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ICONARP

ICONARP is a biannual peer-refereed journal of the Selçuk University, Faculty of Architecture online published every June and December. This is the special issue which contains articles from the chosen papers of ICONARCH III- International Congress of Architecture and Planning "Memory of Places". Authors have been revised their articles for this special issue of ICONARP.

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ICONARP INTERNATIONAL JOURNAL OF ARCHITECTURE & PLANNING

ICONARP as an e-journal considers original articles, research briefs, book reviews and viewpoints in peer-reviewed. ICONARP is an exciting new venture occurred with experiences, theoretical approaches, critical and empirical studies in the field of architecture and urban planning.

SCOPE and AIM

The journal aims to be a platform for the studies of design, education and application and has a goal to be a bridge in between traditional/modern, east/west, local/global in the disciplines of Architecture / Planning.

Architecture and Planning, as two interconnected fields, are strongly affected by other disciplines such as fine art, urban design, philosophy, engineering, geography, economics, politics, sociology, history, psychology, geology, information technology, ecology, law, security and management. However, there are no academic journals which specifically focus on the connections of architecture and planning with other social fields. ICONARP aims to fill that gap. Our scope is to provide a suitable space for theoretical, methodological and empirical papers, which use global and local perspectives together, in architectural and urban studies.

ABSTRACTING AND INDEXING

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EDITORIAL

ICONARP began its broadcast life as peer-reviewed faculty journal in the field of international architecture and planning and now it is the tenth issue.

ICONARP is continuing its growing process with this special issue.

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Ontological Planning

Ahmet Alkan*

Abstract

Debates about "being" and "existence" have continued uninterruptedly since ancient times in accordance with the evolution of philosophical thinking albeit at various levels of intensity. "Spatial Planning" which had not constitute a problem area for mankind until the industrial revolution, was linked to "ontology" either. In the post industrial revolution, on the other hand, "Cultural Delay" was regarded as a threshold before harmony in defining social problems mostly as a result of "technology-culture" oriented approaches. Failure to obtain expected results from endeavors to find solution to spatial problems in this manner of relationships paved the way for emergence of new ideas with regard to making use of ontology. However ontology has not been able to find a place for itself within the planning discipline and theory in adequate scope and dimensions in the search for a solution to the problem. This paper will make an attempt at presenting a point of view that can a modest contribution to the planning and ontology relations and try to discuss whether or not such endeavors will evolve into a method.

Keywords: *Ontological planning, urban memory, human and environment*

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The theme of planning, which began and was tried to be continued as "people-oriented", also carries an "ontological" approach at the heart of the action. The problem here is to find an answer to the question of how

an institutionalized structure or system can be acquired by raising this improvised attitude to the level of consciousness, thereby enabling it to participate effectively in the planning-implementation efforts.

We are now faced with the reality that the efforts that were made from the beginning of the industrial revolution, when urban developments gained momentum, to the Euclidian understanding of planning in the 1950s and 1960s based on scientific approaches, to an approach of planning that channelled limited urban lands to profit during the urbanization process, to making "strategic" decisions on the basis of the planning decision theory and gradually evolving into a search for "strategic spatial planning" have not yielded the anticipated results.

- Can we make use of "ontology" in finding a solution to this deep-rooted and complicated question?
- If yes, how? Can macro and micro level institutional structures be used as instruments to this end, no matter how utopian they may seem today? Can existing ones be rendered more effective?
- Is it possible that there might be some among the variables of the planning (dependent and independent) that need to be opened for discussion and repositioned (like time)?
- Is it possible to redefine ontology within the hierarchical structure of planning?

We are going to seek answers to some of these questions within the limited scope of this paper and we are going to offer the rest for discussion by just asking them.

In light of these assessments, drawing attention, based on ontological knowledge relying on the wholeness of universe, to the question, on macro level planning, of whether or not the ontological realities of man, energy and movements of thinking can provide macro data for planning on a universal level as important factors affecting mankind will be one of the limited objectives of the paper.

INTRODUCTION

Efforts aimed at "order in space" and "managing spatial differentiation", which began simultaneously with initial settlements and social differentiations, have continued up to the present time in accordance with cultural changes. Urbanization movements, which gained momentum during the industrial revolution due to the trilogy of technology-population increase and migration, soon became a major problem for countries experiencing the industrial revolution.

The results of studies conducted at the technological, economic, sociological and spatial levels of the question revealed that the difference in the speed of change between the material aspect of culture and its sociological dimensions formed the basis of the problems experienced in an industrial society. In short, this area of problem, which is regarded as a reflection of the resistance of culture to change in the culture-technology exchange and which is named "Cultural Delay" by Ogbum and Mores, ensures that

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problems escalate in an ever-increasing manner in parallel with the increasing speed of technological change and they persist (Turhan, 2015). The fundamental principle determined at this point is that "When a change occurs owing to inventions or innovations, changes need to be introduced in the other relevant section accordingly. The first (inventions and innovation) is an independent variable whereas the second (the other components of culture) is a dependent variable" (Oskay, 1978) and the problem begins at this point.

In this equation, which reflects a macro point of view intended to create harmony between culture and technology or between material and social elements of culture, and solve social problems, **"Space and the question of spatial development"** was included among the material elements of culture. However, an "ontological" error was committed right at the begging at the stage of diagnosis by defining space and spatial developments as a field of sub-problem among the material components of culture despite the problems they cause and their extensive impact on society. This error continued during the industrial revolution and persists invariably in the present day information age, third wave and 4.0 revolution. If we can formulate the problem as a trilogy of Technology, Culture and Space at the stage of identification of the problem, we can then change the point of view with regard to spatial planning and search for solutions because **a change in reasoning will inevitably change the reality as well as the conclusions that will be reached.**

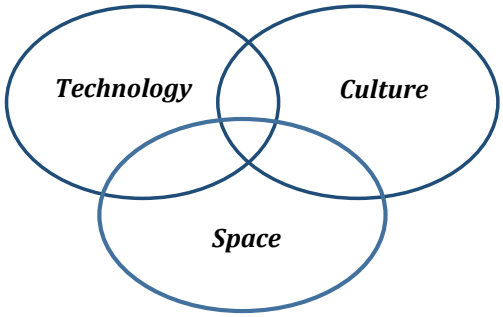

Figure 1. Basic components of social problems and the platform of relationships that needs to be established

The first important problem that will be generated by an evaluation made on this basis is that a vacuum similar to cultural delay appears before us as "Spatial Delay" due to the speed of spatial structure, which changes more slowly and with more difficulty than technology and cultural structure. First of all, we should define the problem accurately within the macro system. A constant complaint is made in the discipline of planning ***that "there are efforts always lagging behind developments and trying to legitimize emerging spatial products"***. If the long standing efforts aimed at implementation of planning in order to

go beyond this threshold fail to generate the anticipated results, then it will be inevitable for the existing paradigm to be questioned.

- In the course of this continuing problem, have the spatial issues been accurately positioned with regard to the definition of the problem within the order of hierarchical decision and system of relationships?
- Can "Ontology" contribute to the discipline of Planning in the whole of the problem solving process, from the stage of identifying the problem to implementation?
- Is the memory of the city a time-dependent variable or an ontological reality?
- Can the answers that we can/not find to these problems be a small step in developing the "Ontological Planning" method as a prospective contribution?

WHERE ARE WE IN PLANNING?

The idea of planning has been a part of our lives since human beings began to live in communities and started to form units at the level of small settlements that could not be called "city" yet. Undoubtedly, in order for this to rise to the level of consciousness and become a field of "scientific" endeavor, mankind had to experience the industrial revolution, large-scale urbanization movements and the destruction caused by two world wars. At the end of this process;

- An understanding of planning containing one-dimensional, deterministic, and entirely geometrical (Euclidian) spatial arrangements was reached as a result of the scientific approaches of the post-World War II years (the 1950-60s).
- During the subsequent years, in the determination of spatial development strategies, a planning approach was adopted in the spatial transformation of today's cities that favored profit-oriented demands for development in direct use of limited urban lands where generally global actors featured, instead of attempting to strike a balance and harmony among "strategic goals" such as economic efficiency and habitability, social integration, conservation of resources and sustainability.
- A period has begun where planning is taken to be a function of strategic management and the entrepreneurial dimension of urban management is translated into spatial planning, so that an approach is adopted in which a series of "strategic choices" that are explained with reference to the concept of "Decision Theory" are made (Bilsel, 2007).

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The point that has been reached as a result of all these efforts is that ***"... Now, uninhabitable urban spaces are created by a means called "planning". It is interesting that people fail to realize what has been lost in the name of obtaining economic benefits, exerting dominance or a show of strength in planned applications of transformation or development by destroying the unity of space, memory and identity via changing the definition of space"*** (Bilsel, 2007).

Lefebvre argues that three actors are influential in this process;

(1) Architects, authors and philosophers engage in efforts aimed at creating an ideal city in pursuit of a liberal humanism in the face of current urban problems, consecrating the past with nostalgia; in a sense, they attempt to find solutions to social problems through "space" within the framework of models such as uniqueness of rural life and local communities and humanism of the neighborhood unit.
(2) Planning institutions organized within or near the state almost entirely ignore the human dimension of urban life and regard the city as a rational system consisting of flow of goods and information.
(3) Market players; for this group, Planning is a mere tool for maximizing "exchange value".

The result is a process of colonization where the city is alienated from its inhabitants and the inhabitants are alienated from the city (Lefebvre, 1996).

Politicians, who have the power and ability to strictly control the process, need to be added to this classification by Lefebvre. While politics aims at value maximization through market players on the one hand, it tries to establish distribution mechanisms for this sizeable value created with a view to "political benefit" on the other.

"Within the post-modern world view, one does not content oneself with an instrumentalist view of the plan and planning process; they do not consent to the confinement of the future of the society to a squeezed vision of one-person or one-team, nor to its constant closure to people's creativity and individuals' "reification". There is a desire to undertake a planning process that leaves the future open, allows the future to be formed through creative contributions of large numbers of people and is guided via a communicative rationalism (Tekeli, 2001).

The fact that the "Spatial Strategic Planning" approach, which requires approaching the planning area from a distant

environment and region and establishing hierarchical relationships between planning planes (horizontal and vertical), taking into consideration the demands of different sectors with regard to site selection and advocating cooperation between sectors, serving as a bridge between yesterday, today and tomorrow relying on urban memory in the temporal dimension and striking a balance between short, medium and long term planning goals, has failed to yield the expected results makes it necessary that the process be re-evaluated.

ONTOLOGY

Ontology, which seeks answers to the question of "What is a existence?", whose roots go as far back as Plato, continues to proceed in a developmental line that is consistent with the inevitable story of philosophy. Discussing the historical evolution and reality of ontology is beyond the scope of this paper! Our goal here is to determine the current stage to be able to establish the relationships between Ontology and Planning activities on a solid ground. In this framework;

- Plato's world of ideas and phenomena,
- Idea, which Aristotle defines on the basis of the relationship between matter and body; what exists in reality is the essence of existing objects and real existence is individual,
- Farabi's classification of "Possible Existence", which involves "Absolute Existence " (Vacib-ül Vücud; God) and everything outside of God,
- Descartes' approach which posits that spirit and matter exist together only in existence and that the reason for movement, which is one of the essential components of existence, is God,
- Hegel's idea that subjective spirit occurs in the lives of individual people whereas objective spirit occurs as history, society and state and Idea occurs through religion, art and philosophy,
- Whitehead's idea that there is a constant formation and change in the universe and that nature is eternal and creative,

Have all brought us to a new threshold. Today, we have three anthropologies, one ***"naturalistic***", one ***"philosophical"*** and the other ***"theological",*** all of which are unrelated to one another. However, we are still devoid of an agreed-upon idea of what a ***"human being"*** is (Scheler, 1998). "In spite of this, time has travelled a long way and come where it began. Human beings, too, realized the merits of ontology, which they had for long lost, and

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got near it because they have been dawdling for hundreds and thousands of years without grasping the original question and problem properly and without having a look at the real solution" (Ercan, 2012).

