the proclamation of the Republic. With its weaving industry and production system extending to villages, Bursa represents the first modernizing face of the empire in this period (Ortaylı, 2010). On the other hand, Bursa also occupies an important place as the first capital city of the Ottoman Empire and a symbol of the classical period (Laurent, 1999). The conquest of Istanbul and later Istanbul becoming the new capital did not reduce the importance of Bursa (Gabriel, 1958). Owing to its geographical position, the city has always had relations with Istanbul (Kirayıoğlu & Tanyeli, 1999).

When Bursa, which was of capital importance to the Ottoman Empire, was largely destroyed in an earthquake in 1855, planning was imperative. Figure 1 presents a map of the city produced in 1924. The first governor to be appointed to the city in this period was Ahmet Vefik Paşa, who had served as the ambassador to Paris for a short time. During his service as ambassador, Ahmet Vefik Paşa was influenced by the reforms implemented in Paris by Baron Hausmann and he introduced significant reforms in Bursa throughout his short service as the governor. He initiated and oversaw the construction of buildings such as hospitals, a government office and a theatre and he also realized wide street expansions and reorganization of the roads connecting the city to the neighbouring areas (Laurent, 1999).
Figure 1. 1924 map of Bursa (Source: Bursa Metropolitan Municipality Archive, 2012).

Figure 2. Ahmet Vefik Paşa Theatre (Source: Istanbul University Archive, 2012).
New public spaces appeared in Bursa in this period. These were places not quite familiar to Bursa or Ottoman world until then. For instance, institutional buildings such as the park in front of the government office, the theatre and the town hall appeared for the first time in this period (see Figure 2). We can say that these are very early examples for Anatolian scale (Kirayoğlu & Tanyeli, 1999). Kültürpark, subject of this study, is situated in Çekirge neighbourhood. In those times, Çekirge was a village in Bursa. Ahmet Vefik Paşa had a new road constructed which connected the village of Çekirge with Bursa; as a result, made the village and thus the area where the park is located a part of the residential area of the city of Bursa.

The second period to change the structure of urban space was the period between the proclamation of the republic and the end of Second World War (Tekeli, 1998). This period can be defined as a time of crisis and uncertainty between the two world wars (Bilgin, 1996). In the process following the fall of the Ottoman Empire, the end of the Turkish War of Independence and the Proclamation of the Republic, Turkey faced with two planning problems. The first one was the need to plan and reconstruct the Western Anatolian cities that had been burned by the Greek army while retrieving, and the second was the decision to declare Ankara as the new capital city. Declaring Ankara as the capital was a revolutionary decision. Declaration of a new capital in central Anatolia instead of Istanbul, one of the biggest cities in the world and the capital of three great empires, presented the Republic with the challenge of planning a big city (Tekeli 2010). However, there were no planners or architects available in Turkey to meet this challenge of planning. Therefore, European planners and architects were invited to Turkey for the reconstruction of Anatolian cities and towns particularly of Ankara.

The plans of Ankara, accepted as the physical and social leading city of the modern Republic (Sey, 1998; Keleş & Duru 2008; Aslanoğlu, 2010), was prepared by German planner Herman Jansen. There was a large park area in the plan. This park, previously a marsh, was named Gençlik Parkı (Youth Park). Some projects were produced so as to revive the social life in the park, and a magazine about the social life in the park was issued. The movement of constructing parks which started with the construction of Gençlik Parkı spread to other Anatolian cities and this process resulted in many urban parks constructed all over the country.

The first urban plan for Bursa was drawn up by a western planner. This plan, drawn up by German urban planner Karl Löcher in 1924, bears the traces of garden city trend (Batkán, 1996). The plan did not take account of the urban fabric which led to implementation problems, and as a result, Henry Post, who was working on the plan of Istanbul, was asked to draw up a new plan for Bursa. However, Prost's plan could not be implemented due to similar reasons. In this period inhabitants of Bursa kept their contact with open and green spaces in areas called promenade (see Figure 3). The tradition of promenade goes back a long way. Promenades are not designed areas. They are natural green spaces that the public uses, and they naturally exist in the considerably rich nature of Bursa. Yaycılar promenade is one of such areas. This area also constituted the core of Kültürpark. “There was a sycamore and a fountain in front of it in the area. There was a small pond in front of the fountain and around it there was seating accommodation and a meadow area. This promenade was surrounded by various kinds of trees. On summer days, the inhabitants, exhausted from the heat, would go to this nearest promenade, try to cool off in the shadow of the grand sycamore or the woods, and have picnics” (BGC, 2012a). The sycamore mentioned above is now within the boundaries of the park, ant it has been officially registered as monumental tree. The fountain said to have been around it, however, is not there any longer (see Figure 4).
Turkey’s transition to western civilization also changed the rhythm of daily life, appearance and use of spaces (Göle, 1994). In this period, modernization of daily life was conducted by the state. The state tried to perform this duty by way of bureaucrats, intellectuals, mass media and institutions like community house (Demir, 2006). Moreover, documents were prepared to educate people on issues such as how villages would flourish, and what the rules of utilizing parks and gardens would be (Bursa Municipality, 1930; Anonymous, 1939). In this period, when Kültürpark core area was used for recreation, the influence of the movement to construct parks, which
started in Ankara and spread all over Turkey, was felt in Bursa. However, in Bursa, there was yet not an area large enough to build a park in the city. Therefore, expropriation work started in order to enlarge the park area starting from Yaycılar Promenade.

The period between the Second World War and 1980s is the third stage of urban development in Turkey (Tekeli, 1998). Bursa Kültürpark was constructed in this period. Single party period in Turkey ended in 1946. In 1950s, remarkable changes took place in public spaces and user profile of public space changed as well (Demir, 2006). Within this framework, in addition to the white-collars, middle class, who occupied in trade, expanded and started to mark daily life.

The third urban plan of Bursa was prepared within this political environment and by another western planner, Piccinato, in 1957. The plan envisaged a population of 250,000, and aimed the preservation of natural and historical assets of the city. While preparing the plan Piccinato was also asked to prepare a plan for a new park in Yaycılar Pınarı. However, to build the park a national project contest was held as suggested by Piccinato (Olay Newspaper, 1998a). A new park was constructed in Izmir in this period. The name of the park is Izmir Kültürpark. An international fair was held in this park and it attracted considerable attention. The governor of Bursa, Çağlayangil, and the mayor, Oyal, were present at the opening of the fair and they were highly impressed by Izmir Kültürpark. They wanted to build a similar park and hold a fair which could compete with Izmir fair in Bursa.

Izmir Kültürpark has a plan scheme where an amusement park, a tea garden, a music hall (gazino) and a restaurant are located side to side. The Governor and the Mayor decided that the same scheme was to be implemented in the park to be built in Bursa and they invited the manager of Göl Cafe in Izmir Kültürpark to Bursa. Özgen managed tea gardens not only in Izmir but in Ankara Gençlik Parkı as well. Today, the tea garden is still in the park and managed with the same name (Ademoğlu, 2011).

Expropriating work was accelerated so as to obtain the needed park area. The 2.6 hectare area including Yaycılar Pınarı was found insufficient and the adjacent 3.3 hectare area was also expropriated despite the objections in the city council. One of the main reasons for the objections was that such a huge investment for the city was costly and unnecessary. In spite of the objections, expropriation was completed and the park was opened on 6 July 1955. ‘Domestic Industry Exhibition’ was held in the Yaycılar Pınarı section of the park in the same year (BGC, 2012b). In this period, a large pond was built in the park and great effort was exerted to bring water into the pond Olay Newspaper (1998b). A stadium was built next to the park in 1955 (see Figure 5). The fourth period is between 1960s and 1980s. With the commence of car production in Turkey in this period, car ownership increased rapidly and industry moved away from the center and immediate surroundings of the city thanks to the organized industrial zones being built (Tekeli, 1998).

Bursa has a pioneering role as regards organized industrial zones. The first organized industrial zone in Turkey came into service in Bursa in 1964 (CTUP, 1997). The automotive factory set up as a Turkish-Italian partnership in 1968, following the organized industrial zone, is a first in Turkey. The investments made in organized industrial zones and automotive industry in Bursa changed the population balance of the city completely. Rural population fell dramatically especially in 1970s, while urban population increased. Migration from the country to town increased the urban growth pressure. A new urban plan was prepared by Turkish specialists in this period.
The growth of the city influenced social life as well. The city contains patterns that do not exist in rural life such as weekend, holiday, spare time, trip, consumption and the like. Naturally, these new city-dwellers tried to benefit from these modern facilities offered by city life. New city-dwellers tried to explore and get to know the city in various ways especially at the weekend. As a symbol space the park, easily accessible and offering reasonable consumption possibilities, introduced them to the modern life (Demir, 2006).

In 1969 there were 45 hotels, 27 of which being thermal hotels, and 16 restaurants in Bursa. There were 12 gardens on the sightseeing routes in the city. Some of them served only tea and beverages, while some others served food and drinks. Kültürpark was defined as the entertainment venue of Bursa (Erler, 1978).

What we called going out was to go to Kültür Park. We used to pet the animals in the zoo there. Moreover, prisoners of Bursa Prison would be taken to the park. Prisoners would sell their handiwork of weaving and beading, which they learned to make in prison. There would be wardens guarding them. They would be making handiwork and they would sell them if anyone wanted to buy. We found it interesting that they were prisoners. It would touch us (Özdemir, 2009). In this period, places called ‘gazino’ (places where you dine and listen to famous singers live at the same time) opened in the parks in Ankara and Izmir, and also in Bursa Kültürpark. Gazino culture created a sense of entertainment peculiar to Turkey, where western and traditional entertainment patterns coexisted. This popular sense of entertainment was at times criticized. These criticisms even reflected on the art of painting. One of the prominent singers of this period was born in Bursa. The painting which can be seen in Picture 6 was inspired by this singer’s performance on stage (see Figure 6).
In spite of the entertainment provided by gazino in Bursa Kültürpark, the most popular and favourite place for public was tea gardens. Tea gardens are places like cafes of today. The whole family specially got ready to go to the tea garden where they had a chat while drinking tea from a samovar in open air. In those years, the park was as popular as malls are today. Furthermore, Kültürpark was the ‘Outdoor Mall’ of that time (Ademoğlu, 2011).

The scope of fair organizations which started with ‘Domestic Industry Exhibition’ in 1955 began to broaden in this period. In 1964, the First Bursa National Fair was opened with the participation of 104 business firms. It was held in a 1.7 hectare section of the park. There was a rush to Bursa, especially from neighbouring cities, to visit the pavilions in Kültürpark. Accommodation was a problem as there were no big hotels apart from Çelikpalas. During fair seasons, the gazinos, Taylan and Romans, would offer programs featuring stars of the time. Participant business firms regarded Bursa, in a sense, as a passageway to Izmir Fair, and they went on to Izmir Fair next. As of the first half of 1980s, both the concept of fair and the scope of the festival have changed (Olay Newspaper, 1998c).

Between 1960 and 1980, the park was the focal point of the social life of public in Bursa. The development on the physical structure of the park continued. Expropriation work was also in progress in order to enlarge the park. The area of the pond reached 11,000 m², infrastructure was constructed, and the number of gates increased to 7 (Baykal, 1972). The scheme made up of Taylan Gazino, Özgen Tea Garden, Amusement Park and Restaurant characterized the indoor recreation spaces for a long time. However, the entertainment venues were quite modest and small compared to their scale today (Berent, 2011; Saker, 2011).

The last urbanization period in Turkey, which commenced in 1980s, carries the universal characteristics of multi-centrivity and globalization, while the local characteristic is the emergence of liberal politics (Bilgin, 1996). Many small parks started to appear around new, decentralized housing zones. Out-of-town recreation areas appeared, as they became accessible as a result of increased car ownership. Moreover, big shopping malls, offering a wide variety of consumption possibilities, became center of attraction (Demir, 2006).

In early 1980s, the park had many functions. There was even a zoo in the park. Towards the mid 1980's, however, this multifunctional structure was subject to some changes. For instance, the amusement park was moved to the South end of the park, thus changing the Amusement Park, Gazino and Tea Garden array. Moving of the Amusement Park was an inconvenience for...
tea gardens as it caused a fall in the number of customers (Ademoğlu, 2011). On the other hand, it pleased the inhabitants of the prestigious residential district near the park (Berent, 2011). Although Gazinos were still in demand as entertainment venues, new forms of entertainment also emerged. For instance, concert areas where more people could listen to music without dining were needed. As a result of this, the first Open Air Theatre of Bursa was constructed in the park.

The scale of the fair organizations widened to such an extent that these organizations outgrew the park. For this reason, in 1986, a contest was held in order to organize the fair buildings scattered in the park (CTA, 1986). However, these efforts yielded only temporary relief. In 1997, a Fair and Congress Center, to be used only for fair organizations, was constructed in another section of the city. The buildings in the park were given over to small social clubs working for the city (see Figure 7).

In 1998, a new urban park, almost as big as Kültürpark, and a zoo were built side to side in Bursa. The purpose of construction of this park is the thought that Kültürpark isn’t enough for the whole city and the need of increasing the green spaces per person (Saker, 2011). In spite of being located quite far from the city center, both buildings received influx of local visitors. Yet, another contest was held for Bursa Kültürpark in 2001. This contest aimed, in contrast to the earlier ones, the organization of the park as a whole rather than organizing merely the fair buildings (CTA, 2001). The winner project had proposed pulling down all the buildings apart from a few, and building them in another section of the park. However, the businesses reacted against it. The winning project was not carried out (see Figure 8).
The project not being carried out prompted the Municipality to seek for new solutions. In 2004-2005 Bursa Metropolitan Municipality carried out a project named ‘Kültürpark Rehabilitation and Restoration Project’ in the park. The aims of the project were defined as: improvement of infrastructure, green areas and roads, and modification and renewal of the urban furniture and the buildings belonging to the enterprises in the park. Demolition of idle buildings reduced building areas by 5000 m² (Bursa Metropolitan Municipality, 2001). However, observations of the park revealed that some buildings had grown larger, and pedestrian roads were unnecessarily wide and were being used by vehicles (see Figure 9). Furthermore, many trees were cut down which led to disputes.

Recently, it has been figured in the press that some international companies have submitted proposals to organize the park in a way similar to that of Disneyland. A new stadium with much larger capacity is being built and demolition of the old yet still relatively new stadium, built only in 1955, has been intensely argued over by public.

The park, which was almost in the center of the city in the past, has now become a green island within the expanding urban area. Urban development has accelerated, and as well as alternative urban parks, many small parks appealing to decentralized residential districts have been built. The interviews show that people who have been visiting the park regularly since the opening and people living near the park has over time moved to different residential districts and the number of park visits for these people has decreased (Türkün 2011, Yüzen 2011). Yet, Kültürpark is still one of the most significant and largest green areas in Bursa (see Figure 10). Despite the change of the user profile Kültürpark is still actively used (see Figure 11).
CONCLUSION

Social and economic conditions of societies change over time and these changes reflect on the urban space. The meaning of public space in the period when the park was built is considerably different from the meaning it has today. The growth and development of the city has also changed the significance of the park in daily life.

In Turkey, urban parks were constructed in order to define the idealized western and modern world in the early years of the republic. Kültürpark, on the other hand, was constructed in the eclectic period in which local and western daily life patterns coexisted, and it has been the center of social life in the city. At this point, the uses in Kültürpark that have changed over the years are significant as to document the change of daily life throughout the process from the modernization created by the government to globalization. In the global cities of today, focal points of social life have been shifting to places like big shopping malls, and the values that parks represent have thus been changing (Karadag, 2013). However, parks and green spaces are of importance at the present time as key element of individual and social life quality and sustainable city (Thompson 2002).
Changes experienced in Turkey and in dynamic countries like Turkey, rapidly reflect on urban space. The transformation of public spaces in Turkey in the last few years is an important debate issue with architectural, social and political dimensions (Catterall, 2013; Civaner, 2013, Gül et. al, 2014). “In the city, social life is recreated and held together by means of associations, routines and interactions that take place in public spaces” (Uludag, 1998). For this reason the transformation of public spaces in the city and their new roles in the future must be analysed. This isn’t necessary only for documenting the changes in the social structure but also for the emergence of quality urban conservation and renewal work, the development of democracy culture and to offer the society better living standards.