Planning should not remain indifferent to this point of view, because an understanding based on ontological foundations deals with the existing structures as a whole, taking into consideration the special natures of different fields, and therefore has a knowledge-based value. Since it takes the existential structure or qualities of a thing as a basis, such a starting point takes into account the object itself as well as its existential (ontic) structure of the field to which it belongs in explaining the phenomenon (Hartmann, 2010). An attempt at understanding, without disintegrating the human being and tampering with its concrete wholeness, phenomena (such as knowledge, art, education, belief, establishing a state etc.) included in this concrete whole is possible only through an "ontological" point of view (Çıvgın, 2014).

Modern ontology tries to explain existence by analyzing phenomena. Its most important methodological difference from classical ontology is that it adds the pragmatism of life and the information obtained from scientific researches to the process of investigation of existence. **Information** is considered to be one of the most important conditions for existence as a phenomenon that makes a human being who s/he is, enables them to live and to exist and finds its foundations in its existential structure.

The most prominent point that needs to be taken into account with respect to spatial planning is that both classical and modern ontological philosophies ***"embrace existence as a whole"***. Prominent figures in modern ontology like Heidegger, who argues that ***"Heading for existence begins with heading for man",*** and in contrast with his philosophy, Hartmann's approach, which "explains existence through an analysis of phenomena", regard, in final analysis, the human being as the subject and the existing thing as the object while at the same time considering Ontology and Epistemology intertwined. "The subject grasps the object in the epistemological process" (Jalilzada, 2012). In this approach of Heidegger's, Existence is grasped through ***"Thinking"***. Thinking, on the other hand, is expressing the human being. Man can arrive at the truth about existence via the man itself because ***heading for man is heading for existence*** (Yücel, 2014). This enables man's participation in historical formation as a whole, in other words with all conditions of existence. In short, this means "**understanding the human being in its ontic wholeness and togetherness"** as a being who knows, performs, feels their values,

assumes attitudes, is free and believes, rather than regarding them only as beings composed of mind, spirit and geist (Mengüşoğlu, 1992).

The **HUMAN BEING**

- Whose existential conditions we start with,
- Whose concrete ontic wholeness (integrity) we try to understand,
- Who has a distinguished place as a "**loving being",** with whatever they see during their actions and by dedicating themselves to a target,
- Whose phenomena we define on the basis of the findings of science,
- In whose existential wholeness we appreciate the phenomena that can change and develop should be positioned in where s/he belongs in today's spatial planning and production process.

Where and how?

MAN-TIME-ONTIC STRUCTURE

With the reductionist point of view, a need has arisen to reevaluate the human being and the concepts of inventions (technology) and time, which are regarded as independent variables of planning by approaching three seemingly unrelated ontologies (naturalistic, philosophical and theological ontologies) from the analytical perspective of a spatial planner, without excluding any view. Having made this analysis, it will be possible to define an accurate position for ontological approach within the planning hierarchy.

The distinguishing feature of the human being, who is disposed, by birth, to seek their existential (ontic) reality, wonder about it and, after finding it, fulfill its Creator's demands, is their ***"Nature (Ontic structure)"***. In other words, nature is the human being's ontological substructure whose source is the same as the source of the divine revelation (Öztürk, 2016). "If the order within us, which is a divine format, acquires a superstructure that is fed by the same source, then the problem of identity split will not be experienced. If it cannot acquire this superstructure, it is inevitable to be alienated from itself, its environment and things, hence God" (İslâmoğlu, 2006). The ontological essence (structure) that constitutes a human being's ontological substructure involves the phenomena of;

- Searching for the truth,
- An inclination for benediction and virtue,

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- A propensity for beauty, love and worshipping,
- A search for invention and innovation due to their fondness for creativity,
- Being ethical, fair and conscientious.

The human being is created with a perfect balance and structure that enables this kernel belonging to the quintessence to remain constant (sustainable), and with sensorial organs and a soul that allow him/her to make sense of the time and the universe s/he is in and all the units forming it. For a thinking man who makes sense, ***"a kernel"*** says; "If I fall into the soil, I take root, grow, bloom and become a fruit. And thousands of seeds like myself**..."** **If the human being can reflect the harmony he possesses in his creation onto the environment where he lives, then he will have carried his ontological substructure to the superstructure**. Otherwise, problems will continue to increase. *The viewpoint that has to define man's position in the process of space, planning and production should be developed within the framework of this principle.

Where is time, which is an independent variable of the planning, located? Where and how should time be positioned in light of ontology in the equation of Space, Technology and Culture?

"A moment is the point that brings together 18 thousand realms and where Şah-ı Velayet says I am the dot below the letter B (in the Arabic alphabet). The opening and closing of this dot creates time. When this dot is lengthened, a line occurs that runs to infinity. If a dot on this line is taken as a basis and a circle is drawn around that dot, then the diameter of that circle is called time … It is this central point that is called moment and named eternal moment … Because moment is constant whereas time is moving (active)" (Filiz, 2014).

L. Filiz, who added new interpretations to the theological ontology (sophist tradition) of modern times, states that God implies with the verse "Do you not see how your God has lengthened the shadow?" that He created man in moment and threw him onto time. Therefore, both moment and time are present in human existence. Moment is the realm of hearts, the realm of mind (reason). Time, on the other hand, is our life in this worldly realm. The fact that mind is in the moment is ascertained with the verse "First, I created the mind". The past, the present and the future are almost separated from one another and have acquired different meanings in time whereas all of them have converged at one point in moment. ***Coming to moment is the human point. In this coming, the human being has gathered in his existence everything in universe and he has become moment while***

universe has become time. That is why one meets the expression "The universe revolves around the human being" in the teachings of Sufism (mysticism) (Filiz, 2014).

The technological development in today's world seems to be moving from time to moment. We are proceeding towards a world where everything can be recorded and stored with developing technologies. Getting lost is a phenomenon that is specific to time. In moment, on the other hand, there is permanence and approximation.

Modern teaching of Sufism, which proposes the conceptualization of moment-human being, similar to interpretations of early ontologists assuming that human beings were thrown into the world of existence, allows for ***man's being positioned as moment, and time as social life that develops within a framework determined by man***. If this approach can be incorporated into the spatial planning processes together with the other aforementioned phenomenological analyses, it will be possible to expect significant improvements in planning hierarchy and methods.

(*) We have shown him two paths, one evil, the other good (Qur'an/Beled.10).

ONTOLOGICAL PLANNING

Dealing with contributions of ontology, which handles existence and the human being, who stands at the heart of existence and all the phenomena defining him as a whole, to the discipline of planning within this wholeness should be the first step in the conceptualization of ***"ontological planning"***. At this stage, identification of the goals expected of planning activities within the same framework and within the human being's ontic structure will enable ***"ontological essence"*** to take its place naturally in the hierarchical structure of planning. Despite urban problems that have accumulated during thousands of years of formation, the following have been determined as major headings of the goals and targets of ontological planning on a macro level to develop an understanding of "Spatial Planning" that will;

- Redevelop traditional forms of relationship which can contribute to the growth and regeneration of human culture,
- Help develop diversity and individuality of regions, cultures and personalities, and will not exhaust natural environment and personalities,
- Help bring under control, at an age when human beings have brought under control not a single river bed but the

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whole planet, enormous energy explosions that might destroy the entire ecological system upon which human life and welfare depend,

- Put at the service of humankind ***"a positive city"*** that will be able to contribute to new institutional regulations that will turn power into form, energy into culture and dead matter into vivid symbols of art and help modern man cope with profound energies he is to manage,
- Be adorned with images of love, tolerance, compassion and justice that will help man live at peace with the outer world, where organic ideals will be prioritized over social differentiations, which contributes to the unification of split personalities, and where the highest interests of man are placed at the center of planning,
- Be able to fulfill a sense of re-dedication to cosmic and ecological processes encompassing thought, art and all beings,
- Will be able to increase man's conscious participation in cosmic and historical processes (Mumford, 2013).

The first step in attaining these objectives on a global scale is to change the paradigm. In other words, the boundaries of planning activities should so expand as to include the universe (in a dimension extending as far as space research) whose borders have been delineated by man, thereby redefining the concept of "holism". In other words, ***the independent variable of planning should be taken to be Man, who is the nucleus of the universe, and his ontological nature.*** Time and society should be placed in their ontological positions in the infinity of moment and man.

For example, thought, as the most powerful element defining the existence of man, will and should continue to exist, together with "man" and as the fundamental determiner of development (its independent variable), on a plane leading to infinity and as a determiner of change (*). This phenomenon, which constitutes mankind's sociosphere (Toffler, 2008), will be able to maintain its ontological existence and influence so long as it can sustain its circulation in the universe. Will mammoth constructions and conglomerations that will put an end to this circulation (cities with populations of 25 to 30 million, skyscrapers rising hundreds of meters, disappearing natural environments etc.) terminate circulation of positive thoughts that keep man's psychological health in balance? Is it not related to this that more than 50 % of the people living in large cities experience mental and psychological problems?

Another example: In the 1960s, it was demanded in the USA that permission be granted to sell on earth the "clean" energy obtained

from sun in the energy stations to be established in space and that necessary legal regulations be passed to this end (Toffler, 2008).

*(*)The first judgment of the paradigm that needs to be questioned arises at this point; is "the only thing that does not change is the "change" itself? Is it Man by virtue of the innovative streak in his nature**?***

- What will be the effects of the condensation that will be generated in the sociosphere of man by this clean energy, which will enter the world by transcending its ontic structure? Or, will the world, which was created in a balanced manner in its own existence, be able to maintain its position in the universe as a result of such large-scale external loading? In what solution lies the reflection of man's ontological harmony in the universe?
- What kind of a solution can be reached when the release of carbon into the atmosphere is evaluated with respect to this ontological reality? (*)
- Is the fact that the moon moves 2 cm away from the earth each year related to these structural changes on earth and the attitudes that ignore the ontological nature of man and things? What could its consequences be? Could it be a small step or a beginning in the upsetting of the global balance?
- Have we thought about measuring the effects on sociosphere of cordless distribution of energies generated within the ontic structure of the atmosphere itself through electromagnetic waves? It is as yet unclear.

"Man"-oriented implementation of this and similar macro-scale analyses and their inclusion in sub-scaled (region, country, sub-region, city etc.) planning practices as macro-level "strategic data" should be a priority (Alkan and Bala, 2014).

URBAN MEMORY AND ONTOLOGY

Standardized forms of space that rapidly spread and became globalized with the advent of modernity, which occurred as a result of the second wave of revolution (industrial revolution), began to be implemented in all societies. As a consequence of these practices, which were performed overlooking the cultural, religious, informational and technological etc. ontic phenomena and differences both among communities and among the regions within the same country, the memories of communities and cities began to weaken rapidly and the feeling of cultural and spatial continuity started to disappear (Alkan, 1994).

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Efforts aimed at "Conservation of architectural heritage", which emerged as a reaction to practices that went so far as to destroy as a whole traditional urban units in the name of planning and development and which arose in parallel with a global understanding of "conservation of architectural heritage", have not yielded the expected results, either (**). For example, streets of "Şirince and Beypazarı, which have become totally tourism-oriented and commercialized, make it difficult to understand the ontology of settlement, and render such traditional settlements indistinguishable from one another. Moreover, such places are assigned characters in the name of turning them into "Touristic brands" which are new but irrelevant to the everyday life practices of their residents. Therefore, in such cases, the question of whether the things that are conserved are "***cultural values or commercialized values***" arises. As a matter of fact, a settlement should be evaluated on the basis of its unique values, character and raison d'être rather than from a general perspective. Ensuring the conservation of the character of a settlement and its cultural legacy will be possible by ensuring the continuity of its raison d'être. Continuity of its existence can be enabled by keeping alive its social (collective) memory, which makes that settlement what it is, and the feeling of adherence to that place" (Koca, 2015).

In this approach by Koca, orientation towards (or heading for) "Ontology" is a positive step but there is a need for an approach that goes beyond the existing paradigm in both conservation-oriented spatial planning efforts and development of collective memory. At this stage, Ontological Planning;

(*) Mankind has begun to take significant steps and establish global institutions in this regard. UN, UNESCO, Kyoto Protocol etc. are organizations that make us hopeful. However, the problem here is to render these efforts so effective and continuous as to create planning data at the level of consciousness. The fact that the country that releases the highest amount of carbon into the atmosphere (the USA) has not signed this protocol is equally disconcerting.