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ANALYSIS OF TRADITIONAL BUILDING TECHNIQUES AND DAMAGE ASSESSMENT OF TRADITIONAL TURKISH HOUSE: The Study of Timber-framed Kula Houses

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Abstract
Western part of the Anatolia is one of the most important regions of the World that many civilizations have lived during the history since ancient times. Kula is an important historical town dating back to 17th century and is hosting important timber farmed structures (mansions) unique with their space organizations, architectural features and structural system. This study creates an analysis model which is based on a detailed case study, defining structural system and damage causes for the upcoming restoration works within the region, and this methodology can be applied for other traditional regions as well.

Keywords: Traditional Turkish Houses; Kula; timber structures; traditional building techniques

INTRODUCTION
Having a shelter, in other words, having a house is one of the oldest needs of human-being since the beginning of the life. Depending on the social, cultural and physical properties of society and also depending on the properties of the place, many different formations of vernacular settlements have been existed during the history. Some of these settlements do not exist today while some of them survived and some of them have been transformed into today's modern way of living. Western part of the Anatolia is one of the most important regions of the World that many civilizations have lived during the history since ancient times.

With a general point of view, most of the traditional vernacular settlements may have similarities, because of the limited kind of building materials and limited construction techniques. They were non-engineered structures but were results of long term experimentation and classical trial and error period. A fast examination on these settlements may form an idea of complete difference at every comparable element. But a closer look could point out to some similarities of the formation of the settlements. These can be the materials, construction techniques, and formation of the house plans according to the weather conditions and sunlight or the topographic features of the environment.

In other words, the building practices that performed well were replicated and further improved. One of the most important examples of vernacular architecture in the Western Anatolia is Ottoman style Traditional Turkish Houses which are very important part of our cultural heritage.

In this study, Kula, a small city near Manisa, has been selected as the case study area because of its preserved traditional housing. Kula has a quite large and well preserved traditional pattern where one can follow traces of the traditional architecture and construction system. In this context, this study aims to put forward the historical building techniques and deterioration reasons of the timber framed Turkish Houses dating back to 18th-19th centuries located specially in Kula Settlement which are one of the parts of this important Cultural Heritage. By learning or/and understanding the rules of these traditional constructions it is aimed to develop more effective conservation techniques/issues and to get some useful ideas for new constructions.
With this idea, in the first part of the paper, traditional Kula Houses is described according to the general analysis of whole settlement. Then, case area has been narrowed to be able to make more detailed structural analysis and damage assessment as well as to be able to make more definite comparisons between cases. So, some cases that located on Akgün district have been chosen and examined, because Akgün district has been a less studied area of Kula by comparing the other districts that include different examples of traditional housing. Other reasons of the choice of this area can be explained as; originality of the houses within the district, accessibility of cases within the district, similarity of houses in the context of structural, constructional and spatial organization.

**DESCRIPTION OF THE HOUSES IN TRADITIONAL KULA SETTLEMENT**

In this part of the study, general properties of traditional houses (see Figure 1 and 2) in Kula will be described in 3 main titles:

- Spatial organization
- Structural system and its components
- Architectural building components

![Figure 1. (Left) and Figure 2. (Right) Urban pattern of traditional settlement (Source: Authors, 2008).](image)

**Spatial organization**

These houses are located in a courtyard, which is surrounded by high courtyard walls for obtaining privacy to the house. The ground floor is used for service facilities such as barns, depots and also it is surrounded by thick stone walls and these facility rooms have no openings to the street. All the openings of the house are viewed from the courtyard, while rooms located on the first or second floor can also have openings to the street. North facades of the houses have solid surfaces to prevent the interior of the houses from cold, and south facades have open surfaces to obtain sun and breeze in the interior of the houses. All the rooms located in the first and second floors are opened to a semi-open space called as ‘sofa’. Most of Kula Houses have scheme system with outer sofa which has a strong relation with the courtyard (see Table 1&2).
Table 1. Spatial Organization of Houses (Source: Re-arrangement of the drawings of a Kula House from Akgun District Documented in a Summer Practice in 2000 supervised by Dokuz Eylul University, Faculty of Architecture, Branch of Restoration).

From the point of view life experience in the house, the two striking aspects of the Kula House were the courtyard and the hayat-sofa (hall). Courtyard is both like a large, open room for the activities of the household and it is also the edge space between the compound and the outside; through the wall of the courtyard, the household and the visitors can move in and out of the compound.
The hayat-sofa (hall) is more than a circulation area between the rooms and the staircase; it is a semi-open multi-functional living space on the upper floors (see Figure 3). With its strong visual connection to the courtyard and to its natural setting as well as to the rest of the town with its projections both to the courtyard and the street, hayat-sofa (hall) is a unique part of the house. In other words it serves as connection point between the courtyard and the rooms. Many of the daily activities occur in Sofa space due to its semi-private character. A raised wooden platform for sitting on one, two or three sides oriented towards a vista/panorama is the architectural elements
of this space. A semi-open projection with a lattice-window, a projection to the street and/or to the
courtyard, staircases, projected and raised platforms for resting, a rectangular planned space
open at one side, either in the form of an extension of the Sofa or as a single semi-open space
acting as a Sofa are the other important features of the Sofa.

Figure 3. A typical sofa space (Source: Authors, 2008).

Shortly, ground floor closed to the street with a stone or adobe wall and an upper floor which
sits on either load bearing stone walls or wooden studs characterizes the house type generally
seen in Kula region. The upper floor(s), which are built by timber frame construction system
consist rooms. Room; often with an elevated platform that was used as a seating area by day and
a place to lay sleeping mattresses by night. Room is the main private unit of the house and
designed according to ergonomic requirements (Asatekin, 2005). Repetition of this unit is the
basis of the typology (Kuban, 1995). In Kula region, the number of the rooms differs from each
other depending on how big is the family of the house. For example there are houses in the
settlement called with their family names, as Beyler, Bekir Beyler, Palanduzlar, Göldeliler, and
these houses are built as mansions with repetition of numerous of rooms. The rooms are planned
with square or square like forms and are about 12-15m$^2$; the height of the rooms are
approximately 3 meters. One of the rooms serves as main one and called as ‘baş oda’. This main
room usually differs from other rooms not only with larger dimensions but also with a projection to
the street.

There may be differentiations of room use including: summer/winter rooms. Summer rooms
are mostly placed on the upper floors with larger openings to street or courtyard, and the winter
rooms are placed mostly at ground floors with smaller openings and thick walls. Surfaces of the
rooms are carefully designed both horizontal and vertical surfaces are designed to express the
hierarchy of the space. Rooms also have some sub units named as; ‘sekialti, seküstü and seki’.

Sekialti; is the entrance of room, a special space for taking off one’s shoes; it is separated for
hygienic reasons, and can be covered with timber planks. Sekiести; is the main platform of the
room, this space is differentiated from Sekialti space by using dissimilar timber floor covering like
altering the direction of planking, and sometimes by using timber balustrade separation. The
timber floors of the room can be covered with carpets to obtain the heat isolation of the space.
Seki; is the sitting timber platform in the room. This platform is raised between 20-60cm (early
examples are rather low) from the floor, and placed on one, two or three sides of the room, the windows are placed at a higher level (see Figure 4&5). There is a wooden shelf called as ‘Serge’ which turns the surfaces roundabout just to respond it to human scale.

The middle floor, if there is one, has a low ceiling and is either a mezzanine floor or a whole floor. The top floor has, through time, become ever livelier with several projections and with multitude of windows which are of a standard size. The standard size of the window creates a sense of unity with its recurrent rhythm, not only in each house but also throughout the town. The roof always slopes on all four sides. This is one of the main discriminating characteristics of Traditional Kula House (Günay, 2007).

**Definition of structural system and its elements**

Structural systems of Kula houses are consist of both masonry and wood as main construction materials. Most of the houses have two stories. Houses are surrounded by load bearing masonry walls mostly made of local Stone called ‘küfeki’ at the ground floor level, including courtyard. Most of the time, this heavy stone wall is continued through the upper floor at the North side (facade) of the house by considering the climate. Masonry walls are supported by horizontal beams called as ‘hatıl’ at vertical intervals of about 1.0 - 1.50 meters. Wooden beams (hatıls) that placed with particular distances (also in today regulations advice that the vertical distance between hatıls should be 2.0 - 1.5 meters) help to bind the stone layers together without interrupting the continuity of the masonry construction. In addition to strengthening the masonry structure by connecting the wall surfaces hatıls decrease the ratio of height to width and help to determine the location of the first crack. The decay of these wooden elements mostly by the effect of water causes the masonry wall to be collapsed (Hughes, 2000). In the ground floor, system can be defined as a “semi” load bearing masonry system without having a solid floor like reinforced concrete which has to be used in conventional load bearing masonry system according to Turkish Earthquake Code.

Upper floor is constructed with the infill frame system and this structure called as ‘hımış’ in Turkey (see Figure 7). This is a typical wooden frame structure that small pieces of row materials (brick, stone etc.) are used as infilling material. This is a common use of wood and masonry in vernacular settlements in other regions of the Turkey as well as the different seismic regions of the World. This issue has been underlined by Langenbach with following words; “The timber with brick infill vernacular construction is documented to have originated as early as the 8th Century AD. There is much to support a hypothesis that this building tradition traveled from Europe into Asia as a result of the reach and influence of the Ottoman Empire, which at one time extended
almost from Vienna to the Caspian Sea. The Islamic Religion, which extended farther, may also have provided a cultural connection helping to further extend the construction method. The infill frame style of construction may have followed these same lines of cultural influence” (Langenbach, 2000).

Before the construction of the upper floor, the timber wall plates are placed on the inner and outer edges of the ground floor main walls. Also, free-standing posts placed in the semi-open circulation spaces known as “taşlık” are connected horizontally to the main beams, forming a base for the upper floors. In the upper floors, Posts (studs) and secondary posts are placed on a timber beam which is called as the sole plate (usually 12/12cm a square section element) as a base on the masonry wall. Usually with a dimension of 10/12 or 12/12cm posts made of yellow pine tree are installed in approx. 1 meter distance with each other on sole plate (yastik-traditional name of sole plate). These posts are connected with a wooden beam on the top level as well which is called as the top plate. These posts are supported with the secondary diagonal timber elements with 8/8 cm dimensions. In the cases of a need of openings such as windows or doors, secondary posts are used for to obtain the necessary void for the openings. Two secondary timber beams, one in the bottom of the opening and one at the top of the opening (lintel) are used to obtain door or window openings on the surface of the wall. These beams are connected to the main posts with nails. Usually the walls are filled with ‘küfeki’ stone to form the surface. The construction is plastered by tow ‘kıtıklı sıva’ which is usually made of mud and tow. Use of the ‘hımış’ technique on the first floor helps to decrease the dead-loads.

Floor Construction

In traditional Kula houses first floor is constructed with timber floor beams that covered with timber boarding. The floor construction can be seen from the ground floor since it does not have a ceiling covering. Floor beams are generally supported by stronger elements in section with about 2.00-2.50 meters intervals depending on the room size. This floor construction is connected to the masonry ground floor walls by horizontal timber beams called as ‘yastik’, but sometimes it is seen that floor beams are simply tied to the masonry without any other wooden element or insulation layer (see Figure 8).
Floor beams (joists) which have usually 8/15 cm dimensions in sections, are spaced at approximately 50 cm intervals. The spatial dimensions are usually determined according to the size of the available materials, whereas in some larger spaces such as the sofa—the main circulation hall in Ottoman houses—and taşlık where a wide span is required, long timber beams with a relatively larger cross-section (like 15*20, 20*20 cm) are used to support the secondary joists. Then the floor is covered with a timber boarding which is nailed to the joists. The floor system that consists of timber joists moving in one direction. Floor has an important role against the lateral forces especially in case of earthquakes since it connects all the masonry walls of the structure as well as the roof.

**Projections**

Another important element of the first floor is projection spaces that are commonly used in traditional Turkish House. And Kula Settlement has numerous unique examples of projections. To build projection (çıkma in Turkish) on the upper floor, the load-bearing elements constructed according to the type and extension of the projection and put in place at this stage. Main beam(s) is extended and the floor beams placed on/between them. And the timber cantilever beams are supported by diagonal bracing elements (see Figure 9).

Figure 8. Floor Beams (Source: Authors, 2008)

Figure 9. Plan, section and axonometric view of a projection (Source: Some drawings of a Kula House from Akgun District Documented in a Summer Practice in 2000 supervised by Dokuz Eylul University, Faculty of Architecture, Branch of Restoration).
Projection spaces are commonly used architectural elements in Kula Settlement and have numerous unique types. In the point of view of space organization, two types are obtained in the pattern, one a semi-open space which is the extension of sofa space to street, and one a close space which is the extension of room or several rooms to street. The semi-open projection of sofa space to street is usually isolated from the street by wooden fences.

**Roof Construction**

The outer shell of the house is finished with a wooden roof covered with tiles. The use of timber beams and joists are very similar in both floor and roof structure. The main difference is the slope of the roof. To construct the roof, rafters are placed on the top plate of the frame but in some cases a secondary beam-a purlin can be used as well on the top plate. Rafters are connected to the beam on top of the roof. This beam is supported by posts in approximately 200 cm intervals. Like the floor rafters are covered with firstly a timber boarding, then tiles are placed on this timber layer. In some cases especially in lower income houses rafters cannot be covered with timber boarding, in this case tiles are placed on the rafters which are placed parallel to the long side of the roof directly. The roof construction usually cannot be seen inside the rooms since the ceiling of the room is covered with timber boarding, this coating layer is supported by ceiling joists similar with the floor joists. The ceilings of the important rooms are usually ornamented. The mouldings are used in the connections of wall and ceiling surfaces (see Figure 10).

![Figure 10. Roof System Details (Source: Authors, 2008).](image)

With the features that are tried to be described above, this long construction tradition has been proved to be quite effective against earthquakes. Especially after the big earthquakes in Marmara region in 1999 and 2000 it has been seen that traditional houses could survived while conventional reinforced concrete buildings collapsed and caused to die of many people (Doğangün, et.al, 2005). Earthquakes have been an important part of life in Anatolia during the history. It is not a certain issue if these houses were built by considering earthquakes as a design parameter or not, since neither the science of earthquake nor the science of building were not defined as a separate professional activity at that times. But by considering the logical selection of the construction system and size of the building elements it can be said that earthquake could affect the construction process as a criterion. Besides the earthquake resistance, these traditional houses are important examples of optimum use of local sources and building materials.
Architectural Building Components

Timber is used as the building component as well as the structural system element in Kula houses. The timber components used in Traditional Turkish house architecture can be considered as the art works within its period. These elements can be classified as;

- **Doors**, door ornamentations and doorjambs
- **Windows** and window ornamentations,
- **Fireplace** and fireplace ornamentations,
- **Cupboards** and its ornamentations,
- **Ceiling** and its ornamentations,
- Wooden facade ornaments such as plasters,
- Ornament Elements on wooden projections,
- **Stairs**, balustrades, and handrails and their ornamentations
- **Eaves** and their ornamentations

Wood is the common material of the doors. There are two main door usages in Kula Houses as inner and outer doors. Inner doors are major decorative elements often embellished with geometric, floral and calligraphic patterns. The doors approximately have 200-240cm height and 90 cm width. Decorative inner doors are made up of small pieces of wood laboriously fitted together. On doors with complex angular patterns, the number of pieces may easily run into the thousands. This type is called as “Kündekari” doors and have supporting panels on the inside (much like on a panel door), which provide for support of the kündekari pieces. The Kündekari doors are used as the entrances of the most important rooms of the house and are carved with geometrical and floral patterns in Kula. Less important inner doors, such as toilet doors were left plain. They are made up of a number of panels placed between stiles and rails. The rigidity of panel doors depends on the quality of joints between the stiles and rails. Panel doors have similar appearance front and back (Uluengin, 2007).