(**) A destruction similar to the one caused in cities by the 2nd World War in Europe was done in Turkey by development plans beginning in the 1960s and 1970s*. Similar destruction is being done by local and central governments today in the name of urban transformation.*

- Should focus on understanding the ontic nature (existence) of the city; is the formation of an urban (collective) memory a time-dependent phenomenon? Or, "***as a living organism, is memory an ontological part of the city, its ontic existence?"*** The meaning assigned to

this reality by "man" gains significance because it is man again who will make sense of this and decide on what footing the values to be carried over to the future can live. The city possesses memory ontologically. Time accompanies the enrichment of this memory only depending on man's actions. It cannot accumulate. It is man again who accumulates. It will be man who will be influential in changing it and deciding the direction of change. What is important is the presence or absence of institutionalization that will make existence-based evaluations in decision-making mechanisms and in the good-bad duality.

- The second important orientation is the formation of planning data and parameters without understanding "existence" and without making a detailed evaluation of phenomena that are used in making sense of "existence-man". At this stage, reliance of the large-scale inventory (basic data) which will constitute the planning criteria and parameters on ontology and ontological information will be the most important step in the change of paradigm in planning.

In order to obtain the expected benefits from ontological planning, there is a need for institutional structures on a global level that will make decisions that are compatible with the ontic nature of human beings and things and give directives that will guide hierarchical planning echelons. It seems possible and necessary that existing institutional structures be used and improved this end. Yet there is also a need for sub-scaled applications that will feed these tendencies through feed-back processes. Plans based on urban memory will be able to contribute to **"conceptualization of ontological planning"** as the closest planning level and activity to an ontological understanding of planning.

CONCLUSION

New and groundbreaking devices developed via technological advancements in each passing day (the number patents obtained in the USA only in the year 2015 is above 200.000) have reached such a level that they threaten human life as well as urban life. In its search for solutions to the problems, the current paradigm adopted technological change (and hence time) at a macro level as an independent variable and culture as a dependent variable. The area of macro problem identified by this approach is "**Cultural Delay"**. Space and spatial developments seem to have been ignored at the stage of identification of problems-at the macro

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scale. However, a vacuum and a problem as big as the field of cultural delay is the field of "**Spatial delay**".

The turn has come once again back to "ontology and information that will be generated in light of ontology" in solving social problems. The paradigm that should change in the discipline of Planning in light of ontological knowledge involves developing an approach that places man, whose "ontological existence" has been understood, at its focus and redefines man in the process as the dependent variable of macro planning. In the realm defined by man who continues his journey in eternity, society will gain meaning as universe, which develops as its function, and as time, which is the function of moment.

Social ontology, which finds meaning in the human-oriented wholeness of existence, should contribute to sub-scale plans in the planning hierarchy as "macro plan data".

Time and technological changes should be brought down to their positions as sub-scale determiners on a universal plane as dependent variables depending on "man and his existence".

It should not be forgotten at all levels of planning that things as well as man have ontic natures. Be it at macro levels (universal or global) or at local levels, expected results will not be obtained from the planning and spatial production processes as long as this reality is ignored.

If we can eliminate our prejudices regarding planning and give up (though at a limited level) our lust for value changes in land, then we can develop a new approach that will benefit by "ontology and ontological knowledge" in order to reach an understanding of a "positive city" planning that can increase informed participation in cosmic and historical processes, and that is adorned with images of love, tolerance, compassion, justice and freedom which will help people live in harmony with the outer world.

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Resume

Ahmet Alkan was born in 1954 in Konya-Ahırlı district. He completed his first, middle and graduate education in Konya. (1975) Masters (1978) and Ph.D. (1983) degrees from ITU. He started his academic life as a city planning assistant in KDMMA Architecture Department in 978; In 1985, he began his career as an assistant professor and proceed as associate professor in 1990. He began his

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political life with the elections of the local administrations (Konya Metropolitan Mayor candidacy) and continued as a Member of Parliament from 1995 to 1999. Ahmet Alkan, who continued his career as "freelance architect" between 1999-2007, returned academic life again at the end of 2007.

In his academic life, Ahmet Alkan, who is still in charge of administrative affairs such as department chair, faculty board member, founder board member and vice chairman of many research centers, KTVKK member and vice chairman and also still continues to serve as dean of Faculty of Architecture at Selçuk University. .

Ahmet Alkan has many books and four with related to his architectural profession, one with political speeches, one with poems and one with a memo-novel, He continues to contribute to the scientific life with numerous papers, articles, seminars, conferences and traditional congresses and the Journal of the Faculty of Architecture(Iconarp), which he has brought to publication life.

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Analysing The Concept of Place Attachment in The Context of Spatial Factors: Kuzguncuk, Istanbul

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Abstract

In contemporary globalised cities it has become increasingly important, for those of us who live in monotonous so-called *cloned*-environments, to find a sense of place we can identify with. When ties between inhabitants and places are disrupted, people are estranged from their neighbourhoods. As a result, not only people's relations with places are harmed, but also their social relations are affected, leading to isolation, alienation and socio-economic disruption.

The causes of these relations are analysed through the concept of place attachment. Since the 1970s, research on place attachment has grown considerably. These studies are mostly focused on sense awareness and affectiveness, with the physical attributes of places accorded lesser attention (Lewicka, 2011). In a similar vein Christopher Alexander (et al, 1977) has asserted that, when studying place attachment, influences associated with human feelings only comprise ten percent of total influences, while the rest derive from the physical characteristics of places. And yet these are the least examined objects of study.

In this context, the aim of this paper is to examine more closely the spatial qualities of places in the formation of place attachment. For the study, a long-established neighbourhood of Istanbul, *Kuzguncuk*, has

Keywords: *Place attachment, urban design, place-making, sense of place, urban image*

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been chosen to analyse the works of Christopher Alexander, Kevin Lynch, Jane Jacobs and John Montgomery. As a result, a matrix showing the spatial/physical qualities which have allowed the inhabitants of *Kuzguncuk* to develop a stronger attachment to their neighbourhood will be presented.

INTRODUCTION

Since the 1970s, research on place attachment (PA) has grown considerably, with a contribution from academics in various fields (Lewicka, 2011). Before analysing the meaning of PA it is important to define "place". For Tuan (1977) 'place is the humanized space'. Place only acquires meaning when people differentiate limitless space with their topographical understanding, memories, and actions, etc. Therefore, a place has three dimensions, 'physical (form and space), functional (activities) and psychological (emotion, cognition)' (Jelley, 2013, p.1). The meaning of place changes through time and context, therefore it is not static (Wolf et al. 2014). For Shumaker and Taylor (1983) PA occurs when there is a bond between the environment and the person. Rilley (1992) describes place attachment as an emotional relationship between people and places through cognitions, judgments, and decisions. According to Low and Altman (1992) place attachment and place identity are interrelated issues, since they are closely related to the issue of identity of individuals, groups, communities and cultures. Biological, environmental-spatial, psychological and socio-cultural factors are influential in the formation and maintenance of the sense of place attachment and place identity. Scannell and Gilford (2010) propose a tripartite chart and define PA at two levels, individual and group. At the individual level Manzo (2005) suggests that personal experience gives a place its meaning, and although sometimes a given place may be uninspiring, experience can make it meaningful. These studies are important because in contemporary globalised cities, when ties between inhabitants and places are being disrupted, people are estranged from their neighbourhoods. As a result, not only people's relations with places are harmed, but also their social relations are affected, leading to isolation and alienation.

According to Lewicka (2011), when studying the roots of PA the psychological side of attachment has been the main focus, and she refers to Christopher Alexander's (et al. 1977) seminal book, Pattern Language, to further discuss the spatial/physical qualities of the built environment in order to understand the spatial dimension of the PA. According to Alexander (et al. 1977), when studying place attachment, human feelings only comprise 10% of total effects or influences, while the rest derive from the physical

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characteristics of places. And yet these are the least examined objects of study. In the context of this account, the aim of this study is to find out which physical/spatial elements may be fostering a feeling of place attachment for those people visiting and residing in a place. As a case study, a historical neighbourhood on the Asian side of Istanbul, Kuzguncuk, has been chosen, and to test the validity of this argument, 400 surveys were conducted among *inhabitants* (200) and *visitors* (200). The survey results demonstrated a high level of place attachment to the neighbourhood, especially to its physical features. Subsequently, the spatial qualities of the neighbourhood have been examined in the light of the work of four renowned urbanists and architects.

PLACES WITH STRONG IMAGES AND IDENTITY: SOME THEORETICAL APPROACHES

Christopher Alexander and the Pattern Language

In the second half of the twentieth century, various theories have been developed to assist architects and planners to design urban spaces. Among them, the architect Christopher Alexander is perhaps one of the most influential with respect to his seminal book, A Pattern Language (et al. 1977). In this study, Alexander gave examples of detailed solutions for buildings, cities, neighbourhoods, houses; gardens and rooms that are made up of patterns ranging from large to small are defined. He described 253 pattern languages in his book. It is designed with the idea of applying various combinations of formats in this language. Patterns start with city scale and end with neighbourhood scale, building clusters, buildings, rooms and construction details. For example, pattern no.61- 'Small Public Square' is in relation to the upper and lower scale patterns. Therefore, a small public square should be designed in considering the other patterns, namely, Activity Node, Promenade, Work Community, Identifiable Neighbourhood, Small Public Squares, Pedestrian Density, Activity Pockets, Positive Outdoor Space, Hierarchy of Open Space, Building Fronts, Stair Seats, and Something Roughly in the Middle (Alexander et al.1977). When these patterns are connected to each other they create a small public square. A pattern is complete only when it is together with the other patterns. There is no individual pattern independent from the others. This is a process which needs to be discovered by the designer, and there is no imposition.

Kevin Lynch and the Image of the City

Kevin Lynch's eminent book, the Image of the City (1960) is one of the earliest studies that have experimentally analysed urban space through the lenses of legibility and imageability. According to Lynch, cities are important and have views that must be

perceived, remembered and enjoyed. At the same time, it is a significant design problem to give the city a visible form. What Lynch tried to achieve is the well-designed town that possesses legibility. Lynch examined the visual quality of cities based on the mental maps of their inhabitants. According to Lynch, imageability requires these to be clear, legible and visible. Lynch proposed that the contents of the urban image can be classified under five headings; paths, edges, nodes, districts, and landmarks. These elements co-exist with each other, i.e., a path may lead the pedestrian to a node in the middle of which a landmark might be located, and all of these may be located in a district. According to Lynch, landmarks are the elements that help to define legibility in cities. However, since they are external items, the observer cannot normally get into them. These are mostly easily identifiable physical formations; a building, a sign, a shop, or a steep slope. Other sign items are mainly visible from restricted areas. Examples include signboards, shop fronts, trees, and other urban details, which are visible to pedestrians. They are often used as clues to the understanding of urban identity. People in cities use them as a guide as they learn the city better. Lynch says that a well-designed urban/environmental image gives people the feeling of safety/security. Moreover, if a person is surrounded by a good urban image, s/he can establish better relations with others. A clearly identifiable and imageable urban landscape may therefore enhance the intensity and the depth of the experience of oneself (Lynch, 1960).

Jane Jacobs and the cities for people

Jane Jacobs (1961) is without doubt one of the most influential figures of twentieth century urbanism with her ideas on mixed-use neighbourhoods, population density, pedestrian-biased streets and economic diversity. According to Jacobs, when planning a city, elevating the vitality of daily life in the formulation of plans, targeting the aspirations of the middle classes, avoiding boring and monotonous social housing estates, promoting social centres to attract people for entertainment, and providing pedestrian streets that remain preferred by visitors should be the main purposes of planning. Jacobs proposed (1961) 'a wide range of diversity in functions/uses; various local/independent shops; flexibility in opening-closing hours, the presence of street markets; cinemas, theatres, wine houses, cafés, pubs, restaurants, and meeting places that serve different types of food, serving every budget; areas that allow people to follow (including gardens, squares and other cultural activities); the possession of a variety of land so that development and small-scale land investment can be achieved; the availability of housing and shops with differing price and rental ranges, a degree of self-reliance and

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innovation in the new architecture, and active street life and active building fronts'. Finally, to achieve these goals a sufficient population density should be achieved and maintained (Jacobs, 1961).

John Montgomery and the place-making principles

John Montgomery is an urbanist and planner who extensively published on the subject of successful urban design. In his widely-quoted essay 'Making a City: Urbanity, vitality and urban design' (1998) Montgomery claimed that creating the perception of place is much more complex than planning a city. Creating spatial perception requires knowledge, understanding, talent and judgement. In urban design work, to reach urban quality the designer should consider the larger picture rather than focusing on the individual properties of the buildings or streets. The physical elements, such as landmarks, open spaces, meeting places, architectural form etc., should be combined with each other in view of the psychology of place to produce *urban quality*. Therefore, he asserts that urban quality is related to 'the social, psychological and cultural dimensions of place'. He states that in successful public places, the possibilities for all kinds of transaction (social, cultural, and economic) should exist. Without establishing a multi-layered and complex system of transactions, a good/successful urban place cannot be created. In the course of time, the users frequenting a place develop a *sense of place* which ultimately ends up with their belonging to a place. Therefore, in order to create sense of place, *form* (physical elements), *activity* (diversity, street life, café culture, events, etc) and *image* (cognition, perception, and knowledge) should intermingle with each other.

KUZGUNCUK: PAST AND PRESENT

Kuzguncuk, which was developed in a valley opening to the Bosphorus, is a settlement between Üsküdar, Paşalimanı and Beylerbeyi and is located in northwest-southeast direction. The neighbourhood's location is very favourable because of its proximity to the Bosphorus Bridge. In spite of this locational advantage, the area is protected from the unsupervised building construction along the Bosphorus. Therefore it is a quiet/tranquil neighbourhood as well as being centrally located.

In the 18th and 19th centuries, the social space in Istanbul consisted of ethnic communities. In Kuzguncuk Muslims and non-Muslims lived together for many years. Kuzguncuk is known as the first district where the Jews settled on the Anatolian side. Although the exact date on which they first settled here is unknown, Kuzguncuk was recognised as a Jewish village in

seventeenth century sources. The area, for a long time, accommodated Jews, Armenians and Turks (Uzun, 2001).

The transformation of the neighbourhood in the twentieth century started with the acquisition of an old house at Üryanizade Street by Cengiz Bektaş at the end of the 1970's. Cengiz Bektaş is a well-known architect with many books and articles on architecture, urban planning, environmental and architectural conservation. After Cengiz Bektaş's move to the neighbourhood, Kuzguncuk became a favoured settlement by architects, artists and writers. However, as the area became popular, the demand for Kuzguncuk residence from those located in other districts of Istanbul increased, and there occurred a noticeable increase in property prices (Uzun, 2001).

Despite not receiving the financial support he requested from the banks, Cengiz Bektaş became successful in mobilizing the community in organizing socio-cultural events. One day in 1984, Bektaş set a shadow play show for children on the stairs of Bereketli Street. From that day onwards, many other activities were performed in the neighbourhood. Some of these were cultural activities such as games for children, workshops and a summer school. Alongside these cultural activities, many facilities around the area have also developed. For example, a basketball court was established, a street theatre was built, and the place where the garbage was previously collected was transformed into a playground, while the empty walls of Üryanizade Street and some other areas were painted by children with the help of the painters of the area[1].

[1]*Interview with the architect Cengiz Bektaş on 16 January, 2015.*

In 1986, the vegetable garden (Bostan) was opened to serve the local community as a recreational area. Since then, a struggle by Kuzguncuk locals has been continuing to save this garden from being re-developed as a school, a hospital, or for other non-recreational uses. Finally in 2014, it was decided and announced that the *Bostan* would remain as a vegetable garden, and a year later, in 2015 it was opened as an urban agriculture field. Bostan has always been an important gathering place for the local community of Kuzguncuk. It represents certain relinquished social and psychological values and spatial qualities which have been long lost in many neighbourhoods of Istanbul. Therefore, the struggle of Kuzguncuk's inhabitants for many years to maintain the Bostan can be seen as a sign of strong place attachment.

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LOOKING FOR THE ROOTS OF PLACE ATTACHMENT IN KUZGUNCUK

Spatial characteristics referred to in the works of four prominent urbanists, that might be applied to Kuzguncuk, are listed in the following table. (See Table 1)

Table 1: The physical qualities of spaces influencing the formation of place attachment

	Christopher Alexander	Kevin Lynch	Jane Jacobs	John Montgomery
Location		x		
Seaside/waterfront		x		x
Public squares	x	x		x
Recreational areas	x	x		x
Neighbourhood parks	x		x	x
Short streets	x	x	x	x
Pedestrian Streets	x	x	x	x
Landmarks		x		x
Mixed use			x	x
Street cafes	x		x	x
Individually-owned shops	x		x	x
Historic pattern		x	x	
Architectural styles	x	x	x	x
Building scale	x		x	x
Human scale	x		x	x
Doors-windows	x	x		
Ornament	x	x		x
Street Furniture	x	x		x
Colour	x	x		
Lighting	x			x
Pavement	x	x		x

Proximity. The availability of the public transportation and shared taxis (dolmuş) increases the locational advantage of Kuzguncuk, which is located between Üsküdar centre (the second largest retail concentration on the Asian side of the city) and Beylerbeyi, another historical neighbourhood. Üsküdar is also an easily accessible district because of its proximity to the Bosphorus Bridge. ***Seaside/Waterfront:*** The Çınaraltı square in Kuzguncuk

and the pier bear the characteristic of connection nodes with the shore of the Bosphorus. Many people come to visit or travel in this area because of proximity to the sea, attractive scenery, and entertainment and leisure facilities. This suggests that being close to water is very important, and it encourages opportunities for inhabitants and visitors to socialize, to see and be seen. As Lynch as noted nodes are points where roads intersect, and a nodal point can be an intersection for both pedestrians and vehicles alike. The existence of nodes, such as ***public squares, recreational areas*** and ***parks*** in Kuzguncuk are the other spatial elements which help to foster social relations in the neighbourhood. As Wolf (et al. 2014) noted, greener neighbourhoods with green common areas make it possible to form strong social bonds among the local community. In Kuzguncuk, Paşalimanı, İcadiye Streets and Çınaraltı square are the most densely populated locations and represent a perfect node for pedestrians and traffic. Another important node and point of visual reference in Kuzguncuk is the popular and accessible Vegetable Garden (Bostan). The existence of ***pedestrian streets*** and ***short streets*** are also the two other important design features mentioned by all four theoreticians. In this design feature, once again, the possibilities for the creation of meeting points for pedestrians can be realized. These nodal points create opportunities for people to come together to organize events and activities and to create their own experiences, memories, and emotions, which in turn foster strong place attachment.(See Figure 1)

The historic plane tree at the intersection of the Pasalimani and Icadiye Streets at Kuzguncuk and the Dilim patisserie at the same corner can be described as local ***landmarks***. It is not possible to think of the neighbourhood without recalling this impressive tree. It can be regarded as an important landmark and visual anchor, given that it is located in a spot that cannot be missed easily. According to Lynch, continuity is a functional necessity. People always rely on this feature. The main requirement is the continuity of the road itself or road coverage, and people tend to think about the direction of the road and where it starts and ends. We can see clearly that Kuzguncuk has a dense network of roads and pavements along all its streets.

Individually-owned shops and ***street cafes*** are also places for people to interact, socially, culturally and economically. These features are repeatedly emphasized by Montgomery, Jacobs and Alexander. The existence of individually-owned shops is especially important, because people may not be able to establish memories or experiences in shops which are part of the

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national/international chains which stereotype shop fronts and standard services.

The rest of the features, ***historic fabric, architectural style, and building and human scales*** are also important to create a sense of place, where people like to stay, socialize and live through their experiences and memories. To complete this milieu, the ***architectural details (doors, windows, ornaments),*** and ***street furniture, together with colour, lighting, and pavement design,*** should be planned in detail so that people would like to return to this milieu again and again. (See Figure 1)

Kuzguncuk aerial view and nodes | Çınaraltı Square

Vegetable Garden | Plane tree as a landmark

Individually-owned shops | Arch. style, human scale colour, ornament

Figure 1: Views of Kuzguncuk showing some spatial features related to place attachment (Photographs by Tuğçe Özata)

CONCLUSION

Attachment to a place refers to the emotional commitment to the physical environment in which people live, or relate-to. One of the most important factors behind people's commitment is socialization. In order to be able to socialize, it is especially

important that there are small places where people are located at the seaside and where people spend quality time. Such places offer people a good view and socialization. These facilities are supported by the presence of public spaces, recreational areas and neighbourhood parks. Short-cuts are often used to encourage people to meet and communicate with each other without walking long distances.

The urban land use pattern should permit densities of people in places where activities might require sufficient numbers to congregate. In this respect, mixed-use areas attract more people than mono-functional areas. Even though it is an economic factor, mixed-use is very important in social terms as well. Street cafes also emerge as areas where people can socialize. Individually-owned businesses offer special services provided by the owner of the shop to customers. This is a feature not possible to achieve in store chains. The special attention given by individually-owned stores is outside the standard customer buyer relationship. So it is very important.

Historical urban environments are mostly human scale, and people value such environments more than the colourless, often uninspiring high-rise buildings which are quite common nowadays in big cities, not least the mega-city of Istanbul. The latter make people feel intimidated by scale, and lost in a monotonous environment. The urban fabric should also provide a variety of different architectural styles with aesthetic charm and beauty. Ornaments on doors and windows are elements that visually contribute to environmental aesthetics. Street furniture is also important if it is well designed. It can be useful also to select various plant species, and ecologically suitable materials, to cover the ground. Places have emotional, behavioural and form-related meanings. This emotional attachment is often the result of affective spatial features which stimulate feelings of place attachment.

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Resume

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Cities Hosting Holy Shrines: The Impact of Pilgrimage on Urban Form

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Abstract

This paper explores pilgrimage in the context of historic holy cities which contain at least one religious complex through which the ritual of pilgrimage takes place. One controversial tension in urban development process of holy cities is the tension between urban growth, on the one hand, and adapting city structure to the needs of pilgrims on the other hand. This paper investigates this issue by referring to experiences of two major holy cities in of Mecca and Mashhad. Both cities are spiritual centers which host millions of pilgrims throughout year. The aim of this paper is to analyze the process of city center transformation in both cities and monitor different policies and interventions that shaped their morphologies up to now. Through historical analysis of urban form, flow of pilgrims has affected the morphology of both cities in similar ways. Accordingly policies and interventions by local officials have shaped the urban center in three similar ways: enlargement and expansion of shrine, vehicular access to shrine, and real-estate speculation. İn the absence of protective and preventive codes and policies both Mecca and Mashhad have lost their historical urban fabric and their cultural patrimonies. Their traditional urban scape and prominence of shrine has been substituted by high rise mega projects. İn a similar way their local crafts and small-scale retails have been replaced by global retail chain.

Keywords: *Pilgrimage, Holy City, Urban Morphology, Mecca, Mashhad*

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INTRODUCTION

Pilgrimage according to definition is "a journey made to a sacred place as an act of religious devotion[1]". Typically it is a journey to a shrine or other sacred locations which is important to one's faith. Although different faith practice different ritual of pilgrimage, the idea is shared among different religion. For example Jerusalem is visited by pilgrims of three religions – Judaism, Christianity and Islam. In Christianity pilgrimage was practiced in the fourth century when a network of holy places was established across Christendom by Emperor Constantine. Later pilgrimage also was made to Rome and other sites associated with apostles and saints. According to Islam rules each single Muslim – in case of physical and financial ability- must perform the pilgrimage to Mecca at least one time in Life. Moreover it is recommended that Muslims pay visit to shrine of Prophet Muhammad and other Imams in a regular base. In Judaism Jerusalem is the center of Jewish religious life and pilgrimage. The Hebrew bible instructs all Jews to make a pilgrimage to Jerusalem three times a year.