The outer doors are the entrances to the house from the street; they are batten doors the plainest doors of the listed above. They are usually used where they will not be highly visible. To build a batten door, the carpenter lays square-edged or tongue-and-grooved boards side by side, and joins them with additional lateral boards.

Before the sheet glass became widespread in 18th century only shutters were used in the window openings then wooden windows were started to be used mostly with shutters in front of them. The sash windows commonly used in Traditional Turkish houses is the main type used in Kula settlement. Decorated wooden balustrades are the second element that is used in front of the windows as well as the shutters. Knotted grille is the common type of balustrades used in Kula region. Since sheet glass was not available different types of windows had to use for ventilation and light to interior space. Shuttered windows placed at a level where a sitting person could see outside were used to provide views and to ventilate the space. Upper windows which formed a second row above the lower windows only provided light to the interior. After the use of sheet glass lower window assumed both the functions of lighting and ventilation but upper window continued to be used as a decorative elements.

**Stairs** are another important wooden component in Kula houses; their construction details are as simple as the other structural elements of the house. Two main beams (limon kirği) carry the ladder steps. The steps approximately have 25cm width. The riser heights of the steps are 17cm. The ladder steps which are made of wood are usually fitted to the beams. The beams carry the wooden balustrades as well, and the balustrades are the most ornamented element of the stairs, the decoration of the balustrades has usually of geometrical and floral pattern.

**Wooden columns** as posts are used both as structural and the decorative elements of the Sofa, in all floors of the house. The capitals of the wooden columns are decorated with geometrical and floral patterns in the façade of the sofas in the floors which have high priority.
There are two types of **fireplaces** in houses used both cooking and heating. The hearth of the fireplace is commonly set about 10 cm above floor level and the smoke is collected by a large conical hood called as ‘külah’, this part is placed above a decorated ‘yasmak’ (Uluengin, 2007). The latter encloses the sides of the hearth, and it is usually ornamented. Fireplaces are the centres of attention, so an extra care is invented for their decoration. The ornaments are usually decorated with geometrical and floral patterns.

**Closets** in Kula region are the main compound in a room made of timber used for different purposes, varies for the functions, the main function is storing mattresses and clothes, and sometimes a small ablution space is hidden in it. There may be other closets placed on the walls of the room and they are especially niches for gas lamps, flowerpots, beverage containers, both can be ornamented if used in the important rooms, and decorated with geometrical and floral pattern.

**Ceiling** as a part of decoration element of Traditional Turkish Architecture has some diversity in the context of adorned techniques and construction techniques. Cause of diversity of construction and adorned techniques are financial strength of owner, talent of craftsman and function of room. With awareness of these factors appropriate ceiling type was preferred for the traditional buildings. While service sections of the buildings usually decorated with simple ceiling, the most important rooms (main room) and the main hall which are the most used spaces in the house have been decorated with adorned ceilings. The simple and most seen type is called as “Flat Ceiling” Ceiling structure is not seen by user. Structure of ceiling is covered with board. Joints between the boards and wall are veneered with lath.

Traditional Turkish House Ceiling adornments are grouped also in the context of type of laths, type of joint of boards, techniques of adorned ceilings’ cut and carve techniques, painting and picture techniques. In Kula houses, two types of adorned ceilings, adorned with lath and carved wood techniques are used. In the first technique, and the widespread one, desired pattern is obtained with lath, curved or diagonal laths are fixed on flat ceiling surface. Flat roof on the ground is created with the ceiling. In the second technique, a geometry drawn on the board is cut with a saw for obtaining a decorative wooden shape. And then this wooden geometry is nailed to the ceiling surface. The decorative wooden shapes are geometrical and floral patterns (Uluengin, 2007).

**Eaves**; especially in the southern and south-east facing facades, where the openings are more in numbers, are kept wide for keeping the structure from natural factors such as rain or the sun, varying in size from 80-150 cm. the eave elements that are located in Sofa or Facades facing south, are covered with plates. In the houses belonging to important families, the decorative coverings are used for eaves. The eaves located on the façade facing north direction are shorter than the other directions of the house because of the reason that there is less and small dimensioned openings in these facades. The dimensions vary 30-60cm in length.

**STRUCTURAL ANALYSIS AND DAMAGE ASSESSMENTS OF CASES**

To identify the structural features and damage assessments, 10 houses have been studied from Akgün District. These cases are chosen by the criteria below;

- They are similar in the context of dimension (number and dimensions of the rooms)
- They are similar in the context of spatial organization
- They are similar in the context of owner profile (number of family members, economical character of the family)
- Accessibility of cases within the district during the measurement and evaluation process.
- Ease of analysis and monitoring of structural and constructional organization
- Originality of the houses within the district.
Cases are numbered as follows:

- Case01 Zabun House (Akgün District 86 Street No:7/A)
- Case02 Akgün District 26 Street No:24
- Case03 Akgün District 26 Street No:28
- Case04 Akgün District 25 Street No:14
- Case05 Akgün District 26 Street No:38
- Case06 Akşehirli House (Akgün District-88 Street-No:21)
- Case07 Akgün District 86 Street
- Case08 Akgün District 18 Street No:26
- Case09 Refik Aksoy District No:5
- Case10 Akgün District 84 Street No:15

**Zabun house (Akgün district 86 Street No: 7/A)-C01:**

Zabun House is the example of the external sofa typed house, with its sloped roof and courtyard, and is typically a two-storied building. The building is a unique example among the settlement when both the plan layout and the use of timber elements is analysed. The construction system of the ground floor is stone masonry; second floor of the building is timber frame structure, unlike other surfaces of the building, all stories of the north facing wall is constructed with stone masonry system. Considering the period of the building it can be said that the upper walls of the timber frame structure is made of Himış Technique.

The building stands on the corner therefore; the courtyard of the building has two individual entrances from both of the two streets. The hayataltı space, one storied annex building and a wooden staircase that leads one to upper floors is located in the courtyard of the building (see Figure 11).

The first floor of the building has additions throughout time as a result of today’s requirements such as the transformation of the external sofa space into a closed space. This approach turned all of the wooden openings of the rooms (doors and windows) into an interior space element, and by this way all of these architectural timber elements are protected from the atmospheric conditions. Now that he building carries on its original usage as a residence today, the periodic maintenance of the structure can be achieved during the historical period.

Four rooms are located on the first floor and are all opened to Sofa space, one of them is overlooked to the main street and the other three are situated side by side and prolonged to the other side of the street by angled projections (see Figure 12). The rooms are decorated with unique wooden architectural elements such as cupboards, fireplaces.
The masonry stone wall thickness varies between 65 and 75 cm on the ground floor, and varies between 50 and 60cm on the first floor. The length of the span of the masonry ground floor wall is 11 meters on the west direction, and 16 meters on the south direction and surrounds not only the rooms but also the courtyard. The masonry wall on the west direction is supported by walls with similar thickness but the masonry wall on the south direction is not supported by any wall element. When this finding is compared to nowadays standardizations, it can be said that due to regulations it is not eligible to build a masonry wall longer than 5.5 meters length without any support element in first degree seismic zone areas. The researches show that; when traditional dwellings suffer from earthquakes in Turkey in recent years is analysed; the less-damaged or undamaged cases show that the wall length of masonry unsupported wall is not more than 10 times of the thickness of the masonry wall (Aksoy & Ahunbay, 2005). In our case the ground floor wall thickness varies in between 65-75 cm, according to what have been discussed in previous sentences, the unsupported span should not be more than 6.50-7.00 meters. When the length of the ground floor masonry walls is taken into consideration, it can be said that, the flexible behaviour and lightweight of the timber structure that is constructed over the masonry wall, and the timber elements (hatıl) that are used within the masonry wall as support elements stabilize or exist in the system without creating any risk in terms of structure system.

The depth of sofa space is 3 meters, and length of this space is 11 meters. 15*15 cm cross-sectioned and 2.65 meter long timber beams that are in the sofa space are placed at intervals of 2.00 meters. The main room, also the biggest room, which is opening to sofa space, has 5.50x4.30 meters dimension. The second biggest room opening to street on both south and west directions has 5.00*5.00 meters dimension. The smallest room on this floor is room 105 and its dimensions are 2.45*5.00 meters. The structural timber beam intervals can be read throughout the façade organization of the house and it is approximately 1.00 meter. The window openings are 0.80 meters long. The floor is constructed with timber floor beams that covered with timber boarding, the timber beam elements are used as they are taken from the forest without any carpentry work. According to the analyses that are made for the rooms plan scheme, the main floor beams passes about 5.00 meters span in maximum and are supported approximately by 0.25*0.18 m cross-sectioned beams within 2.50 intervals. The secondary beams radiuses are approximately 0.10 meters, and are placed on the main beam with 0.45meters intervals.

The long eaves, which are covered with bagdadi technique, of the building is very characteristic, and surround the three side of the building for preserving the timber structure from atmospheric conditions such as rain. The curvilinear beams supporting the projections are covered with bagdadi as well. All the significant indoor and outdoor architectural elements of the building such as windows, shutters, doors, ceiling coverings and etc. are made of wood, the wooden plaster elements are used on the facades as the ornaments.

It can be seen that now that the building ensured the continuity of its building use, the deteriorated architectural elements are replaced with new elements during the historical process. By this attempt, the original first floor windows and doors, the floor coverings of sofa space and the staircase are replaced with new timber elements. The repairs that have been maintained by the owner the house are made by using the same quality wooden structural and architectural elements. These attempts lead the building to be preserved to nowadays with its original features. Even if the periodical repairs have been done during the process, some deterioration on the facades of the building caused by atmospheric conditions such as colour changes on wooden elements can be occurred (see Figure 13).
Akgün District 26 Street No: 24 - C02:

The building is a two-storied, an external sofa typed small scaled house with a courtyard. The sofa space establishes a relationship with only courtyard, and is not projected to street. The construction system of the ground floor is stone masonry; second floor of the building is timber frame structure. The masonry walls are not plastered on the outer facades so the timber diagonal beams placed between the masonry walls as the support elements (hatıl) with some intervals can be seen from the surface. The masonry wall thickness on the ground floor is approximately 0.65-0.85m, and on the first floor is 0.70 m.

The masonry stone wall is approximately 17.5 meters long throughout the 26th Street where the entrance is obtained from, and is an unsupported wall. The other two ground floor masonry stone walls situated perpendicular to the entrance wall are similarly maintained as unsupported masonry walls with 17 meters and 12 meters length.

The biggest room on the timber structured first floor has dimensions like 4.35*4.50 meters. This room is projected to the street about 0.70 meters with a simple projection; the projection is supported by three curvilinear timber elements. The floor is constructed with timber floor beams that covered with timber boarding, and these beams are carried by posts with 0.15*0.15 meters cross-section situated on the courtyard with different intervals. The floors main beam passes about 4 meters span. The secondary floor beams are situated on the main beam on the opposite direction and used as they are taken from the forest without any carpentry work.

The first floor timber post elements on the sofa façade have 0.15*0.15 meters cross-section and are placed within 1,5 meters intervals. The wooden eaves of the building are projected both to courtyard and to street about 0.70 meters. The eaves on the street side are covered with bagdadi.

The wooden architectural elements of the building such as windows, doors, shutters, balustrades, and etc. are unique elements, and very well preserved during the historical process. There are no replacements, but there are some several deteriorations on the wooden elements now that the building is emptied since 1950’s.

The structural system details of roof structure can be easily seen from outside because of the loss of roof coverings, according to this the rafter elements are used as they are taken from the forest without any carpentry work, and placed in intervals randomly according to the size and section of the timber element. The most important degradation type observed in the house is
material loss. The wooden materials of roof coverings, eave coverings are partly lost, there are colour changes obtained on the architectural façade elements.

Figure 14. Case 02 The entrance façade of the building (Source: Authors, 2008).

Figure 15. Case 02 the external sofa and the roof structure (Source: Authors, 2008).

Figure 16. Case 02 Timber roof structural elements and wooden fences (Source: Authors, 2008).

Figure 17. Case 02 the building and its surrounding (Source: Authors, 2008).

**Akgün District 26 Street No: 28 - C03:**

The building is an external sofa typed, two-storied, timber structured characteristic house with a courtyard. The ground floor is built with a stone masonry structure system supported by timber beam elements (hatıl). The building ensured the continuity of its building use as a house.
The masonry stone wall is approximately 15 meters long throughout the 26th Street where the entrance is obtained from, and is an unsupported wall. The biggest and the main room on the timber structured first floor have dimensions like 4.35*4.70 meters. The whole building is projected to the street throughout the all facade about 0.50 meters with a simple projection, the projection is supported by three curvilinear timber elements, and covered by bağdadi system and plastered. The first floor timber post elements on the sofa façade have 0.15*0.15 meters cross-section and are placed within 2.00 meters intervals.

The owners of the house live in a one storied new house which they have built in the courtyard of the building during the recent years. During this process, the building has also suffered from wrong repair attempts as well. The external sofa space is partly closed, the hayataltı space is closed with a concrete extension, and some new openings are added to the façade of the building. The atmospheric conditions caused to degradations as well such as the material loss and colour changes on the wooden eaves, ceiling coverings and floor coverings.
2.4. Akgün District 25 Street No: 14 - C04:

This case consists of two individual buildings sharing the same small courtyard. One of these houses is a two-storied, external sofa typed house, and the other is a one storied external sofa typed house. Their façade organization is very simple. The one storied building has stone masonry walls with a thickness of 0.75 meters supported by timber beams in 3 directions. The courtyard façade of the building is made of timber frame construction system. The stone masonry wall of the rectangular one-storied building facing the street passes a span around 10.5 meters without any support. Six timber post elements carrying the Sofa space have 0.15*0.15 meters cross-section dimensions and are placed within 2.00 meters intervals on the courtyard direction. The two rooms of the building are produced with similar dimensions, and the dimensions of the rooms are approximately 4.20*4.00 meters. The length of the Sofa space is 8 meters and the depth of Sofa space is 2.56 meters long.

The two-story building is surrounded by stone masonry walls with a thickness of 0.75 meters supported by timber beams on all four sides on the ground floor, and only on two sides on the first floor, the façades facing both the courtyard and street are constructed with timber frame structure. The two rooms situated on the first floor differ from each other when the sizes are compared. The room facing the entrance façade’s dimension are 3.70*4.60 meters and the other rooms dimensions are 4.60*4.75 meters. The length of the Sofa space is 10.30 meters and the depth of Sofa space is 2.90 meters long. Six timber post elements carrying the Sofa space have 0.15*0.15 meters cross-section dimensions and are placed within 2.00 meters intervals on the courtyard direction.

![Figure 20. Case04 Sofa and Courtyard of the House (Source: Authors, 2008).](image)

The deterioration types that have been identified can be listed as, fungi attacks, infestation, material loss, colour changes. There are fungi attacks, colour changes and infestation on the post elements carrying the Sofa. There are material losses and colour changes on the coverings of the eaves. There is deflection on the first floor carrying system, and some material losses and colour changes on the floor coverings.
Akgün District 26 Street No: 38 - C05:
The building is an external sofa typed house. The linear plan schemed house establishes a relationship with the street, by using the slope of the topography the building is established as two individual buildings standing edge-to-edge, one block facing the street with three stories, and the other block with two stories. The top floor integrates the two buildings.
From the courtyard with a seven stepped staircase, one can reach to the semi floor and a unique wooden staircase leads one to the top floor. The ground floor of the building is made of a stone masonry wall, the upper floors are made of timber framed structure, unlike other surfaces of the building, all stories of the north facing wall is constructed with stone masonry system.

The rooms in the mezzanine and first floor are placed parallel to Sofa space. The timber post elements carrying the Sofa space have 0.15*0.15 meters cross-section dimensions and are placed within 2.00 meters intervals. The posts carrying the upper floor are established with a height of around 4.00 meters, especially buildings two-storied place.

It can be seen that now that the building ensured the continuity of its building use and it is restored since the recent years, it is not possible to obtain any important deterioration problem within the structure system and the materials of the house. The restoration attempt of the building, replaced the deteriorated architectural elements with new elements by preserving the uniqueness of the building.

**Aksehirli House Akgün District 88 Street No: 21 - C06:**

The building is an external sofa typed house. The building is situated on the corner facing two streets, and the courtyard of the building is getting its access within these two streets with individual two courtyard doors. The ground floor of the building is made of a stone masonry wall with a thickness of 0.70cm. The upper floors facing south directions and 88th Street are made of timber framed structure, unlike other surfaces of the building, all stories of the north and northeast facing wall is constructed with stone masonry system. The room facing south direction and south part of Sofa space are projected to Street number 88 about 0.80cm with a simple projection; the projection is supported by three curvilinear timber elements, and covered by bagdadi technique and plastered.
Timber post elements carrying the Sofa space have 0.15*0.15 meters cross-section dimensions and are placed within 2.00 meters intervals on the courtyard direction. The two rooms opening to Sofa Space are organized in 420*485cm and 420*455cm dimensions. The stone masonry walls of ground floor are supported by masonry walls on the opposite direction, but contrary to this situation, the masonry walls on the first floor are unsupported walls with dimensions of approximately 12 meters on one direction and 11.5 meters on the other direction.

The deterioration type that has been identified within this case is the colour changes mainly on the wooden elements. During the historical process; a one-storied building is built in the courtyard of the house as an extension. The original space organization of the ground floor is changed due to this extension spaces. This new addition space organization changed the façade organization as well with new openings on the masonry walls.

**Akgün District 86 Street - C07:**

The building is an external sofa typed, two storied house. The construction system of the ground floor is stone masonry; second floor of the building is timber frame structure. Considering the period of the building it can be said that the upper walls of the timber frame structure is made of Hımıs Technique. This small scaled house is a typical Kula House with its hipped roof, courtyard, its space organization, and the type of timber architectural elements used within the building. The life of the building is ensured its continuity only on the ground floor, first floor is emptied.

All the architectural elements used on the façade and interior are made of wood. The main room of the building is projected to the street. This projection is a very simple by supported by three curvilinear timber elements, and is not covered by bagdadi technique and plastered. Because of this, the floor beams can be easily seen from outside. The floor beams are used in the building like it is once collected from the forest without any carpentry work. In order to establish the projection, the floor beams are extended to the street about 0.80 meters long. The three curvilinear timber elements that support the extended floor beams have different sizes.

Now that the upper floor of the building is emptied, the maintenances that should be done periodically could not be provided during the process, and the building is suffering from physical deteriorations. The deteriorations started from the roof structure of the building, the plasters and the bagdadi coverings of the eaves have material losses and colour changes. This kind of deteriorations can be observed within all the abandoned houses within the territory.
The ground floor of the building ensured the continuity of the building life so some new windows are opened on the stone masonry wall surfaces while transforming the ground floor uses (space organization) to first floor uses with wrong workmanship, and with a wrong restoration manner.

![Figure 2: Case07 Exterior view and Material Loss on the Eaves of the building](Source: Authors, 2008)

**Akgün District 18 Street No: 26 - C08:**

The building is an external sofa typed, two storied, timber framed house and have more than one projection to the street. The construction system of the ground floor is stone masonry; second floor of the building is timber frame structure. The building is abandoned the maintenances that should be done periodically could not be provided during the process, and the building is now suffering from physical deteriorations such as material loss and colour changes.

The deteriorations started from the roof structure of the building, the plasters and the bagdadi coverings of the eaves have material losses and colour changes. The causes of rain can be easily seen from the shelter of the building such as; colour changes on all the wooden architectural elements like wooden shutters, wooden balustrades, and wooden façade elements. All of the projections are established very simple supported by three curvilinear timber elements, and the covering materials of the projections are lost due to the physical deterioration factors.

![Figure 25: Case08 Exterior View of the building and Deteriorations on façade (Source: Authors, 2008)](Image)
Collapsed House Akgün District 18 Street No: 5 - C09:

The building is an external sofa typed, two storied house with a courtyard. The construction system of the ground floor is stone masonry supported by timber post beams (Hatıl Construction Type); second floor of the building is timber frame structure. The building is desolated and because of that reason the masonry wall facing the street has collapsed. Especially the deteriorations on timber elements caused deformation of the structural system.

The main deterioration factor can be seen within the case is suffering from humidity. Humidity caused colour changes, fungi attacks on timber element. Different from other cases, insect invasion can be obtained in this case on the timber beam elements that support the masonry stone wall. The insect invasion fragmented and reduce the cross section dimension of timber elements.

Figure 26: Case09 The collapsed part of the house (Source: Authors, 2008).

Figure 27: Case09 Courtyard View of the building (Source: Authors, 2008).
Akgün District 84 Street No: 15 - C10:

The building is an external sofa typed, two storied house with a courtyard. The construction system of the ground floor is stone masonry supported by timber post beams (Hatıl Construction Type); second floor of the building is timber frame structure. The building has a rectangular plan scheme. The ground floor is used like a depot and the upper floor is used for living facilities. The rooms on the upper floor are placed on the long side of this rectangle plan and directly open to Sofa Space. The sofa is projected both to courtyard and to the street. Sofa space has differences in elevation. This elevation differences separated this space for different uses such as sitting spaces (seki). The seki space is projected to street. There are three rooms on the upper floor. The main room is projected to the street as well. The projections are very realized very simple.

The wooden elements used within the house have preserved their authenticity and uniqueness. The doors (kündekari doors), windows, shutters, and floor coverings (ornamented with floral patterns), furnace, closets, timber post elements, staircase and balustrades of staircase are realized very unique as the evidences of Typical Kula Houses architectural details. The eaves of the building are extended to the courtyard side as a console about 2.00 meters. The eave is covered with a wooden covering. The eaves are extended to the street similarly, and cover the street from the top.

Figure 28. Exterior view- Long eaves of the house (Source: Authors, 2008).

Timber post elements carrying the Sofa space have 0.15*0.15 meters cross-section dimensions and are placed within 2.00 meters intervals on the courtyard direction. The house is in good condition in the general point of view. Deterioration can be seen within the building is some material loss on the eaves of the building. A second thing can be seen within the building is a wrong restoration attempt example which is a one storied space added under the sofa space of the building and this space demolishes the space organization of the ground floor.

EVALUATION OF THE CASES

In this part of the study, structural and damage assessment will be described in context of Structural and Damage Assessments.

Structural Assessment

Structural systems of the selected cases have been evaluated in terms of dimensions and span length of wooden elements and the length of the load-bearing masonry walls between
supporting walls. A comparative summary of all the cases can be seen in table 8, when one examines the cases; it is seen they are quite important examples that have the continuity of building use. Effective use of materials which is one of the important aspects of structural design is also identified as one of the main aspects within the evaluation of cases. Even if many deteriorations can be seen within the cases, the ones that ensure the continuity of its building use have no serious structural deformations.

Table 3. Features of the structural system (Source: Authors).

<table>
<thead>
<tr>
<th>Definition of Structural System</th>
<th>Masonry wall Thickness (m)</th>
<th>Length of load-bearing masonry wall between two supporting wall (m)</th>
<th>Span of main beam (m)</th>
<th>Span of Floor Beam (m)</th>
<th>Dimensions of Projection (m)</th>
<th>Dimensions of main Post (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01</td>
<td>Ground Floor: 0,65-0,75 First Floor: 0,5-0,6</td>
<td>11-16</td>
<td>4.30</td>
<td>2.75</td>
<td>4.3*0.8</td>
<td>15*15</td>
</tr>
<tr>
<td>C02</td>
<td>Ground Floor: 0,65-0,85 First Floor: 0,7</td>
<td>17.5 -12</td>
<td>4.35</td>
<td>2.25</td>
<td>4.4*0.7</td>
<td>15*15</td>
</tr>
<tr>
<td>C03</td>
<td>Ground Floor: 0,70-0,80 First Floor: 0,7</td>
<td>15</td>
<td>4.35</td>
<td>2.35</td>
<td>9.5*0.5</td>
<td>15*15</td>
</tr>
<tr>
<td>C04-A</td>
<td>Ground Floor: 0,75</td>
<td>10,5</td>
<td>4</td>
<td>2.10</td>
<td>-</td>
<td>15*15</td>
</tr>
<tr>
<td>C04-B</td>
<td>Ground Floor: 0,75-0,85 First Floor: 0,70-0,80</td>
<td>6</td>
<td>4.6</td>
<td>2.5</td>
<td>-</td>
<td>15*15</td>
</tr>
<tr>
<td>C05</td>
<td>Ground Floor: 0,75 First Floor: 0,6-0,7</td>
<td>7</td>
<td>5</td>
<td>3.2</td>
<td>4.3*0.8</td>
<td>15*15</td>
</tr>
<tr>
<td>C06</td>
<td>Ground Floor: 0,7 First Floor: 0,5-0,6</td>
<td>11.5 -12</td>
<td>4.20</td>
<td>2.40</td>
<td>4.2*0.8</td>
<td>15*15</td>
</tr>
</tbody>
</table>

When table 3 is examined, another important aspect is impossibility of building such a structure by considering the actual earthquake codes. According to actual code, the maximum length of load-bearing masonry walls between two supports is limited to 5.5 meters, and the length of the openings (in horizontal plane) is limited as well. Despite the lack of compliance with the regulations, the reason of their being standing still can be explained by the flexibility of the system rather than stability because of the wooden frame structure standing on top.

Damage Assessment

Deterioration factors of all the monuments are classified mainly as internal factors and external factors. The location of the building, incorrect methods of constructions, wrong choice of materials, defective workmanship, ground-soil properties are defined as the internal factors, long-term outer effects (Fungus, invasion of insects, frost, wind), natural disasters (earthquake, flood, etc.), man-made reasons like abandonment, incorrect methods of construction, wrong choice of materials, fire, wars, vandalism, air pollution, lack of laws in protecting the structures (Ahunbay 2004: 38-45) (Tampone and Messeri 2006).

During the evaluation process on the selected houses, deteriorations have been described individually for each example, in this part it is aimed to summarize them to be able to define most important factors that needs to be solved. In this context, main deterioration factors have been grouped in three main titles;
- Physical factors
- Biological factors and
- Deteriorations caused by human factor

Chemical factors and fire damage have not been taken into consideration since their affects are rare by comparing other factors around Kula district. In general, most of the deterioration factors affect the wooden elements of the house first due to the natural features of the material, and then corruptions spread all the building in time. This issue shows that wooden elements within the structural system have an important role.

**Physical Factors**

Most of the examples are suffering from physical factors, especially the effect of moisture and water, since most of the building elements are made of wood. Main sources of the moisture/water can be listed as rain, ground water, evaporated water within the building and leaks from the plumbing system by considering the cases. Such deteriorations grows fast by the effect of abandonment, because when the houses are left their own, necessary simple repair or maintenance work cannot be made in time, so building elements are exposed to atmospheric forces directly. Most of the time, by the damage of tiles, that covering whole wooden roof construction, water can reach to the wooden elements and moisture content of the elements changes. This can be observed by the color change and by the time decay of the elements. Also increase of the moisture content creates suitable environmental conditions or accelerates grow of existing fungal attacks.

When other atmospheric forces like wind and earthquake are considered, cases can be considered as quite effective due to the flexibility of the system rather than stability. In addition, simple details of construction system accelerate deterioration of wood material, as well as simple and sometimes wrong workmanship details. Especially, connection points, where the load bearing elements like beams fastened to the masonry base/walls directly accelerate deterioration process due to the water content within the masonry components.

**Biological Factors**

During the study, main biological factors that have been seen are fungi and/or insect attacks. Most common observed traces of fungal attacks are color change and decay of the wooden elements. In addition, in some cases it is possible to see many holes or/and material loss within the wooden elements.

**Deteriorations caused by human factor**

When Kula is examined in deterioration reasons framework, the most important factor of the deterioration seen in this settlement is the abandonment. Abandonment can be accepted as the starting point of the other deterioration factors. The owners of these big timber structures moved to the new developing part of the town, to reinforced concrete multi-storey apartment buildings, rented their houses to people with lower-income, or left them to their elders whom cannot take care of the repair expenses of the buildings, or left them as they are. The new owners of the houses prefer to live in the courtyards of the buildings where they built new one storied concrete houses, or if they prefer to live in the old structures, they modify them with defective workmanship, incorrect attempts at restoration, incorrect methods of construction, changing the sizes of windows, closing the sofas with aluminum joinery. The emptied timber structures are exposed to long-term outer affects especially rain and wind, which causes fungi attacks, and insect invasion.
CONCLUSIONS

Akgun District of Kula is one of the important areas of traditional Turkish houses and is focal point of this study. Reasons of the choice of the area is described before as; originality of the houses within the district, accessibility of cases within the district, similarity of houses in the context of structural, constructional and spatial organization. Authors have had several analysis studies that identify the architectural and structural features as well as damage assessment of the house stock in district. During the fieldwork, it is found that main issue is the preservation of existing traditional building stock to make them compatible with the today’s conditions in order to sustain life in the area. It is inevitable to make various intervention to the buildings during the process of protecting the cultural heritage. In this sense, the intervention to be made to the structural system of the construction will naturally allow the entire building maintaining. To achieve this aim, local authority carries on or sometimes supports restoration projects of houses, although they are individual attempts and are not enough to achieve sustainability of life in the traditional part of the town.

In order to perform a correct application and detailing during the process of repair and/or restoration, the current system must be analyzed very well. Proper understanding of the architectural features, spatial organization, construction system and even details of the houses within the settlement will prevent the wrong intervention and the buildings will be able to transfer all architectural and cultural values they have to the future by this way.

In this context, study analyzed the general construction typology of the timber houses dating back to 18th-19th centuries located specially in Akgun district. But this analysis can be evaluated as a pilot-sample work, and a typological study among the whole region due to the similarities of the constructions.

Most of these constructions, as the evidences of house tradition of the region, representing their spatial organization, its period’s art concept, traditional design and construction technology, are at risk of disappearing because of lack of care and proper restoration works.

When the damage assessments have been discussed and the reasons for their deterioration have been analyzed within the selected area, it is seen that main factor of damage is abandonment. Because of this fact that when periodically maintenance cannot be applied to the building, the deteriorations start from the timber components of the structural system. In this context, when the interventions done directly to the timber components of the houses are considered, it is seen that in order to stabilize the building, some parts of timber structure are replaced with the new timber elements, and tied to the masonry structure which is conserved in situ. Instead of renewing the damaged timber elements as a first solution, the conservation decisions should be based on professional methods such as; assessment of the structural system as a whole, evaluation of interrelationships among the strength properties of wooden elements (modulus of elasticity, impact bending, hardness, gravity, aging, deformations, defects, etc.) working with conservation specialists, to be able to conserve them in a more sustainable approach.

Abandonment problem should be solved by encouraging locals to live in the traditional houses without harming the original spatial organization and structural system and material use. This issue mainly depends on how successfully houses can be adapted to nowadays use. Local people, who sustain their lives in the district, solve their adaptation problems by their own, with wrong restoration attempts and wrong workmanship instead of consulting from a specialist. The main reason of this behavior is the communication gap between local people and authorities as well as the economic problems of the owners.

The general aims of the principles of preservation of old structures are to conserve the authenticity of the structure and its original function in a condition of sufficient safety. Decisions of repair and maintenance should be taken in accordance with each structure and the features of its structural details. In cases with no possibility of maintenance, details pertaining to the original
structure should be kept as records in the structures. Making some strategic assessment on ancient timber structures one should take these into account and consideration:

- The historical value of the fabric
- The overall condition of the structure and hence
- The scale of repairs
- The options for the future uses.

Sustainability of the life of the area is quite a complicated problem which most of the traditional settlements in Turkey suffer from. For that reason, the solution of the problem depends on mostly macro scale studies in-corporation with local authority and also cultural heritage politics. Within this frame, this study creates an analysis model which is based on a detailed case study, defining structural system and damage causes for the upcoming restoration works within the region, and this methodology can be applied for other traditional regions as well.