[1]*Oxford English dictionary, Oxford: Oxford University Press, 1987*

Even today important sacred places host pilgrims of different faith and absorb the crowd in a temporary or constant manner. For example it was estimated in 2000 that approximately 30 million pilgrims visited Rome and 4 million visited the Holy Land (Woodward 2004). Similarly according to Saudi Arabia Ministry of Hajj approximately 2 million Muslim pilgrims visited Mecca in 2014 which brought 8.5 billion for the country. Due to advancement of transportation technology the number of pilgrims to holy places tends to increase which in return brings additional challenges in terms of management, security, environmental impact and urban development.

One important challenge is the pressure which mass flow of pilgrims could exert on the urban fabric of holy cities. Previous studies on holy cities of Mecca and Medina indicate that mass pilgrimage have radically changed the traditional townscape of both cities in favor of increasing transport infrastructure, large-scale commercial establishment and lodging infrastructures for pilgrims (Bianca 2000, Toulan 1993). This picture is similar in many other holy cities which receive large amount of pilgrims in constant or temporary manner. One controversial tension in urban development process of holy cities is the tension between urban growth, on the one hand, and adapting city structure to the needs of pilgrims on the other hand. This paper investigates this issue by referring to the experiences of two major holy cities in Islam-Mecca and Mashhad. Both cities are spiritual centers which receive millions of pilgrims throughout year. The aim of this paper is to analyze the process of city center transformation in both

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cities and monitor different policies and interventions that shaped their morphologies up to now. The first part of the paper deals with the definition of holy cities, its typologies and morphologies drawn from different case studies and the second part deals with issues and challenges associated with pilgrimage in different holy cities.

HOLY CITIES

Holy city is a term applied to historical cities centered to a specific faith or religion. Therefore, holy city is a functional term applied to those cities which are centers of worship, pilgrimage or religious learning (Hourani and Stern 1970). Such cities are often major destination of pilgrims and contain at least on religious complex. The importance of holy cities is measured by the number of pilgrims visiting the shrine (or similar sacred complex) at religious events. The most significant holy cities are Mecca, Jerusalem and Vatican which receive high number of pilgrims throughout year.

Formation and Morphology

Shrine is a holy sacred place which is dedicated to various religious figures of respect. In Shiʿi Islam the imams (and some of their family members) have emerged as the most highly venerated saints among Shiʿi believers, and their tombs have become the sites of shrines that serve as symbolic spaces for culture, religion, politics, and national identities, due to their sacred and holy status to believers (Rigss 2015). In most holy cities the shrine constituted the initial establishment of cities and coined their future development. Once a shrine is founded its holiness absorbs population to settle and to worship and also to be buried in vicinity of the sanctuary. Due to importance of religion in socio-political functions of a society, many clerics and influential figures come to live adjacent to the shrine. The sanctity of the complex compels local governments and also the residents to preserve and maintain it through charity and endowments. As the city grows and absorbs more population the need for more worship space is needed. Therefore, enlargement of the sanctuary becomes an important initiatives of the governments. The sanctuary gradually becomes an important spiritual center and gathering point in regional and other supra-local scales. Flow of pilgrims from different parts of region often in forms of groups and caravans required investment on infrastructures (roads, caravanserai...). Therefore, a holy city obtained a strategic position in the network of mobility with many important routes converging to it.

Flow of pilgrims also resulted in prosperity of commerce in holy cities. Since many pilgrims brought precious objects from their

place to sell or exchange them with other objects. The integration of pilgrimage with commerce contributed to economic prosperity of holy cities and agglomeration of commercial activities along the main arteries that end to the sanctuary. Therefore the morphology of a holy city includes a most inner ring with religious functions and uses accompanied by commercial land-use along the main arteries all embraced by residential areas. The convergence of main urban thoroughfares toward the center of the sanctuary creates a radio-centric urban grid. The geographical center and spiritual center overlap in order to establish a sense of place. Peters discussing Jerusalem and Mecca explains metaphorically this centrality: "If the Haram, the sacred place, was the heart of the holy city, pilgrimages were its life-giving blood and the network of economic and political arrangements that carried them to and from the shrine were its veins and arteries." (Peters 1986) s. In many cases the shrine also serves as religious educational center where leading clerics live and teach students topics such as Islamic jurisprudence, theology, philosophy, and history. Therefore, cities of holy shrines are at the same time a place of exchange and learning for a member of specific faith. In some cases, political leaders have patronized shrine cities, even utilizing them as national symbols and sources of revenue (Rigss 2015).

One of the main characteristic of shrine cities is a major path for the movements of pilgrims and performance of pilgrimage rites. Pilgrimage is more than visiting a holy shrine; it indeed contains rituals through which pilgrims gets spiritually purified in order to enter the sacred area. Inherent in the meaning of pilgrimage is the idea of travelling from one place to another place sometimes in a form of mass movement of crowds. Therefore, path and routes become important elements for performance of rituals.

So, the structure of shrine cities is essentially determined by two factors: centrality and axiality. Centrality contains dual intertwined meaning. On the one hand, most holy cities are points of "spiritual convergence of millions of worshipers throughout the world" therefore they are symbolic centers for believers of a faith or religious. On the other hand, holy cities are center of gathering and ritual performance where most of religious structures are accumulated (Saliba 2013). Therefore, center becomes a strong magnet that absorbs population, activities and functions toward itself. Center should be highly accessible from surrounding and establish a network with other centers in a hierarchical or non-hierarchical order. Therefore, routes connecting a main centre to other centers become an important part of holy cities structure. As mentioned before routs are also important for performance of rituals therefore, they constitute part of the rites of pilgrimage.

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Hussein distingueshes Arabo-Islamic holy cities from typical Arab city by focusing on "passes of religious rites" which symbolically and functionally construct the city structure (Hussein 2013).

TRANSFORMATION OF HOLY CITIES

Up until the modern time most holy cities grew organically around the sacred complex. Advancement of transportation technology eased the journey and led to increase in the number of pilgrims. It is clear that the increased flow of pilgrims caused important problems in terms of mass movement, transportation and accommodation. These problems, according to literature, were reflected in transformation of urban areas in three categories.

1. Enlargement of the area around shrine:

as mentioned before, the sanctity of shrine absorbed population and different religious-based functions including religious schools, mosques, praying halls and cemetery. Furthermore, many rulers contributed to development of shrines for personal or religious purpose. Even today the enlargement of shrine is a routine practice by governments. In many shrine cities the shrine complex is used for mass praying and political speech in different national or religious occasions. In these occasions shrine functions as a public plaza and gathering point in urban and scale. In a few cases a shrine represents the state's political ideology and an arena for ceremonies, public display of piety and political legitimacy – especially in theocratic states.

2. Accessibility (vehicular and pedestrian) to shrine:

The ever increasing number of pilgrims added another dimension to characteristic of shrine cities which was accessibility to shrine. The main issue was how to manage the mass movement of pilgrims from and to shrine. The solution that has been adopted by many shrine cities share similar scheme: street widening and isolation of shrine from city fabric by building a road on perimeter of shrine. Street widening is a typical solution that was applied to main urban thoroughfares leading to the sacred complex. Since widening would have meant more pedestrian and vehicular access to shrine it became the most typical strategy for managing mass movements of pilgrims. It could also provide more commercial space for shops and other pilgrims-related services. In western tradition religious buildings (ex. Cathedrals) are often freestanding monuments facing a public piazza. Therefore, a public open space is a medium through which a sacred complex is connected to the rest of city. This is different in many traditional Muslim cities where a sacred complex (Haram or shrine) is totally integrated in the urban fabric. The walls of shrine were adhesive to the residential areas and the shrine did not have any façade

except for main entrances. According to Sabila one reason for the difference is that: "mosques traditionally incorporated open space within their precincts as *enclosed prayer areas*, *space for religious and political gathering* and *havens for contemplation and seclusion from the surrounding urban bustle."* (Sabila 2015) However during the 60s the demolition of historical quarters and imposition of modern boulevards on the urban fabric led to separation of shrine from the rest of traditional city. In many holy cities, including Mecca, Medina, Karbala and Mashhad, the shrine was treated as a sacred monument detached from the traditional city. Furthermore, construction of ring road around shrines for more vehicular accessibility accelerated its separation from the rest of urban fabric.

3. Sacred sites versus speculation sites:

The obsessive desire of pilgrims and commerce is to stay as close to shrine as possible. It is important for pilgrims to find affordable accommodation within 10 to 15 minutes walking distance from shrine. In Muslim holy cities performing daily prayers in shrine has a significant meaning and it is important for pilgrims to reach shrine before sunrise to perform the Morning Prayer. Therefore, the choice of location and competition between investors for acquiring lands near shrine has had tremendous effect on land value of areas around shrine as well as main avenues that end to shrine. With an ever increasing number of visitors most holy cities have become economically dependent on pilgrimage. Pilgrimage has created many formal, informal and seasonal jobs for residents to which their livelihood depends. This has made authorities to focus on religious tourism and preparing city to host as many pilgrims as possible. Real estate speculation has always been a secure step to absorb capital, visitor and attentions. This is in contrast to the very first concept of holy cities as "spiritual havens that promote a sense of social equality between all believers"(Sabila 2015). Left to market forces, competition for building taller emerged among private developers which soon changed the traditional ambience of holy cities.

Mecca

The holy city of Mecca is located in the Southwest of Saudi Arabia and it is considered the spiritual capital of one and half billion Muslims worldwide. The religious importance of Mecca is due to the presence of Ka'aba (Sacrified house of God) which dates back to the time of Abraham. It is ka'aba toward which all Muslims must face in their daily prayers and it is also the destination of Muslims seeking to comply with Islam's fifth pillar: Hajj (pilgrimage). The ever increase in number of visitors since the time of Prophet

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Muhammad has determined not only the economy of the city but also its urban pattern, land uses and architectural typology.

Evolution and Morphology

The mountainous site of Mecca has contributed to the unique character of the city, but it has also imposed heavy constraints on Mecca's urban growth: "the historic center at the bottom of the valley was laid out around the courtyard of sacred Ka'aba which traces its tradition back to the times of Abraham. In ancient times, and in fact up to the middle of this century [the 20th century], the surrounding houses formed the walls, as it were, of the holy mosque and were considered as part of the haram, the inner precinct of which was defined by a modest arcade, attributed to the Turkish master architect Sinan. The gradual expansion of both the precinct and the city forced the residential districts to climb up the steep and rocky hillside, producing the city's typical bowl-shaped townscape." (Bianca 2000)

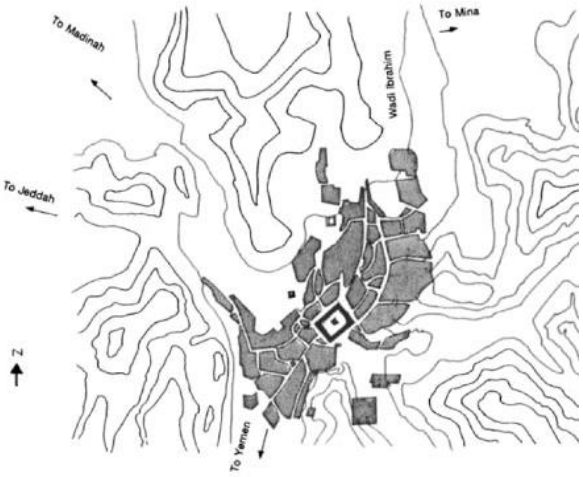

Figure 1. Mecca 1920 (Toulan 1993).

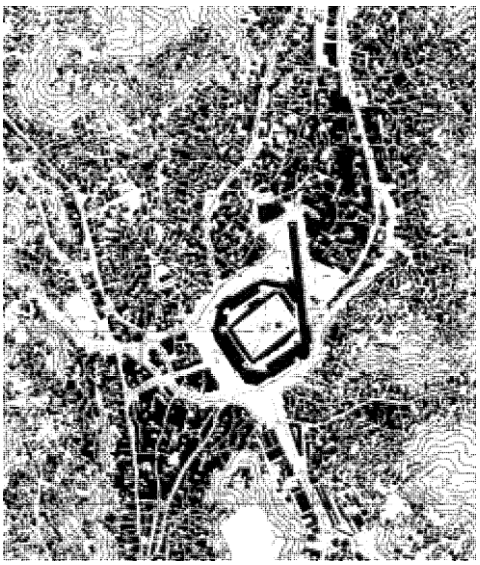

Figure 2. The major Extension of Haram in 1970 (Bianca 2000).