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ACKNOWLEDGEMENT

The study is derived from the scientific report of the research project 107M207 supported by TUBITAK.

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DEVELOPING A STRATEGIC APPROACH FOR MANAGING SUSTAINABLE REVITALISATION IN WORLD HERITAGE SITES: Historical Bazaar and Khans District, Bursa - Turkey

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Abstract
At the 38th World Heritage Committee meeting which was held in Doha, Qatar in 2014, Bursa Historical Bazaar and Khans District, along with the Sultan Complexes (Kulliyes) and Cumalikizik in Turkey, were inscribed as a World Heritage Site. As a requirement of UNESCO, before the application to the World Heritage Committee, Bursa Site Management Unit prepared a management plan, entitled Bursa (Khans District and Sultan Kulliyes) and Cumalikizik Management Plan, for all these sites aiming at integrated sustainable development for them. Although all of these sites have different features in terms of their functions, sizes, demographic features and locations, they are covered by the same management plan. Thus, there is a need to develop specific strategic approaches unique to each site by taking into account the basic principles of the main management plan. In the content of this study, a strategic plan proposal which is unique to Bursa Historical Bazaar and Khans District is introduced. This proposal was prepared as a research project which is jointly supported by Uludag University in Bursa and Bursa Metropolitan Municipality.

Keywords: Site Management Plan; World Heritage Site; Bursa; Historical Bazaar; Khans District

INTRODUCTION
Throughout history, Turkey has been situated at the intersection of major trade routes. Therefore, many of the Turkish cities which are situated on the branches of these routes became important centers of trade. In these cities, the city center was formed by commercial districts including characteristic commercial buildings of the Ottoman era. A majority of these districts have survived until today by the fact that they have continued to be the center of commercial and social life. These areas have taken an important place in the collective memory of the cities with regard to cultural heritage and social life as well as to commercial importance. However, since the 1980s, the change in consumption habits in parallel with the rise of new life styles has greatly reduced both the economic and social importance of historical commercial districts. In response to this situation, although certain revitalisation projects are being planned by local authorities to develop and promote commercial activity in these districts, many of them do not use holistic approaches that take into account the physical, social and economic sustainability of the district. Indeed, the fact that a holistic approach to planning has not been developed for this area and that the projects have been developed by different branches of local government has caused projects to repeat each other or to conflict with each other. One of the major reasons for this situation is the lack of an integrated planning model on a national scale in our country in order to provide for the sustainable development of these cultural heritage areas (Vural Arslan et. al, 2011).

The Historic Bazaar and Khans District, along with the Sultan Complexes (Kulliyes) and Cumalikizik in Bursa, were registered as a World Heritage Site in the 38th Session of the World Heritage Committee which was held in Qatar in 2014. Before the application to UNESCO World Heritage Center, Bursa Site Management Unit prepared a management plan, entitled Bursa
(Khans District and Sultan Kulliyes) and Cumalikizik Management Plan, for all these sites. As all these sites are different from each other in terms of their functions, demographic features and sizes, at the implementation stage there is a need to develop strategic plans unique to each site by taking into account the basic principles of the main management plan. In this study, a strategic planning approach, developed for Bursa Historical Bazaar and Khans District is introduced as a model. Developing such a model for the sustainable revitalisation of the historic commercial district in Bursa has great importance. For, in order to keep the place of Bursa in UNESCO’s World Heritage List, there needs to be a well-structured strategic plan for managing the sustainable development of the district.

MANAGING UNESCO WORLD HERITAGE SITES

Legal precautions for the conservation of cultural heritage have gained strength with National and International conventions, especially in the last 60 years. After World War II, UNESCO prepared a ‘Convention for the Conservation of Cultural Property in the event of Armed Conflict’, which was signed in 1954 in The Hague. After that, in 1964, the International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter 1964) was drawn up. The declaration of the Congress has become an important guide in terms of restoration and conservation. Since the aforementioned convention, many conventions, regulations, declarations and memorandums have followed. In 1972, the "Convention on the Protection of the World Cultural and Natural Heritage" was adopted at the UNESCO General Conference in Paris. At this Convention, it was noted that the cultural heritage and the natural heritage were increasingly threatened with destruction by changing social, economic and physical conditions. This deterioration process affecting the cultural and natural heritage constitutes a harmful impoverishment of the heritage all over the world. Therefore, it is essential to adopt new provisions in the form of a convention which establish an effective system of collective protection of the cultural and natural heritage of outstanding universal value (Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972). In regard to this Convention, UNESCO provides a list for World Heritage Sites with an aim “to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity” (http://whc.unesco.org).

All countries in different geographies have cultural and natural heritage sites at different preservation levels. The Convention encourages these countries to identify and protect their heritage whether or not it is placed on the World Heritage List. In the selection process for World Heritage Listing, sites are inscribed on the basis of their merits as the best possible examples of the cultural and natural heritage (World Heritage Information Kit, 2008). In 1977, ‘The Operational Guidelines for the Implementation of the World Heritage Convention’ were published by the World Heritage Center. According to these guidelines, a cultural heritage should have an appropriate management plan or other documented management system. This plan must specify how the Outstanding Universal Value of this heritage site should be preserved with the participation of different stakeholders. The purpose of a management system is to ensure the effective protection of the heritage sites for present and future generations (Operational Guidelines for the Implementation of the World Heritage Convention, 2013).

Since 2000, UNESCO has implemented a prerequisite of a ‘Management Plan’ for areas to be included on the World Heritage List. The structure of a management system depends on the type, characteristics and specific requirements of a cultural heritage site and the context of the geography in which it is placed. Management systems may vary according to different cultural perspectives and the resources of the country. In order to clarify the management system, UNESCO first expects to know about the legislative, regulatory, contractual, planning, institutional and/or traditional measures most relevant to the protection of the property. Also, a detailed analysis of the way in which this protection actually operates is the other basic requirement. In
relation to this, an appropriate management plan or other management system is essential, and this is one of the basic requirements for the application to be inscribed as a World Heritage Site (Guidelines for the Implementation of the World Heritage Convention, 2013).

Formation of a strategic plan for urban and historical sites and the establishment of an autonomous mechanism for their management is quite a lengthy and complicated process that requires a multidisciplinary approach. The common elements of an effective management system are defined in Guidelines for the Implementation of the World Heritage Convention, as follows:

- “a thorough shared understanding of the property by all stakeholders;
- a cycle of planning, implementation, monitoring, evaluation and feedback;
- the monitoring and assessment of the impacts of trends, changes, and of proposed interventions;
- the involvement of partners and stakeholders;
- the allocation of necessary resources;
- capacity-building; and
- an accountable, transparent description of how the management system functions” (Operational Guidelines for the Implementation of the World Heritage Convention, 2013: 34)

The study called ‘Management Guidelines for World Heritage Sites’, prepared by Feilden and Jokilehto (1993) and published by ICCROM, is the fundamental guideline for site management. In addition, the other important studies related with this issue are ‘Guidelines for Management Planning of Protected Areas’, prepared by Thomas, Middleton and Philips (2003) under the leadership of IUCN (International Union for Conservation of Nature) and ‘Management of the Historical Environment’, prepared by ICOMOS England (2004). In these fundamental guidelines prepared for site management and in the international agreements, it is seen that management planning includes three major stages. These are:

- Determining the present state and development potential of the site
- Preparing the strategic plan which includes evaluation and planning stages
- Preparing the action plan which includes application and monitoring stages

**LEGAL LEGISLATION ABOUT THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT OF CULTURAL HERITAGE SITES IN TURKEY**

The Turkish Republic was one of the signatories of the ‘Convention Concerning the Protection of the World Cultural and Natural Heritage’. Like each State Party to this Convention, Turkey has the responsibility of ensuring the identification, protection, conservation, presentation and transmission of the cultural and natural heritage to future generations. In the Convention duties of States Parties were explained as follows:

- to adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes;
- to set up within its territories, where such services do not exist, one or more services for the protection, conservation, and presentation of the cultural and natural heritage with an appropriate staff and possessing the means to discharge their functions;
- to develop scientific and technical studies and research and to work out such operating methods as will make the State capable of counteracting the dangers that threaten its cultural or natural heritage;
- to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage; and
to foster the establishment or development of national or regional centers for training in
the protection, conservation and presentation of the cultural and natural heritage and to
encourage scientific research in this field (Convention of Concerning the Protection of
the World Cultural and Natural Heritage, 1972).

In regard to these duties, the Law (2863) on the Conservation of Cultural and Natural
Property was adopted by the Grand National Assembly of Turkey in 1983. The aim of this law is
explained as “to define movable and immovable cultural and natural property to be protected,
regulate proceedings and activities, describe the establishment and duties of the organisation
that shall set principles and take implementation decisions in this field” (Law on the Conservation
of Cultural and Natural Property, 1983). The issues regarding the movable and immovable
cultural and natural properties that need to be protected and the duties and responsibilities of the
concerned natural and legal persons are within the scope of the aforementioned code.

After UNESCO’s implementation of a prerequisite of a ‘Management Plan’ for areas to be
included on the World Heritage List in 2000, Turkey has made various revisions about the laws
on protection and conservation. In this context, in 2005, the ‘Regulation Regarding the
Procedures and Principles for Determining Foundation, Duties and Management Areas of the
Site Management and Board of Monuments’ was prepared. In this regulation, it was decided that
management plans are now required for all conservation and historical areas, not just for World
Heritage Sites (Regulation Regarding the Procedures and Principles for Determining Foundation,
Duties and Management Areas of the Site Management and Board of Monuments, 2005). In this
legislation, management plans are defined as “the plans formed with the aim of providing
protection, maintenance, utilization of the Management area, by considering administration
project, excavation plan and environment project or conservation master plan, also indicating
annual and five-year application stages and budget of conservation and development project and
that are revised once in five years” (http://www.alanbaskanligi.gov.tr/english/management_plan_concept.html).

In the “Regulation Regarding the Procedures and Principles for Determining Foundation, Duties
and Management Areas of the Site Management and Board of Monuments” the stages of
Management Plan preparation are explained as follows:

- **Current Condition Identification:** In this stage, the requirements of the site in regard to
  protection, functional rehabilitation and management should be defined. Collaboration of
  all the stakeholders in relation to the area should be provided

- **Site Analysis:** In this stage, the definition of the outstanding universal value of the area
  should be given. In the content of this stage, it is required to identify the problems of the
  site and then to analyse the functional and managerial conditions.

- **The definition of vision of the area and setting the policies:** In this stage the development
  of a future vision of the area is expected. This vision should cover the strategies about
  the protection and conservation of the district; the promotion of the area in the national
  and international arena; the administrative, managerial and financial models.

- **The determination of Work Programme, Timetables and Action Plans:** the actions
  expected from related stakeholders and the timetables for action plans should be defined
  in this stage. Also, the financial sources and budgets of the related activities should be
  planned.

- **Monitoring, Evaluation and Training:** In this stage monitoring the implementation of the
  management plan is expected. In regard to the implementation of the plan, training of the
  related stakeholders is required (Regulation Regarding the Procedures and Principles for
  Determining Foundation, Duties and Management Areas of the Site Management and
  Board of Monuments; 2005).
Although specific importance is attributed to the issue of protection in the constitution and the codes, the social and economic role of cultural and urban heritage is not adequately comprehended and identified within the urban development processes in Turkey. The major problems regarding this issue are:

- the existence of some loopholes in the legal structure regarding protection and planning
- the problems in establishing a coordination between the different branches of local authorities
- the non-execution of adequate resource transfer and resource planning regarding this issue

The studies about site management are too new for Turkey. The lack of studies and specialists in that area has been causing some problems in the implementation stage. However, defining site management according to the rules and regulations is an important step for Turkey with regard to preserving the cultural heritage and transferring it to future generations. The work conducted by the Ministry of Culture and Tourism in this regard gives pause for thought for the development of awareness and of control mechanisms in relation to site management in the near future.

**A STRATEGIC PLAN PROPOSAL FOR MANAGING THE SUSTAINABLE REVITALISATION OF BURSA HISTORICAL BAZAAR AND KHANS DISTRICT**

In June 2014, at the recent 38th World Heritage Committee meeting which was held in Doha, Qatar, Bursa and Cumalikizik as ‘The Birthplace of the Ottoman Empire’ was inscribed as a World Heritage Site. ‘Bursa and Cumalikizik: The Birth of the Ottoman Empire’ was a serial nomination of eight component sites in the City of Bursa and the nearby village of Cumalikizik, in the southern Marmara Region.

The Inscription of Bursa (Khans District and Sultan Kulliyes) and Cumalikizik as the World Heritage Sites

In 2000, Bursa Metropolitan Municipality began the efforts for inclusion in the UNESCO World Heritage List, with its application to the Turkish Republic Ministry of Culture and Tourism, entitled “Bursa and Cumalikizik: Early Ottoman Urban and Rural Settlements”. In this first stage the activities were carried out only with the inclusion of Khans District and Cumalikizik Village. In 2011, Bursa Site Management Unit under the Projects Department was founded. The Bursa Site Management Unit consists of a Site Manager, Coordinator, experts and boards. These boards are the Advisory Committee and the Coordination and Auditing Board. Following the foundation of the Site Management Unit, the application for being in the list was revised and the title was changed to ‘Bursa and Cumalikizik: The Birth of the Ottoman Empire’. This was a serial nomination including these areas: Bursa Historical Bazaar and Khans Area (Orhan Ghazi Complex and Surroundings), the Sultan’s Complexes (Hüdavendigar, Yıldırım, Yeşil, Muradiye) and Cumalikizik Village (Bursa and Cumalikizik Management Plan, May 2013).

In regard to the efforts for inclusion in the UNESCO World Heritage List, under the supervision of the Site Management Unit, a management plan was prepared in 2012. In the preparation phase, the Site Management Unit established coordination with related organizations, including public organizations, governmental institutions and associations, universities, professional chambers, and rightful owners and residents in the area. Regarding this participatory model, in order to ensure the transparency of the plan and to allow all stakeholders to participate, strategy seeking meetings were held. During the preparation, an invaluable source of information about the sites was compiled as a result of the coordination of different stakeholders (Bursa and Cumalikizik Management Plan, May 2013).
During the preparation process of the management plan, there were four main stages. In the first stage, all studies and collected data in regard to the Khans District, Sultan Complexes (Kulliyes) and Cumalikizik Village were gathered in a systematic analytical report format. The purpose of this stage was to establish a data infrastructure for the Management Plan. In the second stage, strategy seeking meetings were held in 2012 for the Khans District and Sultan’s Complexes and for Cumalikizik Village, separately (Bursa and Cumalikizik Management Plan May 2013). In the third stage, actions required implementing the defined objectives and strategies have been prepared and recommendations and ideas have been shared regarding corporate cooperation. After these third stages, draft management plan was prepared and in the last stage draft plan was submitted to the related authorities in order to get their approval (Bursa and Cumalikizik Management Plan, May 2013). After completing all the national procedures, Bursa Metropolitan Municipality was submitted to the UNESCO World Heritage Center in February 2013. In June 2014, Bursa (Khans District and Sultan’s Complexes) and Cumalikizik Village were added to the UNESCO World Heritage List.

The Need for Developing a More Specific Strategic Plan Unique to Khans District

The vision of Bursa (Khans District – Sultan’s Complexes) and Cumalikizik Management Plan is explained as follows: “As the first capital city of the Ottoman Empire, to protect and preserve the tangible and intangible values of the Khans Region, Sultan’s Complexes and Cumalikizik Village where traces of foundation of the Ottoman Empire can be found, and to help them survive as a world heritage”. In the management plan, the Khans District, Sultan Kulliyes and Cumalikizik village were handled together and all the strategies were developed in accordance with the mutual relationship between these different sites. However, it is essential to develop more comprehensive strategic plans which are unique to these sites by considering the mission and main objectives of the main management plan.