Up until the 1920 Mecca developed around the Haram in a very concentrated from. The main urban expansion occurred in a southwest to northeast direction along the main valley. As shown in figure 1 the main transport gates toward the city were the northeastern approach from Mena, the northwestern approach from Medina, the western approach from Jeddah and the southern approach from Yemen (Toulan 1993). In 1923 Mecca became part of a kingdom of Saudi Arabia which accelerated the number of pilgrims due to stability and security developed by the central government.

During the 50s the increase in oil revenue changed radically the economy of the kingdom which meant more investment on large scale infrastructures in regional and urban scale. The 60s and 70s due to increasing number of pilgrims the area of Ka'aba expanded to accommodate more pilgrims and facilitate the accessibility of pilgrims to Ka'aba (Figure2). Large portion of historic urban fabric had to be demolished for extension of worship space and to separate the Haram from the surrounding fabric by constructing large vehicular road around Haram. Further intervention imposed networks of radial highways and tunnels converging on the

Ka'aba to ease vehicular traffic during Hajj season. Moreover, the need to increase pilgrims-related services and competition for space around the shrine complex led to speculation of land in form of large-scale mega projects. This accelerated the demolition of historical fabric in favor of development of large-scale projects with profit-driven strategy in mind (Figure3 and 4). Today the urban pattern of mecca is composed of a center dominated by pilgrims' activities (commercial and hotels) and the residential areas have expanded outside the pilgrim zone.

Figure 3. Demolition of historical fabric in Mecca (https://www.slideshare.net/brighteyes/mecca-construction-plans-for-the-future-kabah)

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Figure 4. Development of Large-scale projects around Haram (https://www.slideshare.net/brighteyes/mecca-construction-plans-for-the-future-kabah)

Mashhad

Mashhad has a significant religious importance for Shiite Muslims since the 9th century when Imam Riza, the Eighth Shiite Muslim Imam, was buried in a village named Sanabad which later changed to Mashhad, place of martyrdom of Imam Riza. The celebrated shrine of Imam Riza attracted visitors and pilgrims from different parts of Shiite world and gradually became more important than the ancient cities of Nishabur and Tus, the important cities of Great Khurasan in northeastern Iran (Kheirabadi, 1991).

Evolution and morphology

Due to its extraordinary religious-cultural importance, the shrine became a main urban core of Mashhad and also a strong magnet to absorb population, and other urban functions. Many rulers and political leaders paid particular attention to development and improvement of the city. Development of mosques, bazaars and religious schools contributed to the development of the shrine. Especially during Safavid Dynasty (The first national Shiite state after the Arab's conquest of Persia), Mashhad became an important Shiite center in the world of Islam and received many pilgrims since then. The Safavid King, Shah Abbas I (reigned 1587-1629), for example travelled to Mashhad on foot from his court in Isfahan in order to pay respect to the shrine. Upon his arrival he ordered improvements of shrine and built many public facilities. He also commissioned planners to implement the first designed street in East-West direction passing through the shrine courtyard. The designed street furnished by a watercourse and lined trees along the main stream (Figure5). This intervention accelerated the central position of shrine since it became an intersection node of the north-south organic axis of bazaar and east-west designed axis of boulevard.

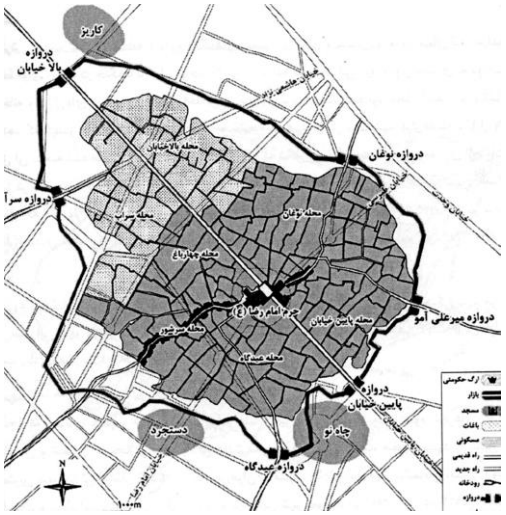

Figure 5. The new east-west axes intersects Bazar at the shrine (17th century) (Pakzad 2012)

Under the modernization project of Reza shah (1920-1940) many important cities of Iran underwent physical changes. Street widening, imposition of street networks on urban fabric, construction of transport infrastructure and modern urban facilities were among major interventions. In Mashhad in order to ease vehicular access to shrine a north-south street was cut through the dense urban fabric. This new axis intersected the old east-west axis at shrine complex. Then in order to make the circulation complete, a loop was built around the shrine to connect four urban axes in a traffic node. This intervention for the first time disconnected the shrine from surrounding and also led to demolition of the old bazar (Figure 6). As a result commercial activities were moved along the new streets. As the city attracted more pilgrims, new services, ex. Hotels, restaurants, travel agencies and souvenir shops, flourished around the shrine.

Figure 6. Construction of traffic loop around shrine (1930s) (http://www.aqr.ir/Portal/home/?Image/44370/67596/199781/photo.aqr.ir.jpg)

During the 70s Mashhad's historical urban fabric underwent large scale urban renewal program. The renewal plan ordered the demolition of 30 hectares around the holy shrine to be replaced by urban green space (Figure 7). New streets were cut into the old neighborhood in order to integrate different part of the city into a traffic network. In an authoritarian measure many commercial

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activities around the shrine were moved to a modern bazar (Bazar-e- Riza) and new multi-story hotels were built along the main streets.

Figure 7. Separation of shrine from its surrounding by green loop (1970s) http://www.aqr.ir/Portal/home/?Image/44370/67596/199781/photo.aqr.ir.jpg)

After the Islamic Revolution (1979) the religious ideology of the state brought many criticisms to the previous plan of the center of Mashhad. As a result the new management system followed two interrelated plans (Rezvani 2005): 1. Enlargement and extension of shrine; 2. Urban rehabilitation and renewal plan for the urban fabric around the shrine. The first plan envisioned the enlargement of shrine from 12 hectares in the early 80s to 69 hectares in 20 years plan. The enlargement plan had considered the integration of religious, educational and cultural uses to the shrine, to be completed by addition of more praying courts around the shrine. The second plan with a horizon of 2022 envisioned the large scale urban renewal scheme for over 300 hectares area around the shrine including the most historical neighborhoods of Mashhad(Figure 8). According to the new plan the four main converging streets were widened from 3o meters to 40 meters and a new traffic loop was considered around the shrine complex with many proposed commercial and hotels establishments along. Realising this plan has led to local population exodus from central area.

Figure 8. Urban renewal plan of the area around shrine (2000) (http://uupload.ir/files/gpbn_haram.jpg)

IMPACTS OF PILGRIMAGE ON MECCA AND MASHHAD

The fact is that gathering thousands of people (in some rituals millions of people) at the same time in a place contributes to a lot of problems for local residents as well as local governments. Below are some issues that many holy cities face due to the presence of large number of pilgrims:

- Pilgrimage and Land-use pattern

Pilgrimage has had a tremendous effect on the way cities' infrastructures and facilities are located and distributed. As discussed in different case studies, in many holy cities the focus of transport infrastructure is toward providing better accessibility to shrine complex and easing the flow of traffic to and from shrine. Pilgrim-based services (hotels, restaurant, shops, and travel agencies) are all concentrated around shrine and along the main streets that end to holy complex. Peters calls these activities "secondary service industries of holy cities whose income derives directly from providing lodging, food, and other non-sacral services to the pilgrims" (Peters 1986). These activities benefit from locating near each other and clustering around sacred complex which has significant impact on land-use pattern of holy cities. The spatial organization of most holy cities is in a way that the center has been dominated by pilgrim-based services and residential function has been pushed to periphery.

- Heritage and local identity in holy cities

Until the 20th century shrines were integrated with traditional urban fabric of holy cities. Residential neighborhoods were adjacent to court yard of shrine and "the local pattern of streets and open spaces extended right up to the walls of the sanctuary to service an adjoining, dense residential fabric" (Sabila 2015). However, as shown in examples, in first decades of the 20th century authorities in holy cities adopted the policy of "freeing" sacred buildings from their surroundings by demolition of areas around the shrine. The importance of pilgrimage to urban economy further accelerated demolition of historic fabric in two ways: first, connecting the sacred complex to main transportation hubs (airport, train station, bus terminals) through networks of roads, highways and tunnels; second, commodifying urban space by changing land-use pattern from residential use to commercial. The increase in land price and competition between different stakeholders to acquire land accelerated the process of freeing land from residential neighborhoods and assigning them commercial use. This meant further demolition of urban neighborhoods and aggregation of small plots in order to obtain

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higher floor area (FAR). Furthermore, commercializing pilgrimage, commodification of urban space and real estate speculation has changed the organic morphology and traditional urban scape. Today skyline of many holy cities consists of high rise buildings, commercial signs and advertisement boards which have dominated the original visual prominence of sacred landmark. Local products have been substituted by imported consumer goods and small-scale retails are shrinking in favor of large-scale commercial centers and global retail chains. In this perspective according to Sabila "In the absence of remedial, protective or preventive public policies, and with a new focus on private financing, the central districts of holy cities are turning into joint public/private commercial ventures." (Sabila 2015).

CONCLUSION

As studied in two cases of Mecca and Mashhad the increase in number of pilgrims accompanied by changes in land-use pattern, are main indicators of urban development in both cities. Furthermore, commercialising pilgrimage and competition to attract investors turned pilgrimage sites to speculative sites. İn the absence of protective and preventive codes and policies both Mecca and Mashhad have lost their historical urban fabric and their cultural patrimonies. Their traditional urban scape and prominency of shrine has been substituted by high-rise mega projects. İn a similar way their local crafts and small-scale retails have been replaced by global retail chain. The expansion of infrastructure and enlargement of shrine in both cities required large investments which strengthened public and private partnership. The outcome of this approach has been the authoritative demolition of urban fabric, reparcelization of land and development of mega-projects.

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Resume

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restoration/replacement, to monitor the thermohygrometric al status of masonry and buildings elements, to detect risk factors and localize structures/surfaces under risk, to monitor microclimate inside historic-artistic buildings.
Sustainability strategies for supporting analysis and investigation.

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Experimental Approach on the Cognitive Perception of Historical Urban Skyline

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Abstract

In a lifetime, human brain constitutes cognitive models for various conditions and events in order to be able to adapt to the environment and lead a life based on experiences. Based on multidimensional sensory experiences, people create an internal model of a city and they use this model as a mental sketch in their new urban space experiences. Cognitive mapping methods create qualified data for way-finding and the process of classifying the stimuli of the living area and carrying out spatial designs that promote quality of life. Aesthetic perception of the urban pattern consists of keeping the skylines of a city in memory and being able to create an image in mind. Skylines are three dimensional urban landscapes which has a prime role in urban design studies. Urban skylines are the reference points for the historical perception of the environmental image. Urban skylines can be classified basically in three categories as the historical skyline, complex skyline in which new and higher structures are dominant and mixed skyline which is a combination of these two situations. The postcards and information guides for cities are important references in representing the identity for historical cities. The photographs seen in information guide books and postcards are attractive points for citizens and visitors of the cities. The fact that cities are changing constantly shows that cities like İstanbul, which are famous for their coastal skyline can protect the holistic

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aesthetic value of their very limited textures but cause a dramatic change and a chaotic visual effects within their urban transformation process. One of the major fundamental research areas of this study is to determine how these changes affect the memory.