In the content of this study, a proposal for the strategic plan of Bursa Historical Bazaar and Khans District is introduced. This proposal was prepared between 2011-2013, as a research project which is jointly supported by Bursa Metropolitan Municipality and Uludağ University (see Figure 1). The author of this study is the coordinator of this research project. She has also taken part in the preparation of Bursa (Khans District and Sultan’s Complexes) and Cumalikizik Management Plan. The aim of the research project is to construct a multidimensional understanding of the strategic plan consisting of provision of social, physical and economic revitalization in a participative manner, to build an action plan and to determine performance indicators related to the action plan as well (Vural Arslan, et. al, 2013).

Figure 1. Aerial View of Bursa Historical Bazaar and Khans District (Source: Bursa Metropolitan Municipality Archive).
Bursa Historical Bazaar and Khans District

Bursa was the first capital city of the Ottoman Empire. Throughout its Ottoman and Turkish history, it has been an important trade centre. The city, which was situated on the “Silk Road,” was a fundamental commercial centre in marketing the silk produced both in the domestic market and in Europe throughout the Ottoman Era. The Historical Bazaar and Khans District, being situated in the city centre of Bursa, functioned as the heart of trade activity in the city throughout the centuries (Vural, 2007). Besides its economic importance, it was an important place of socialisation for the Ottoman way of life, which had a “closed society” culture. Due to its central location in the city and its place in the collective memory of the inhabitants, the area has conserved its aesthetic, economic and social values since its establishment 600 years ago.

Bursa Historical Bazaar and Khans District is a unique example of traditional Ottoman commercial districts. The initial buildings of the area, such as the Emir Khans, Orhan Mosque and Orhan Turkish Bath, were built in the 14th century. A Bedesten built near the Emir Khans in the same century aroused native and foreign merchants’ interest. In the following two centuries, each of the prevailing Ottoman Sultans constructed many Khans buildings. As the number of these buildings increased, new shopping streets appeared on the axes connecting the Khans and Bedesten, such as the Long Bazaar and Covered Bazaar (Akkilic, 1999).

By the 16th century, the early growth of Bursa’s historical commercial centre was complete. The 17th and 18th centuries were periods of stagnation for the district. The 19th century showed the earliest signs of change with transformation of the pre-industrialised city to an industrialised city, which was evidenced by changes in commercial activities. In this period, new transportation routes destroyed the organic structure of the city and bounded historical commercial districts (Vural, 2007; Shakur, et. al, 2012). The area underwent a decline in terms of its architectural characteristics, spatial unity and socio-economic activity due to rapid industrialisation and urbanisation experienced in the 20th and the beginning of the 21st centuries in Bursa. New building typologies, including banks, health clinics, some administrative buildings and new types of commercial buildings, were built in the periphery of the area by the mid-20th century (Shakur, et. al, 2012) (see Figure 2).

Figure 2: Views from Bursa Historical Bazaar and Khans District

The traditional commercial district in an Ottoman city had a social significance beyond its importance as a production and commercial centre. This significance stems from its role as a unique and essential space where commercial, administrative and political discussions took place. In the bazaar area, wholesaling and retailing were controlled by guilds, which were developed under the protection of the government as an instrument for the effective control of the population and economy. Guild members rented their shops from waqfs - endowments - who used the shops in commercial districts as an important source of income for the social welfare.
services of the Ottoman city. Although the guild system in Bursa was replaced by professional trade associations in 1912, the unwritten customs of this system were still apparent in the newly established retailers’ association (Vural Arslan & Cahantimur, 2010). As Yediyildiz (2003) points out, there were 3170 retail units in this district in the 17th century. At the beginning of the 21st century, the Han District included 3500 retail units where approximately 5000 people worked both as employees and employers. Nearly 100,000 people visit the area daily for both commercial and social purposes.

**Strategic Plan Proposal for Bursa Historical Bazaar and Khans District:**

Bursa Historical Bazaar and Khans District has been functioning as the social and economic heart of the city since its establishment in the 14th century. Due to its economic potential, the district is under the pressure of rent. Especially, after its inscription as a World Heritage Site, this pressure will be increased. Therefore, developing a strategic approach in order to manage the sustainable development of this district has a crucial importance. Believing this to be necessary, the author of this study prepared a research project with the support of Bursa Metropolitan Municipality and Uludag University. This research project aimed to develop a strategic plan for the sustainable future of Bursa Khans District by taking into consideration the basic principles of the Bursa (Khans District and Sultan’s Complexes) and Cumalikizik Management Plan.

During the preparation of this strategic plan proposal, the Turkish legal legislation about protection and conservation of historical districts was examined (Vural Arslan, et. al, 2013). In addition to this, specific retail revitalisation programs in Great Britain and America (DoE, 1997; Kemp, 2000; Reeve, 2004; Silverman, et. al, 2008) were also researched in order to establish an approach in the context of the specific characteristics of each region. In regard to this literature survey, the strategic plan is structured on four fundamental stages. Specialized methods in each stage of the study have been followed to reach the goals. The table below explains the essential aims of these stages and the method used in order to fulfil these aims.

**Table1. Stages of proposed strategic plan of Bursa Historic Bazaar and Khans District (Arslan et. al, 2013).**

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Evaluation</th>
<th>Planning</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>Determining the importance and originality</td>
<td>Formation of a common mind by coordination</td>
<td>Constitution of action plans</td>
</tr>
<tr>
<td><strong>Target</strong></td>
<td>Determination of own unique qualities of region</td>
<td>Constitution of an integrated scenario with a participatory approach</td>
<td>Production of projects that will enable the execution of the determined strategies and targets</td>
</tr>
</tbody>
</table>

**Analysis Stage:** As the determination of the most relevant strategic approach should rest upon a thorough analysis, the analytical stage is the crucial basis for successful planning. In this stage, the analysis topics and the analysis methods/techniques and tools are the basic requirements (Doratli et.al; 2004). The strategic plan proposal the analysis topics were classified under:

- Analysis of the natural environment
- Analysis of the built environment
- Analysis of the socio-economic environment
- Analysis of managerial system (Vural Arslan et.al, 2013)
In the analysis stage, the findings about physical environment characteristics were identified on the maps. In regard to the economic environment, first an inventory was prepared for the five most used Khan Buildings and Covered Bazaar area. A survey was applied for 538 shop units in this area in order to identify the social and economic characteristics of the district. This is one of the unique researches about the district which shows the social and economic transformation of the district in the last fifty years. These analysis topics were dealt with via various techniques and methods which are summarized in the table below:

Table 2. Analysis topics of the management plan proposal (Vural Arslan et. al, 2013).

<table>
<thead>
<tr>
<th>Analysis Topics</th>
<th>Parameters</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Environment</td>
<td>Topography</td>
<td>Identification of topographical features</td>
</tr>
<tr>
<td></td>
<td>Landscape - Vegetation</td>
<td>Identification of monumental trees</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>Identification of elements of landscape</td>
</tr>
<tr>
<td></td>
<td>Climatic Features</td>
<td>Identification of underground water resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of cisterns</td>
</tr>
<tr>
<td>Built Environment</td>
<td>Location</td>
<td>Identification of boundaries</td>
</tr>
<tr>
<td></td>
<td>History</td>
<td>Planning periods and urban development process</td>
</tr>
<tr>
<td></td>
<td>Urban Pattern</td>
<td>Solid-void relations</td>
</tr>
<tr>
<td></td>
<td>Urban Elements</td>
<td>Identification of discarded and empty spaces</td>
</tr>
<tr>
<td></td>
<td>Urban Landscape</td>
<td>Identification of paths</td>
</tr>
<tr>
<td></td>
<td>Architectural Evaluation</td>
<td>Classification of buildings in regard to their current condition</td>
</tr>
<tr>
<td></td>
<td>Infrastructure</td>
<td>Identification of the places and capacities of car parks</td>
</tr>
<tr>
<td></td>
<td>Service Spaces</td>
<td>Identification of the places of public toilets</td>
</tr>
<tr>
<td></td>
<td>Service Systems</td>
<td>Drainage system</td>
</tr>
<tr>
<td></td>
<td>Functional Analysis</td>
<td>Identification of pedestrian system</td>
</tr>
<tr>
<td></td>
<td>Land use</td>
<td>Identification of vehicle traffic patterns</td>
</tr>
<tr>
<td>Socio-Economic Environment</td>
<td>Work Space Features</td>
<td>Sectoral distribution of firms</td>
</tr>
<tr>
<td></td>
<td>Institutional Structure</td>
<td>Corporation types of firms</td>
</tr>
<tr>
<td></td>
<td>Features Of Labour</td>
<td>Identification of establishment dates of firms</td>
</tr>
<tr>
<td></td>
<td>Demographic Structure</td>
<td>Count of employees and employers</td>
</tr>
<tr>
<td></td>
<td>Stakeholders</td>
<td>Determination of related stakeholders</td>
</tr>
<tr>
<td></td>
<td>Existing Laws and Regulations</td>
<td>National regulation for site management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>International laws and regulations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National laws and regulations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>International retail revitalisation policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local policies and regulations about the site</td>
</tr>
</tbody>
</table>
Evaluation Stage: Collection of all this related information about the site and preparing inventories were necessary steps in defining the unique values of the site. However, there was also a need to identify key constraints as well as potential opportunities. This is one of the necessities for a strategic approach to conservation and revitalization. For such identification, the SWOT analysis method, a prerequisite for strategic planning, should be applied to the area for conservation purposes. The SWOT approach seeks to address the question of strategy formation from two perspectives in regard to external appraisals (threats and opportunities) and internal appraisals (strengths and weaknesses) (Doratli, et. al, 2004). In the evaluation stage for the preparation of SWOT analysis, meetings were organized separately with:

- Stakeholders who make decisions: Authorities of Bursa Metropolitan Municipality and Bursa Provincial Directorate of Culture and Tourism
- Stakeholders who affect the decisions: The Board of the Chamber of Architects, Bursa Branch and Bursa Historical Bazaar and Khan District Association
- Stakeholders who are affected by the decisions: Customers and retailers in five Khans of Bursa Historical Bazaar and Khan District.

In regard to stakeholders who make decisions and stakeholders who affect the decisions taken at meetings, the project team discussed the future projects about the district in order to understand the potentialities and the threats about the district. In regard to stakeholders who are affected by the decisions taken at meetings, the project team organised separate meetings in five of the most used Khans in this district in order to identify potentialities and problems of each area in the district (see Figure 3). Also, in this stage a questionnaire was applied to 1952 customers in this area in order to understand the strengths, weaknesses, opportunities and threats about the district in the eyes of the users. In addition, in order to understand the general expectations of the users, face to face interviews were applied with randomly selected customers and guilds. After all these meetings and surveys, a SWOT analysis was prepared by the project team.

![Figure 3. The photos of some meetings in evaluation stage, held on different dates during the 2 years Period of the research project (Source: Author's archive).](image-url)
Table 3. SWOT Analysis - the summary of highlighted aspects in the evaluation stage (Source: Developed from Vural, et. al. 2013).

<table>
<thead>
<tr>
<th></th>
<th>Strengths</th>
<th>Weakness</th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Environment</td>
<td>• Being in the city centre</td>
<td>• Maintenance problems, especially in open-air retail streets.</td>
<td>• Existence of many defined urban squares that have the potential to be improved.</td>
<td>• Deterioration of historical buildings.</td>
</tr>
<tr>
<td></td>
<td>• Existence of identical districts and monumental buildings (e.g., Covered Bazaar, “Khan”s, and Ulucami).</td>
<td>• Inappropriate structural transformations in retail units that are placed in historical buildings.</td>
<td>• Existence of many retail units that are actively used.</td>
<td>• Multi-storey building additions that conceal historical buildings.</td>
</tr>
<tr>
<td></td>
<td>• Mixed uses within the district (retail, socio-cultural and religious activities).</td>
<td>• Chaotic appearance.</td>
<td></td>
<td>• Physical obsolescence</td>
</tr>
<tr>
<td></td>
<td>• Labyrinth-like structure that interests visitors.</td>
<td>• Parking problems.</td>
<td></td>
<td>• Inefficient uses of public open spaces</td>
</tr>
<tr>
<td></td>
<td>• Being a pedestrian area.</td>
<td>• Inadequate street furnishing elements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Environment</td>
<td>• Existence of some social activities on specific days.</td>
<td>• Decreasing safety</td>
<td>• Being an important place in the collective memory of the inhabitants of the city.</td>
<td>• Rising attractiveness of suburban settlement patterns.</td>
</tr>
<tr>
<td></td>
<td>• Existence of warm relationships between shop owners and clients</td>
<td>• Incivility of the environment</td>
<td>• Increasing interest to cultural tourism throughout the world</td>
<td></td>
</tr>
<tr>
<td>Economic Environment</td>
<td>• Being an actively used commercial area for 500 years.</td>
<td>• Lack of international brands</td>
<td>• Being an attractive area for both tourists and local people.</td>
<td>• Rising attractiveness of out-of-town shopping malls.</td>
</tr>
<tr>
<td></td>
<td>• Diversity of uses and retail mix (variety of shops, open air market, restaurants etc.).</td>
<td>• Inappropriate size of shops for the trade of certain specific goods.</td>
<td>• Being in the social and commercial centre of the city</td>
<td>• Changing consumption habits.</td>
</tr>
<tr>
<td></td>
<td>• Variety of choices about some special products (e.g., jewellery, dowry, marriage outfit, and souvenir shops).</td>
<td>• Lack of leisure activities (e.g., cinema and entertainment centres).</td>
<td></td>
<td>• Changing user profile from middle income to lower income</td>
</tr>
<tr>
<td></td>
<td>• Existence of some local stores and restaurants</td>
<td>• Lack of specific management plan unique to this district.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management Structure</td>
<td>• Having a well-organised retailers’ association.</td>
<td>• Being registered as a World Heritage Site.</td>
<td>• The existence of NGOs resembling the guild system in Ottoman history</td>
<td>• Lack of holistic approach to the revitalisation of the district.</td>
</tr>
<tr>
<td></td>
<td>• Sultan Kulliyes and Cumalikizik Management Plan</td>
<td>• The existence of NGOs resembling the guild system in Ottoman history</td>
<td></td>
<td>• Being a place under the control of two different municipalities</td>
</tr>
</tbody>
</table>
**Planning Stage:** In the third stage, in the light of the SWOT analysis, the project team determined the main themes of the action plan tables. The following became important guides for the determination of strategies, mission and vision of the management plan:

- Conservation – Planning and Quality of Life
- Accessibility
- Retail revitalisation
- Tourism
- Education
- Consciousness
- Governance
- Risk management (Vural Arslan, et. al, 2013)

In regard to these themes, in determination of the strategies and tactics Weihrich’s (1982) TOWS Matrix approach was used. This approach is “proposed as a conceptual framework for a systematic analysis that facilitates matching the external threats and opportunities with the internal weaknesses and strengths” of the selected site (Weihrich, 1982). This approach helped the team in determining the main strategies and objectives for the sustainable future of the region.

Table 4. TOWS Strategic Alternatives Matrix used in the research project for the determination of strategies in regarding to each theme (Source: Developed from Weihrich, 1982; Takano & Wickramasinghe 2009).

<table>
<thead>
<tr>
<th>Internal Strengths (S)</th>
<th>Internal Weaknesses (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1……………</td>
<td>1……………</td>
</tr>
<tr>
<td>2……………</td>
<td>2……………</td>
</tr>
<tr>
<td>3……………</td>
<td>3……………</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External Opportunities (O)</th>
<th>S-O Strategies</th>
<th>S-T Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1……………</td>
<td>Strategies that use strengths to maximize opportunities</td>
<td>Strategies that use strengths to minimize threats</td>
</tr>
<tr>
<td>2……………</td>
<td>1……………</td>
<td>1……………</td>
</tr>
<tr>
<td>3……………</td>
<td>2……………</td>
<td>2……………</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External Threats (T)</th>
<th>W-O Strategies</th>
<th>W-T Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1……………</td>
<td>Strategies that minimize weaknesses by taking advantage of opportunities</td>
<td>Strategies that minimize weaknesses and avoid threats</td>
</tr>
<tr>
<td>2……………</td>
<td>1……………</td>
<td>1……………</td>
</tr>
<tr>
<td>3……………</td>
<td>2……………</td>
<td>2……………</td>
</tr>
</tbody>
</table>

In this process, meetings with local authorities and retailers associations have been held for second times for providing a common mind in the determination of strategies and tactics (see Figure 4). After the evaluation of the Bursa and Cumalikizik Management Plan, action plans were created within the scope of the study. Although each of these action plans have their own performance indicators, in order to provide for integrated sustainable development of the district, the research project team believe in the necessity of developing key performance indicators.
Monitoring Stage: Monitoring the action plans and applying sanctions for their accomplishment are the main responsibilities of local governments. However, it is essential to develop key performance indicators in order to measure the success/impact of strategies and Action Plans. At the fourth stage of the study, the importance of developing performance indicators was emphasized. In the content of the study, the key performance indicators are developed in regard to the main themes of the strategic plan.