The aim of the study is to investigate how the image created by the skylines of historical cities can be expressed by drawing. The basic differences among the cognitive mapping techniques and the cognitive perception and the schematic display of a skyline can be discussed through this experimental approach. This study aims to do experimental research among a group of architecture students who are strong at drawing and schematic expressions. The selected group of samples will be asked to draw (1) the schematic skyline images of the city they live in and a city they have visited as far as they remember, (2) examined how they draw a skyline and how much time it takes after they are shown a skyline of a historical city chosen in a certain time, (3) watch a video on the streets of two different cities they have seen or haven't seen before, and asked to draw a skyline of the city based on what they have watched. Finally, these different situations will be analyzed. In the experimental study, After 3 days, drawing the best remembered skyline image will be requested from students. And what the sample group have thought in this selection in terms of aesthetics will be measured with the semantic differential and the adjective pairs. Participants will be asked to draw the catchy image of the skyline shown in order to compare the experimental methods and the subjective aesthetic evaluation methods. Observation-based determinations will be realized by the analysis of these drawings and the adjective pairs. In this way, the relation between the skyline perception and the aesthetic experience in urban life will be discussed.

INTRODUCTION

Being able to imagine the skyline of a conserved city or creating a simple drawing of it differ from imagining or drawing a skyline which is in a state of a rapid flow in terms of the aesthetic experience. How rapid changes of skylines through the urban scene can be best observed by viewpoints of the cities. These skyline memories may cause confusion in mind, which is a different kind of cognitive perception process than the cognitive mapping. Cognitive mapping and urban experiences define the communication process between a city and its inhabitants. According to Lynch (1960), the two-way process between the observer and his/her environment is the cognitive experience through the effects of environmental images. The main components of these images are identity, structure, and meaning of his words. Besides, detecting and remembering the urban skyline with the experience of urban space, legibility and way-finding are the different phenomenon from each other. The way-finding system whose basis consists of the vital adaptation process is related to the cognitive mapping at the plan level, however; the remembering and visualizing of the skyline and the

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transfer of the observations are related to the urban sketching. The common features of these cases are the visual quality of the city and the urban aesthetics. While the urban environment is being formed in the intersection of randomness and design, the aesthetic qualities of spatial form are composed. Besides, way-finding is more vital and a practice for everyone, whereas visualizing of the urban skyline image is more related to the self-pleasure and an interest for artists, designers and architects.

Considering the relationship of the image characteristics of the cities, it is seen that the holistic skyline of the cities like Venice and İstanbul is the visual character in minds. Besides, it is thought that cities like Barcelona and Konya have some visual effects that create the motion awareness such as a certain historical monumental structure and a landscape pattern within the city, which the visual characteristics of the city are on the memory. In addition to these two basic patterns, there are a large number of cities containing the mixed of these features.

In the field of architecture, planning and urban design, the visualization studies, as well as the basic design and the project assignments constitute the basic input of the education process. According to Lynch (1960), the imageability is a quality in a physical object which gives a high possibility of evoking a strong image in any given observer. This process has a very comprehensive and complex content describing how the design students perceive the city and how it should be perceived by multidimensional methods, knowledge. “In the development of the image, education of seeing will be quite as important as the reshaping of what is seen. Visual education impels the citizens to act upon his/her visual world, and his/her action causes him/her to see even more acutely” (Lynch 1960). The ability to design cities which are more liveable and high in visual quality, such architectural structures depends on being a deep visual space observer who primarily internalizes the urban experience. This observation has some holistic features such as the ability to observe and predict the human movements and feel the historical layers of the cities which have life experiences as well as the ability to comprehend the natural and built environment. Urban memory is materialized through objects and space. It is often the case between the collective and the personal. Assmann (2008) argues that space is the storage containers of the memory. According to Taşkıran (1997), space is an arrangement that determines the boundaries of belonging with its physical attributes and a three dimensional formal community where values are imprinted. Halbwachs and Coser (1992) conceptually make a distinction between historical and autobiographical

memory while describing the memory space. The definition of autobiographical memory belongs to the events that can be personally experienced. While describing the individual and social processes of recalling, they argued that these two were in fact totally inseparable and mutually exclusive.

COGNITIVE PROCESS OF URBAN IMAGE

The cognitive aspects of the urban image, visual memory, visual interest and satisfaction have impacts on the decisions of urban settlement within the scope of the environmental psychology and are seen as a directive scientific field in order the discipline of urban design to reach its purpose. The city image and its visual characteristics have a main link with the organic textures in the nature. This approach is expressed by Alexander (2002) as "the archetypal forms that we think of as the forms of human-based and traditional architecture, are drawn from a class of profound living structures which have the deepest symmetries and the most complex form."

According to Nasar (1989), homes and buildings by the effects of their facades, can be designed and planned to define and give character to space. Experiencing the urban image is related to the cognitive process and the city, and human interaction gives its aesthetic quality to the places. For him, urban aesthetics refers to the urban effect or the perceived quality of urban surroundings, which is an important objective for community satisfaction. In the evaluation of the city image, the perceived holistic quality of the elements represents the city as being pleasant or unpleasant for the inhabitants and tourists. Besides, his studies showed that the imageable elements influenced both favourable and unfavourable images of the city. "The evaluative image represents a psychological construct that involves subjective assessments of feelings about the environment" (Nasar 1998). From this point of view, in the experimental study on the perceptibility and visualization of the city skylines, the students' opinions were taken considering the pair of adjectives used mostly in the aesthetic evaluation studies in order to determine which effects were created by the positive/unimportant while recalling the skylines. Another feature of this process is the fact that the urban image that is expected to be drawn with the city image in memory can overlap in mind, and it is related to the fact that it takes place in the mind map. In this sense, as Eagleman (2015) stated, the brain uses the past experiences related to cognitive models to adapt to the environment, and the system of urban modelling is similar to this structure. "Cognitive maps of the structures of the cities, neighbourhoods, and buildings are not exact replicas of reality, they are models of reality" (Lang 1987). "The mind

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represents the world through ideas, symbols, images, and other meanings" (Minai 1993). In this regard, as Arnheim (1969) points out, the visual thinking is not a feature that belongs to the artists and designers, or is a medium of acquiring skills at an early age, but also a quality feature that all people must follow up in order to give a meaning to life. In this section, after discussing the place of the cognitive mapping in design, the cognitive process of the perception of urban skyline image will be examined.

Cognitive Mapping in Urban Design

The first cognitive mapping revealed through experimental researches by Tolman (1948) is then it is widely used as a psychological research area from education to urban design. According to Downs and Stea (1973) "the cognitive mapping is a construct which encompasses the cognitive process that enables people to acquire code, store, recall and manipulate information about the nature of spatial environment." For Altman and Chemers (1984) "the term environmental cognition is related to the perceptions, cognitions, and beliefs about the environment." Environmental cognition and types of experiencing city will vary depending on the mode of travel like walking, cycling, active car driving or on public transport (Madanipour 1996). In the cognitive process of visualization, in other words remembering a part of urban area as a skyline image, professionals in art or design area stand still in a view point and try to make long observations for these city scenes. Usually people keep this image in their memory for a long time but they have difficulties in visualizing these. There are a wide variety of experimental, analytical and observational studies involving the mind maps on the intellectual effects of the urban experience on the cognitive processes and visual characteristics. Cognitive mapping studies and experimental studies based on environmental psychology are also related to feeling safe in the city (Oc and Tiesdell 1999). Technological developments, particularly based on the information processing, enable the innovative studies in this area. Here are a few examples of the discovery of the cognitive process in the formation of the urban image.

Portugali (2004) has some experimental studies on analysing the cognitive process of people for the urban forms and he made some city games for this aim, which is a kind of simulation for the city visualising. Çubukçu and Nasar (2005) made some experimental studies on understanding the mental models of the urban spaces through the virtual spaces, and analysing the process of way-finding systems of the human senses. Çubukçu and Ekşioğlu Çetintahra (2016) made some experimental studies with virtual street scenes for observing the 3D cognitive mapping process of

the urban planning students in different classes. Hiller and Hanson (1989) developed the space syntax approach by observing human movements in the urban space. Neto's (2001) study can be considered as an example of the studies carried out to find out the differences between the aesthetic evaluations of the urban images through computer-aided models made by architectural and non-architectural students. Today's technology, eye tracking studies for landscape analyses and urban aesthetics (Parsons et al. 2002); neuro-cognitive psychology of aesthetics, measures such as electroencephalography, magnetoencephalography, event-related brain potentials (ERPs), functional magnetic resonance imaging (fMRI) or positron emission tomography" (Jacobsen 2010) and with approaches like the cognitive process of the aesthetic experience is able to show that how it effects the shape and the colour changes of the human brain structure.

Cognitive Perception of the Urban Skyline Image

Historical cities, especially the ones surrounded by the coastal relationships such as sea and river, reflect their aesthetic characteristics as a skyline image of the city as a whole. According to Rapoport (1983), "traditional cities are both cognitively clear and legible and perceptually complex and rich. At the cognitive level traditional cities are much clearer and more legible than modern cities."

There is an extensive research literature on experimental, quantitative, computer-aided and cognitive urban skyline evaluation such as the holistic perception of the urban skylines, quantitative approaches on the aesthetic evaluation of the city skylines, comparison of the historical and modernist skylines, characteristics of the meaning and form, which can primarily be categorized as various studies of Krampen, Nasar and Stamps (Krampen 2013; Nasar 1994; Stamps 2002; Stamps et al. 2005). The common feature of these studies is that they prove the persistence of the aesthetic qualities of the historical city skylines through different approaches. Since the urban skyline enables visibility of the cities in terms of aesthetic evaluation, the studies in this area vary a lot because they have strong visual effects and comparable features for each city. Within the research, the skyline is considered as the focused subject that focuses on the imageability of the cognition. Within the research, it is focused on the subject of the cognitively imageability of the skyline.

Among the experimental studies on building and urban skylines, the relationship between building and form were classified, systematized and modelled in the studies of Appleyard (1969), the 149 of the 320 respondents were able to answer the map

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recall questions. Appleyard says "Unless a building is seen, it cannot project an image. Visibility is, therefore, a necessary component for recall. It is a measure dependent on the location of a facility-the visual counterpart of its accessibility-and on the focus of the city inhabitant's actions and vision." The experimental studies on visual assessments provide the ability to obtain a variety of predictable data.

URBAN SKETCHING IN ARCHITECTURAL EDUCATION

The visualization of the urban skyline image is one of the pioneering works of Cullen's work (1961) which explains the importance of urban sketches in the design process. The process of experience enables to discover and adapt the environment with its opportunities and risks. The relationship between the experience and art is described by Dwey (1958) as "experience as art in its pregnant sense and in art as processes and materials of nature continued by direction into achieved and enjoyed meanings, sums up itself all the issues which have been previously considered."

According to Berlyne (1973) "experimental psychology were using the method of impression to investigate determinants of feeling, a kind of conscious experience varying along a pleasant/unpleasant dimension. The longest-lasting branch of the scaling theory stream is experimental aesthetics. This, the second oldest area of experimental psychology, has been in existence continuously, though somewhat falteringly, since Fechner initiated it in the 1860s." Depending on this approach, the schematic skylines prepared for İstanbul arouse both pleasant and unpleasant feelings. For the students, studio work in architectural design education is a process that includes studying, analyzing, learning and interpreting of the space. By studying the concepts of belonging, resident order, space, culture through architecture, the idea of architecture is created. The selected urban spaces for the projects are recorded visually on the spot through video and observation. In the studio studies, by taking the students' improvement in the design behaviour and in cognitive and sensory perception as a general goal, urban interaction is questioned with sketches and self-concepts such as scale-space, behavior-method and content are examined. The design process stages followed during the studio are generally the evaluation process that includes project preparation studies and concept development approach in accordance with given conditions, interpretation-synthesis and development of agreed-upon studies and expression-presentation steps. If it is accepted that architectural and urban heritage accumulates individual and

collective memory, the experiences to be gained with studio studies can be considered more meaningful.