Table 5: Key Performance Indicators (Source: Author).

<table>
<thead>
<tr>
<th>Physical Environment PLACE</th>
<th>Social Environment PEOPLE</th>
<th>Economic Environment WORK</th>
<th>Managerial Structure GOVERNANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Balance between protection and beneficial use Development Characteristics</td>
<td>• Population demographics</td>
<td>• Employment Characteristics</td>
<td>• Coordination between different branches of local authorities</td>
</tr>
<tr>
<td>• Changes in Visual appearance</td>
<td>• Perception surveys</td>
<td>• Property values</td>
<td>• Collaborative works between NGO’s, academicians and retailers’ associations</td>
</tr>
<tr>
<td>• Land use patterns</td>
<td>• Pedestrian Flows</td>
<td>• Business Surveys</td>
<td></td>
</tr>
<tr>
<td>• Vacancy Rates</td>
<td>• Crime Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Changes in the quality and usage of services</td>
<td>• Tourism awareness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Public Transport Usage Surveys</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSION

Being inscribed as a World Heritage Site is a great opportunity for providing the sustainability of Bursa Khans District. However, the great success will be hidden behind the successful management of the site. As it is mentioned, although the site management unit prepared a management plan for the World Heritage Sites in Bursa (Khans District, Sultan Kulliyes and Cumalikizik Village), there are no specific management models for each of these sites. In the implementation phase of the management plan, the differences between these sites will cause some problems; therefore each of these sites needs its own strategic plan by considering the main principles of the Bursa Sultan Kulliyes and Cumalikizik Management Plan.

In this study, the proposed model for the strategic plan for Bursa Khans district is introduced. The main purpose of this study, starting from the example of Bursa, is to put forward an approach related to protection, evaluation and provision of sustainable development of historical commercial districts which have been faced with dilapidation in Turkey (see Figure 5). To prepare this approach basically; it is benefited from national legislation in Turkey and retail revitalisation programs for historical commercial districts in the city centres of different geographies in the world.
Figure 5. The prepared model for the strategic plan of Bursa Historical Bazaar and Khan District (Source: Vural Arslan et. al, 2013).
For future studies by the author, it is aimed to carry out a similar study within the other cities that have a traditional bazaar area in Turkey. Starting from the example of Bursa, this model aims to put forward an approach related to protection, evaluation and provision of sustainable development of historical commercial districts which have been faced with dilapidation in Turkey, and also of similar bazaar areas in different geographies.

REFERENCES


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EVALUATION OF DOMESTIC ARCHITECTURE VIA THE CONTEXT OF SUSTAINABILITY: Cases from Konya City Center

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Abstract
Reusing pre-existing buildings for new functions and thereby ensuring the transfer of cultural knowledge and experiences to future generations contributes significantly to cultural sustainability by enhancing the city’s cultural life and the value of certain city areas. When reusing buildings the social aspect of the functions that will be assigned to these buildings that no longer serve their original function need to be considered as well, since such aspects form the basis of socio-cultural sustainability. The aim of this study was to evaluate various examples of domestic architecture at the Konya city center that no longer serve their original functions, within the context of socio-cultural sustainability. The common characteristics of these buildings, which are currently being reused as cafés or as the offices of the Conservation Board and the Chamber of Architects in Konya, is that they are all examples of authentic domestic architecture that are registered for preservation and are located in the city center. The contribution of these examples of domestic architecture to socio-cultural sustainability was analyzed by administering a questionnaire to university students and then evaluating the questionnaire results with descriptive statistics.

Keywords: Domestic architecture; reuse; adaptive reuse; sustainability; socio-cultural sustainability.

INTRODUCTION
In a world where change is both constant and inevitable, it is important to ensure the preservation of historical areas and buildings, and to adapt such buildings to present-day functions within the context of preservation practices in order to ensure their continuity. Buildings considered to be part of cultural heritage often undergo functional and physical changes over time with regards to their status and appearance (Aydın et al., 2007). In case these buildings become unable to fulfill their original function over time, or in case their relevant function becomes inapplicable in the present-day setting, it becomes necessary to perform spatial changes within their structure. To ensure that cultural properties, cultural heritages, and historical, cultural, and aesthetic values are preserved, and to ensure that they continue to form a cultural link between the past and the future, it is important to consider their potential modern use and functions (Yaldız, 2013). In this context, reuse is an important aspect of preservation, and involves the reintegration of a historical structure into daily life through a new function. Using buildings outside of their original intended purpose, and benefiting from these buildings by providing them with new functions through which they can service society, contributes to the interaction between individuals, the buildings and society. However, it is also necessary to find the proper balance between the preservation of a cultural property and the change of its functions.

The concepts of preservation and adaptation for reuse involve a process of continuity, sustainability, and dynamism for a cultural property. Sustainability is defined as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Sustainability is a dynamic process that encompasses the concepts of time, continuity, preservation, and adaptation to change (Shediac-Rizkallah and
Bone, 1998; Teutonico and Matero, 2003; Sarp, 2007; Yaldız, 2010). Sustainability in architecture, on the other hand, is a system that examines the economic use and the reuse-related activities of buildings, as well as their relation with the people and the environment. The architectural principles of sustainability are based on creating products/buildings that are compatible with the ‘region, culture and context,’ with the preservation of resources, and with the designing of livable environments. In this context, for historical areas those have developed their own authentic characteristics over time, it is necessary to ensure the continuity of their creative past, and to establish a relationship between the past and the present. According to the DEH (2004) from Australia and to Cantacuzino (1989), adaptation to reuse is considered as “a component of sustainable development,” and the new function of a historical building is described as one of the inputs for ensuring its sustainability. Reuse aims to extend the useful life period of a building, and acts as a component for ensuring both sustainability and preservation (Aydın et al., 2009). Although reuse represents one of the most appropriate and efficient approaches for utilizing cultural properties while simultaneously preserving them, the main focus of this preservation approach should not be sustainability of the new function itself, but rather the sustainability of the building that constitutes a cultural property. Preserving buildings without demolishing them not only allows sustainability in terms of energy-saving and material-saving, but also provides many social and economic benefits to society (Yung et al., 2012). The preservation and the re-adaptation for the use of cultural heritage is an important part of cultural policies, as well as an effective means for promoting public interests and strengthening the sense of cultural identity (Cercleux et al., 2012). Preservation can also be viewed as a policy for ensuring cultural continuity that serves as a reference for social life.

The constantly interacting components of ecological, socio-cultural, and economic sustainability both support and complement each other (Blowers, 1997; Reboratti, 1999; Sachs, 1997). The concept of cultural continuity/sustainability, which is considered as a sub-component of continuity, is defined as the ability of a social identity to change and adapt to present-day conditions without losing touch with its essence and origins. Cultural continuity is achieved by controlling the pace and nature of change. Culture is a mechanism, which, by constantly undergoing changes, allows both individuals and society to also adapt to the changes in the world they live. The culture of present-day societies harbors the accumulated knowledge and experience of the past (Kuban, 2000). In architecture, the concept of cultural continuity refers to each generation's task and responsibility in contributing to the cultural values and indicators it acquired from previous generations (often through interactions with other cultures) (Yaldız, 2010), and to effectively transfer these cultural values and indicators to future generations (Cebeci et al., 2002). In this context, culture represents the spatial and physical traces of past experiences. The creation, understanding, and continuity of cultural properties depend on common experiences. Cultural properties are thus the physical representations of our knowledge and memories regarding the physical world. The accumulated knowledge that is embodied by these buildings reflects not only the main characteristics of a society’s structure and organization, but also reflects many features of social identity (Asiliskender, 2005). In sum, the structures that are defined as cultural properties are much more than empty spaces enclosed by walls; they are locations that reflect the culture, traditions, customs, knowledge, and the collective consciousness and experiences of a society. Moreover, they represent areas that both witness and bear the marks of everyday life. In addition to allowing individuals to establish a link to the past, cultural properties also contribute significantly to the character of a location, illustrate important historical events, and reflect the historical identity of a location or area. With the historical marks and traces they constantly bear, cultural properties also ensure the continuity between the past, present, and future (Yaldız, 2010). With respect to the sustainable reuse of these structures, the concept of “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” is an essential aspect.
that must be considered. Reusing cultural properties that are part of a city’s historical fabric by assigning them new functions can be viewed as an extension of policies that aim to ensure cultural continuity and to preserve features/structures that serve as references for social life (Korumaz, 2006; Pereira et al., 2004).

Reuse also constitutes a part of cultural continuity not only through the protection of architectural heritage, but also by serving as an example for new preservation-related activities and practices (Arabacıoğlu et al., 2007). When considered within the context of sustainability, reuse significantly contributes to the social and cultural sustainability of a building through the new functions it assigns, while also supporting the continuity of the functions in question (Aydın and Okuyucu, 2009). Preserving and ensuring the continuation of a structure’s original spatial characteristics and value through a new function has a significant effect on social and cultural sustainability, and allows the preservation of historical values for future generations. Cultural properties serve as a bridge between the past and the present, and between the old and the new. They are the means for ensuring cultural continuity, as well as instruments for ensuring the transfer of culture to future generations (Tapan, 2007; Aydın and Okuyucu, 2009).

From a socio-cultural perspective, a new function allows a historical building: (1) to contribute to the city, environment, and urban fabric; (2) to benefit society through the activities it fulfills and the social needs it satisfies; and (3) to become once again usable and inhabitable. The criteria for evaluating socio-cultural sustainability in reused historical buildings are provided in Table 1. Within the context of the study, we have focused on social and cultural components. Based on the views of study participants who were knowledgeable about the city and the relevant historical buildings, the present study evaluated the preservation, the authenticity, and the symbolic significance of the cultural properties being reused with different functions, as well as importance that was being accorded to the historical and cultural significance of such structures. In this context, it is important that the changes introduced to a structure through new uses and functions contribute positively to its historical significance and architectural integrity.

<table>
<thead>
<tr>
<th>Social and Cultural Components</th>
<th>Components belonged to the new function and buildings adaptation to reuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULTURAL</td>
<td>Visual completeness with the environment</td>
</tr>
<tr>
<td>Original function of the building should not be forgotten</td>
<td>Accessibility and parking lot for the new function</td>
</tr>
<tr>
<td>New function of the building should be known</td>
<td>Visual contribution with its new function to the environment</td>
</tr>
<tr>
<td>The building become a reference point by new function</td>
<td>The harmony between new function of the building and its environment</td>
</tr>
<tr>
<td>The expression of the building’s architectural history and art value</td>
<td>It’s quality to attract attention in the fabric it is placed</td>
</tr>
<tr>
<td>Conservation of the building’s cultural values</td>
<td>Being saved from the ruin appearance/preventing visual pollution</td>
</tr>
<tr>
<td>Conservation of the building’s originality values</td>
<td></td>
</tr>
<tr>
<td>Conservation of the building’s aesthetical values</td>
<td></td>
</tr>
<tr>
<td>SOCIAL</td>
<td>The relationship between the requirements of new function and existing spatial organization</td>
</tr>
<tr>
<td>New function should agree with the social and cultural structure of the city</td>
<td>The spatial character of the new function (width, length, height)</td>
</tr>
<tr>
<td>Conservation of the building’s socio-cultural value</td>
<td>Action flow and space organization of new function</td>
</tr>
<tr>
<td>Contribution to the publicity to the city</td>
<td>Spatial characteristics of the original building (plan scheme, width, length, height)</td>
</tr>
<tr>
<td>Social, cultural and economical benefits it provides to.</td>
<td></td>
</tr>
<tr>
<td>New function supports the user activities and social life</td>
<td></td>
</tr>
<tr>
<td>Visual contribution with its new function to the environment</td>
<td></td>
</tr>
<tr>
<td>The harmony between new function and environment</td>
<td></td>
</tr>
<tr>
<td>It’s quality to attract attention in the fabric it is placed</td>
<td></td>
</tr>
<tr>
<td>Being saved from the ruin appearance, preventing visual pollution</td>
<td></td>
</tr>
<tr>
<td>TECHNICAL</td>
<td>Natural and artificial lightening</td>
</tr>
<tr>
<td>The heating, ventilating and acoustics properties of spaces</td>
<td></td>
</tr>
<tr>
<td>Spatial characteristics for the arrangement of technical requirements</td>
<td></td>
</tr>
</tbody>
</table>

*The study is focused on the evaluation of the social and cultural sustainability components.

Table 1. The components of sustainability (Aydın and Okuyucu, 2009; Aydın, 2010; Yaldız, 2013)*
Methods

The methodology of the study relies on the evaluation within the context of social and cultural sustainability of domestic architecture that were no longer used according to their initial functions. This field study was performed on six cases of domestic architecture that are located around the Alaeddin Hill in Konya city center. The Alaeddin Hill has an important influence on the overall structure and organization of the city. These cases are selected due to their location at the city center, and they are well known and commonly used. To assess the selected components of social and cultural sustainability, a 31-item questionnaire was administered to third and fourth year students enrolled in the Selcuk University Department of Architecture during the 2013-2014 academic years. The questionnaires are administered to architecture students would provide more informative and relevant results regarding the study problem. In addition, since most of these students resided near the city center, most of them were familiar with the relevant domestic architecture. The questionnaire was designed based on the Likert-Style. When evaluating the questionnaire, scores were taken into consideration, and the intervals shown in Table 2. The methods used during the study included interviews and the documenting of photographs. Other techniques for collecting results were employed as well.

<table>
<thead>
<tr>
<th>Item</th>
<th>Item description</th>
<th>Score range</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Strongly agree</td>
<td>4.21-5.00</td>
</tr>
<tr>
<td>4</td>
<td>Agree</td>
<td>3.41-4.20</td>
</tr>
<tr>
<td>3</td>
<td>Neutral</td>
<td>2.61-3.40</td>
</tr>
<tr>
<td>2</td>
<td>Disagree</td>
<td>1.81-2.60</td>
</tr>
<tr>
<td>1</td>
<td>Strongly disagree</td>
<td>1.00-1.80</td>
</tr>
</tbody>
</table>

The socio-cultural components assessed were organized under eight different categories with further sub-components (see Table 3). The score of the sub-components for each building was accepted as the score for the main component. Based on the scores provided by the participants for each one of the main sub-components, the applicable mean and standard deviation values were determined by using descriptive statistical analyses. In addition, scores received for their respective socio-cultural components, comments and interpretation reached regarding the buildings' socio-cultural characteristics. During the study, a score above 2.60 was considered to indicate a favorable opinion among the study participants.
Table 3. Socio-cultural sustainability components handled in the study (Source: Authors).

<table>
<thead>
<tr>
<th>Main components</th>
<th>Sub-components</th>
</tr>
</thead>
</table>
| A. The cognoscibility of the building’s original-new function | The building is known with its old function
The building is known with its new function
The new function of the building made the old function to be forgotten |
| B. The relationship between the actual function and context | There is a harmony between the new function of the building and the functions of the context
The building enriches the environment with its new function |
| C. Building-environment relationship | There is a visual completeness between the building and its near environment
The building has a disturbing appearance in the fabric where it is placed
The building is a distinctive building within its environment
The building is saved from its old ruin appearance with new function and repair
The change of buildings’ appearance provides a true image in the process of new function |
| D. The relationship between the location of the building and new function | The location of the building in the city make it easier to make use of the new function
The location of the building is easy from the point of transportation
The building has a positive relationship with the order in its environment |
| E. The increase of the cognoscibility and symbolic value with the new function | It is a place to show the visitors came to the city
It provides contribution to the publicity of the city
It is the symbol of the area where it is placed with the new function
It is a reference/definition/identification vehicle in the environment with the new function |
| F. The value of new function from the point of architecture culture and conservation | The usage of the building with its new function is respectful to its past
The building has traces belonged to the past
The image of the building is sensed as a historical building |
| G. The adaptation of the new function to the building | New usage of the building makes the building livable
Given function fulfills the people’s requirements
Given function brings mobility
New function brings social and cultural space to the city
Given function is appropriate for the society
New function provides a positive image for the building
The building joins to the daily life with the new function
Given function is appropriate for the building |
| H. Usage value increases with the new function | Preference reason for the building to be used is that it is a historical building
New usage of the building leaves positive effects on the users
The building joins to the daily life with the new function |

Field Study
The examples of domestic architecture that were selected for this study were located around the Alaeddin Hill, which is an important structural element of the Konya city center. The common characteristics of these buildings, which are currently being reused as cafés or as the offices of the Conservation Board and the Chamber of Architects in Konya, is that they are all examples of original domestic architecture that are registered for conservation and are located at the city center.
This study evaluated the perceptions regarding both the physical environment and the original identity of the selected examples of domestic architecture. Within the context of this evaluation, the following sub-components of socio-cultural sustainability were assessed for these buildings: the level awareness concerning their original function; the level of awareness concerning their new function; their functional compatibility with their environment; their role as a noteworthy structures or symbols in their area; their contribution to the city’s publicity; the liveliness they add to their environment; their role as a reference point; their ability to meet the city’s needs; the compatibility of their new functions with the city’s social and cultural fabric; the preservation of the building’s cultural, aesthetic, and economic value; elimination of the building’s neglected/ruined appearance; prevention of visual pollution; forming a new image according to the building’s new function; and the social, cultural, and economic benefits these buildings provide to their users.

Description of the Selected Examples of Domestic Architecture

The selected examples of domestic architecture that were evaluated within the context of social and cultural sustainability had been were built towards the end of the 19th century or the beginning of the 20th century. These buildings, which are all registered for conservation, are currently being used for purposes other than their original functions. The specific location of the examples of domestic architecture was an important factor for their selection for this study. The examples located in the city center are distributed in an area through which many public transportation vehicles are routes pass. The fact that these examples were also located near pedestrian areas also contributed to the level of awareness and knowledge among the public regarding these buildings. The fact that this area was also one of commercial, social, and cultural activity also affected the level of awareness/knowledge concerning these buildings. Table 4 briefly provides information regarding the history, the function, and the architectural characteristics of the buildings selected for this study.
Table 4. Introduction of the domestic architecture cases (Sources: Authors).

<table>
<thead>
<tr>
<th>Case</th>
<th>Architectural Case Study</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case 1</strong></td>
<td>(Dr. Nevzat Özkal House)</td>
<td>The building is built as a dwelling in the second half of 19th century. The dwelling is bought by a doctor in 1958 and used as both a dwelling and an office. The building is registered in 1991 and Chamber of Architects of Turkey Konya Branch took its ownership in 1999. The building is restored and it has been used as Chamber of Architects branch building since 2000. The building composed of basement, ground floor and first floor has middle sofa “karnıyarık” plan scheme.</td>
</tr>
<tr>
<td><strong>Case 2</strong></td>
<td>(Old Konya House I)</td>
<td>The building, with the other domestic architecture example adjacent to it, is built as a dwelling in the first half of 19th century. The building is registered with the other dwelling next to it having the same scheme and façade characteristics in 1991. In time the surrounding area of this dwelling became dense trade areas and it has been used as a shoe store in the ground floor and a narghile saloon in the upper floor. There is no restoration project prepared for the building. It had simple repairs in different time intervals. The building composed of basement, ground floor and first floor has middle sofa “karnıyarık” plan scheme.</td>
</tr>
<tr>
<td><strong>Case 3</strong></td>
<td>(Old Konya House II)</td>
<td>The building, with the other domestic architecture example adjacent to it, is built as a dwelling in the first half of 19th century. The building is registered with the other dwelling next to it having the same scheme and façade characteristics in 1991. In time the surrounding area of this dwelling became dense trade areas and it has been used as a restaurant. There is no restoration project prepared for the building. It had simple repairs in different time intervals. The building composed of basement, ground floor and first floor has middle sofa “karnıyarık” plan scheme.</td>
</tr>
<tr>
<td><strong>Case 4</strong></td>
<td>(Arapoğlu Kosti House)</td>
<td>It is known that the building is constructed as a dwelling in late 19th century by Maruni Araboğlu Kosti who immigrated to Anatolia. In 1892 it was used as a school of French and then it was used as a dwelling again until 1970. After that the building is used as a city building of a political party and later as a cram school. The building is registered in 1991 and it has been used as a restaurant, then a narghile saloon and later a café since 1999. The building composed of basement, ground floor, first floor and an attic space has middle sofa “karnıyarık” plan scheme. The building is placed in corner parcel and has two entrances.</td>
</tr>
</tbody>
</table>
The building with the unknown definite construction date is said to be built as a dwelling in late 19th or early 20th century. The building is nationalized in 1990; its repair was started in 1991 and completed in 1996. After the repair the building was used as Republic of Turkey Ministry of Culture and Tourism Konya Directorate of Culture Entities Conservation Region Board. After the fire happened in December 2009 in the archive section in the basement, the building could not be used for a while; it continued to be used as a board building after the repair. The building composed of basement, ground floor, first floor and an attic space has middle sofa “karnıyark” plan scheme. It is one of the best examples in stone craftsmanship.

The building is thought to be built in early 20th century and was registered in 1989. It was used as a narghile salon and a café for a while, and then new arrangements related to new functions were applied in the building. Today the building has a public function as a café and a place of little trade sales.

The building composed of basement, ground floor and an attic space has a plan scheme with inner sofa. The building is one of the best examples in stone craftsmanship.

The Evaluation Domestic Architecture Examples from a Socio-Cultural Perspective

When the examples of domestic architecture were evaluated according to the mean scores of the socio-cultural components, the results shown in Table 5 were obtained. These scores were determined with the aid of sub-components that constitute the main components. The results obtained for the nine socio-cultural characteristics that were selected within the context of this study are discussed below.

A. ‘The cognoscibility of the building’s original – new function’ was determined as \( \bar{x} > 2.60 \) for all of the buildings. When the sub-components constituting component A were analyzed separately for each one of the buildings, it was determined that the score of the responses regarding the level awareness on the original function and name of these buildings mostly corresponded to “Agree” and “Strongly Agree.” These scores indicated that the current function of these buildings did not cause the study participants to forget these buildings’ past and original functions.

B. ‘The relationship between the current function and the urban environment of the building’ was determined as \( \bar{x} > 2.60 \) for all of the buildings. The sub-components that constituted component B assessed the compatibility between the building and its function within its relevant urban environment. As all of the examples were located within the city center, they were all part of an active urban environment/fabric where buildings are extensively used as offices and for commercial purposes. The selected examples functionally contributed to the urban environment. With the exception of Example 1 and Example 5, all of these buildings provided recreation-, leisure-, and meeting-related services. Example 1 and Example 5, on the other hand, had semi-public functions. However, as the study participants were architecture students, they did not know all the details regarding the function of each one of the buildings.
C. ‘The relationship between the building and the environment’ referred to the compatibility and consistency between the building and its environment in terms of visual appearance. For all of the buildings, the score for this component was determined as $\bar{X} > 2.60$. Due to the time period in which they were constructed, most of the buildings had either one or two stories. On the other hand, the scores for the physical fabric surrounding the evaluated buildings at the city center varied between 3 to 5 times. For each one of the buildings, the responses of the participants to the sub-component “the repair and reuse of the building remedies their old and ruined appearance,” corresponded to “somewhat agree.” Concerning examples of domestic architecture that have fewer stories in comparison to the buildings in their surrounding and/or which are located in a very active urban framework, it is not possible to speak of a compatibility/consistency in terms of building height. Although it is a positive approach to repair and improve the appearance of these buildings, and to ensure that they continue to exist by fulfilling new functions rather than becoming idle and disused, such measures also have the effect of necessitating preservation-related urban planning approaches for the area in which these buildings are located. When the buildings selected and evaluated within the scope of this study were accorded a preservation status, this decision also had an irreversible effect on area in which these buildings located.

D. ‘The relationship between the location of the building and its new function’ had an above-average score (2.61 > $\bar{X} > 3.40$) for all of the buildings. The fact that all of the buildings were located at the city center made it easier for them to be accessed by pedestrians. The ease of access/transportation for these buildings had a favorable effect on their frequency of use, and also on the preference among the city inhabitants for using these buildings.

E. With respect to the increase in ‘cognoscibility and symbolic value as a result of the building’s new function,’ Example 2 and Example 4 had the highest scores (“Agree” 3.41 > $\bar{X} > 4.20$). The other examples, on the other hand, mostly received scores that corresponded to “Somewhat Agree.” Each one of the buildings was considered as symbols or points of reference in the urban area in which they were located (“Agree” 3.41 > $\bar{X} > 4.20$). The new function of these buildings not only increased their involvement in public life, but also their recognition.

F. Concerning the ‘value of the new function with respect to architectural culture and conservation’ component, Example 1 received a score of $\bar{X} = 2.10$, which corresponded to response of “Disagree.” The reason why Example 1 was considered as such by the study participants was because two of the sub-components of F, which were “the building still bears the traces of its past” and “the image of the building conveys the appearance of a historical building” sub-components, were both scored negatively by them. All of the other examples of domestic architecture were evaluated favorably in terms of the sub-components of F, with the following sub-components receiving scores that corresponded to ‘Agree’: 1) ‘the building effectively conveys information to the public regarding its architectural culture;’ and 2) ‘the new function of the building respects the building’s past and history.’ For a cultural property, effectively preserving the traces and characteristics of the past is a positive approach in terms of preservation. In this context, the principles and procedures regarding restoration are important. Regardless of the conservation status of a building, ensuring that a building does not lose the traces and characteristics relating to its past depends heavily on avoiding, the use of present-day technologies and construction materials during the restoration process. The fact that most of the evaluated buildings preserved the traces of their past was a positive observation with respect to architecture culture and preservation.

G. ‘The adaptation of the building to its new function’ component evaluated the compatibility between the building and its function. For each one of the evaluated architectural examples, a score corresponding to “Somewhat Agree” was obtained from the study participants. Example 1 and Example 5 were used as meeting halls, and thus provided services to large numbers of
individuals. For all of the buildings, it was determined that the new functions had been determined according to practical considerations.

H. ‘The new function’s contribution to the building’s use value’ component reflected the extent to which the new function was publicly used, as well as the extent to which people preferred to use the building in question. For each one of the architectural examples, a score corresponding to “Somewhat Agree” was obtained from the study participants ($\bar{x} > 2.60$). In addition, the H sub-component called ‘the level of involvement of the building’s new function in daily life’ received a score corresponding to ‘Agree’ for all of the buildings. Buildings that are registered for preservation, which bear a considerable cultural and historical value, and reflect the architectural culture of a certain period find limited public use when they are used as houses/domiciles. For this reason, repairing such buildings and allowing them to provide services to the city greatly enhances their value and continuity.

Table 5. The values of the dwellings used with different purposes other than the original one from the point of socio-cultural sustainability components (Source: Authors).

<table>
<thead>
<tr>
<th>Example 1 (Dr. Nevzat Özkal House)</th>
<th>Example 2 (Old Konya House I)</th>
<th>Example 3 (Old Konya House II)</th>
<th>Example 4 (Araboğu Kosti House)</th>
<th>Example 5 (Fuat Anadolu House)</th>
<th>Example 6 (M.Nebil Ergül House)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\bar{x}$</td>
<td>S</td>
<td>$\bar{x}$</td>
<td>S</td>
<td>$\bar{x}$</td>
<td>S</td>
</tr>
<tr>
<td>A. The cognoscity of the building’s original – new function</td>
<td>2.81</td>
<td>0.53</td>
<td>2.76</td>
<td>0.59</td>
<td>2.85</td>
</tr>
<tr>
<td>B. The relationship between current function – urban environment</td>
<td>3.19</td>
<td>0.70</td>
<td>3.04</td>
<td>0.74</td>
<td>2.79</td>
</tr>
<tr>
<td>C. Relationship between building - environment</td>
<td>2.81</td>
<td>0.35</td>
<td>3.17</td>
<td>0.46</td>
<td>2.82</td>
</tr>
<tr>
<td>D. Relationship between the location and the new function of the building</td>
<td>2.81</td>
<td>0.61</td>
<td>3.12</td>
<td>0.73</td>
<td>2.85</td>
</tr>
<tr>
<td>E. Increase in the cognoscity and symbolic value with new function</td>
<td>3.19</td>
<td>0.75</td>
<td>3.61</td>
<td>0.74</td>
<td>3.24</td>
</tr>
<tr>
<td>F. The value of the new function from the point of architecture culture and conservation</td>
<td>2.10</td>
<td>0.65</td>
<td>3.17</td>
<td>0.58</td>
<td>2.73</td>
</tr>
<tr>
<td>G. Adaptation of the new function to the building</td>
<td>2.60</td>
<td>0.59</td>
<td>2.98</td>
<td>0.61</td>
<td>2.65</td>
</tr>
<tr>
<td>H. Increase of the usage value with the new function</td>
<td>2.65</td>
<td>0.59</td>
<td>3.10</td>
<td>0.75</td>
<td>2.68</td>
</tr>
</tbody>
</table>

$\bar{x} =$ Mean $S=$ Std. Deviation
CONCLUSION

Transferring cultural heritage and experiences from the past to future generations is an inseparable part of our modern social responsibilities, as well as being a requisite for social progress. Many historical buildings and areas are often left in disrepair and ruin due to neglect, irresponsible use, inadequate preservation policies, or their inability to meet present-day needs and demands. Leaving such historical buildings in a state of neglect gravely endangers cultural sustainability. Ensuring the continuity of a cultural property through reuse not only ensures the preservation of history, but also allows history to become something that is visible, concrete, learnable, and interesting for the public. The reuse of examples of domestic architecture that were evaluated within the context of the present study demonstrated that reuse contributed considerably to social and cultural sustainability. A general evaluation of the study results highlighted the following points:

- New functions of a public or semi-public nature for these historical buildings effectively contributed to raising the level of awareness regarding conservation.
- New functions for these buildings that focused on meeting certain social needs/requirements effectively contributed to the use value and the continuity of these buildings, while also improving the sustainability of their conservation.
- The ability to reuse and assign new functions to a building under preservation depended on the building's location and accessibility.
- It was observed that the functions of other structures surrounding a historical building, as well as the location of the historical building within the city, had a considerable impact on the continuity of the building's new social and cultural functions.
- Conservation must be considered as a whole, and historical buildings under preservation need to be visually compatible with their surrounding buildings.
- The height, the shape, and the function of surrounding buildings must not negatively affect the appearance and perception of buildings under conservation.
- Urban planning decisions and practices that affect the city area in which historical buildings are found can have either negative or positive effects on cultural properties.

There are numerous examples of domestic architecture across the urban and rural areas of Anatolia that reflect authentic regional characteristics, and which serve as evidence of historical richness and cultural diversity. When assigning new and alternative functions to these buildings, it is important to also consider aspects relating to social and cultural sustainability. For example, there are numerous bathhouses (or hamams) in many places of Anatolia that are not used according to their original purpose. For such buildings, it is important to consider the benefits associated with their potential alternative uses. As such, the process of adapting cultural properties to new functions, and the evaluation of how these functions would contribute to social and cultural sustainability, should take into consideration whether the selected function would satisfy social needs/demands, benefit their users, and favorably contribute to the buildings' current environment.
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