METHODOLOGY

This research can be expressed as an empirical and exploratory study involving the field of design and the visualization skills of advanced people, including the skyline image, the traceability of the perceptual qualities of the scene to the scratch, and the process of visualization. In the study, the experimental approach is concerned with psychology as it is related to the study of the cognitive process. In this respect, it has the features related to behavioural science and the experimental psychology. In this study, experimental drawings were made through the images of Konya and İstanbul with a sample group of 6 post graduate students from Konya Selçuk University, Faculty of Architecture. At the same time, during the 2016-2017 academic year, these students have also made skyline studies in Konya Karatay region and cognitive mapping work has been carried out. In the evaluation of the visual characteristics of the urban skyline at the workshops, in the study of the perception process, sketches and schematic drawings are created and with cognitive mappings, the recallability of urban skyline is tested. Students are asked to draw the skyline of İstanbul they see at various time intervals. The findings of the literature search constituted the substructure of the workshop. The questions such as what kind of city the students lived in during the developmental age, whether they went to İstanbul or not are related to the determination of their cognitive city images. The semantic differential method was used to understand why the skyline that they recall has a lasting effect and the motivation is pleasure or displeasure. The adjective pairs identified in this approach were formed in accordance with the information in Nasar (1998). The architectural workshop group is shown in (Figure 1).

Figure 1. Selçuk University, Konya Karatay Workshop Group.

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In (Figure 2), different expression techniques of the students who perform the sample work and the examples of sketches from İstanbul and Konya can be observed. It was observed that structures and textures having historical depth were more easily perceived and remembered by the students. In chosen skylines, the motivation that creates lasting effect has been formed in the direction of an idea of satisfaction. In the summary section, 3-step application including skyline recalled from the images, skyline visualized in the mind, and the sketches of the visualized scene through video shoots was performed.

(1) The schematic skyline images of the city they live in and a city they have visited as far as they remember; Students are asked to draw sketches of the skylines from İstanbul as they remember in order to compare them with the drawings of the city they live, which they know the best. In (Figure 2), it is seen that the skyline drawn by Konya is quite detailed. The reason for this is that the students have already drawn this visual sketch in their workshops and that they have visuals in their minds as a project theme. In the skyline of the historical peninsula of İstanbul, there is a schematically strong narrative including less detail. The student, who drew these schemata, stated that he recalled this skyline from various trips in İstanbul, he had a postcard of the skyline and he could visualize this image as he had seen it during architectural lessons.

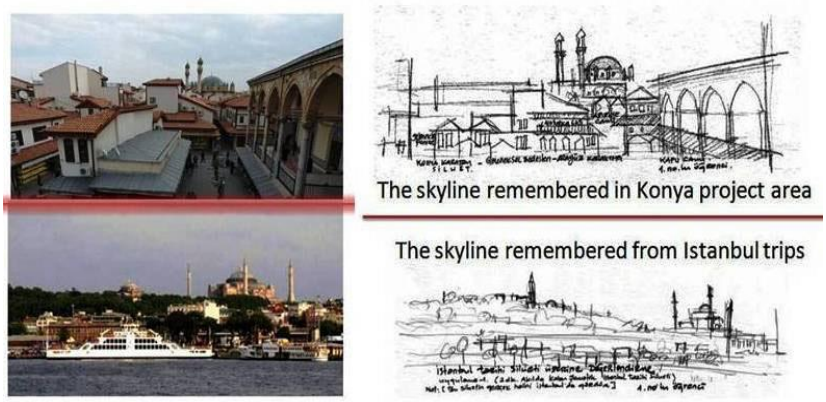

Figure 2. Different skyline experiences and sketching of historical cities: Above; Remembering the Konya skyline effect in architectural studio project /Below; Imagining the compact skyline by a boat trip in İstanbul in the past.

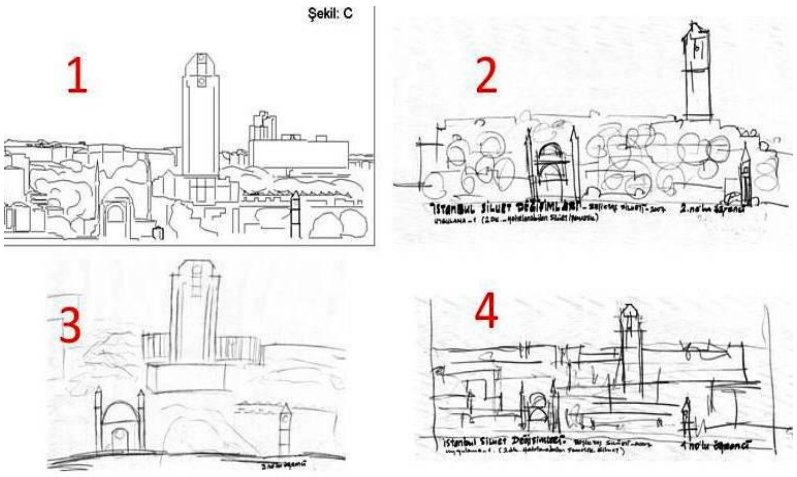

Figure 3. Drawing Beşiktaş coastline skyline sketch by watching its schematic skyline image between 2 and 5 minutes time periods.

(2) Examined how they draw a skyline and how much time it takes after they are shown a skyline of a historical city chosen in a certain time; In this study, the schematic image of the coastal skyline of Beşiktaş (İstanbul) is shown. Students who came to İstanbul as tourists stated that they are not as familiar with this visual image as the historical peninsula because they did not live in İstanbul. The visual marked with the number 1 in (Figure 3) shown to the students is the schematic drawing. The 3 skyline drawings were drawn by different students. The Drawings 2 and 3 were visualized at the end of the demonstration of the schemata for 2 minutes. In the drawing 2, it is seen that the 3 of 4 buildings that show positive or negative landmark characteristics as Lynch (1960) stated were remembered and their locations were partly remembered. In the (Figure 3), it is seen that the 3 landmarks were remembered and correctly positioned, but other details were not remembered. The images were shown for 5 minutes to the student who made drawing number 4. It has been seen that the student who were able to observe for a longer time could make better image visualization for general appearance visual fiction. The fact that the Conrad hotel, which is capable of achieving a partial adaptation to the topography with its horizontal and vertical effects is not included in the 3 drawings supports the idea that buildings, which occupy a large area in the city, such as hotels, congress centers can relatively adapt to the environment with the correct position and horizontal-vertical effect balance.

(3) Watch a video on the streets of two different cities they have seen or haven't seen before, and asked to draw a skyline of the city based on what they have watched; The videos from the Konya Karatay workshop and the İstanbul ferry trip strait Maslak region were discussed within the scope of the study. Since Karatay was studied in the workshop and well-remembered, İstanbul Maslak skyline cognitive perception study shown in (Figure 4) has been included in the study. Here, the students were shown some videos

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of Maslak skyline that can be viewed from the ferry with various proximities for 2-3 minutes. The purpose of this practice is to understand how the skyline is perceived on the move and to conceive how it is schematized by correlating with the other high-level urban models in the memory. The (Figure 4) showed that the 3 learners making two different drawings eventually made more similar drawing compared to the (Figure 3) example, and the skyscrapers created a specific skyline memory prototype.

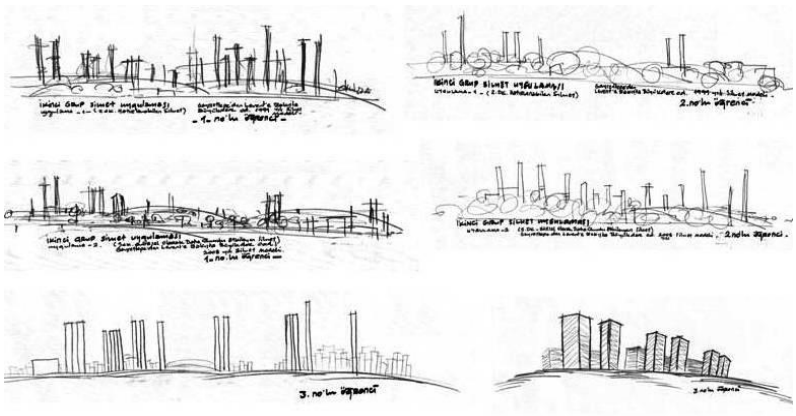

Figure 4. Schematic drawing of the skyline based on the catchy video on the ferry ride from İstanbul Maslak skyscrapers.

Three days after these practices, students were asked to redraw the skylines they remembered best. Students first drew the skyline of Konya recalling their workshop experience, and then they drew the Historical Peninsula of İstanbul. In order to measure the relationship between the skylines remembered easily and the pleasure, some adjective pairs as pleasant/unpleasant, boring/exciting, monotonous/complex, attractive/ordinary, calming/distressing were used with the semantic differential approach. It has been determined that the historical skylines that have a positive impact on the rating of these adjective pairs were remembered more than the skylines that are more similar and easier to draw such as skyscrapers and mass housing which were tried to draw after 3 days. When the emotions evoked by skylines, which are a part of the semantic differential approach, were asked, the historical peninsula of İstanbul was defined as historical, proportional, continuous, and peaceful; İstanbul Maslak skyscrapers shown via videos evoked some positive and negative emotions such as chaotic, complex, unidentified, vibrant, moving, and innovative. From this point of view, it has been seen that the history of the city skyline recalls a clearer positive emotions whereas the skyscrapers revealed some different emotions such as innovation or chaos.

CONCLUSIONS AND RECOMMENDATIONS

In this study, the urban and spatial relation, the concept of memory, recallability of the urban skyline as a cognitive process was researched and tried to be read through these images of

urban textures. The recollection and the cognitive visualization of urban skylines - although not a vital urban experience - reveal an intellectual deepness because they allow the life flourish with the visualization and vary the imaginative features of imagination. This aspect creates a mental base in the internalization of urban aesthetic experiences.

In the applied evaluations on the skylines of İstanbul and Konya, it was found that the participant students remembered the historical architectural figures that they knew and sounded familiar in these sketches. These also have easily remembered features as landmark. One of the findings of this research, the historical peninsula of İstanbul's skyline takes an important place in the memory for the students of architecture. The İstanbul historical peninsula skyline which the people of the city also struggle for the protection of different viewpoints can be accepted as the signature of İstanbul. The skylines of historical cities like İstanbul and Venice have often have visual impacts on the memories of the ones who has never visited the city but are interested in it. When someone first encounters with the city that they always imagined visiting there, the observation of those special skylines creates a sense of excitement and completeness. The negative aesthetical perception created by the chaotic textures formed in the process along with the historical skylines of İstanbul can be considered as a factor that the students schematize these textures as similar blocks. One of the relevant illustrations of the urban texture that does not make a difference in the memory is that of a similar type of project, as shown in (Figure 5) below.

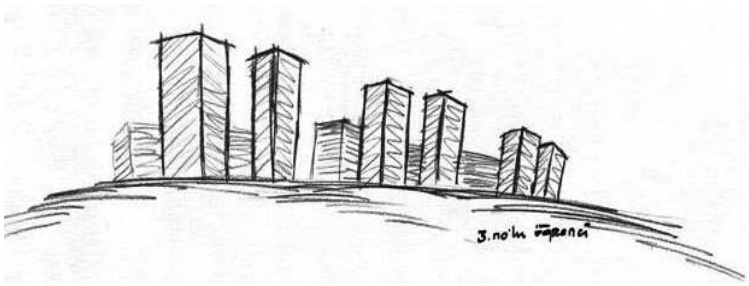

Figure 5. Skyscrapers' image drawn as a cognitive template.

This drawing is one of the images in (Figure 4). The created skyline image is a challenging example which shows how these similar standard skylines and groups of structures are packaged in the mind how the non-exciting city textures are standardized by the mind. The visual quality is related to the legibility of the city and the perception of urban aesthetics. Different methods can be used to understand and identify the concepts in the memory. When the research is considered with this point of view, it is thought that it may create data for different studies to be conducted. In future studies, it is important to note that the

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architectural students at different levels of their education, such as junior and senior students, can be examined in terms of the differences between their skyline drawings on cognitive memory. This study investigated the effects of cognitive features of urban skylines in the visual thinking system.

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Resume

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Temporality and Memory in Architecture: Hagia Sophia

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Yasemen Say Ozer**

Abstract

Istanbul, having hosted many civilizations and cultures, has a long and important past. Due to its geopolitical locations, the city has been the capital of two civilizations—Ottoman and Byzantine Empires—which left its traces in the history of the world. Architectural and symbolic monuments built by these civilizations made an impression in all communities making the city a center of attraction. After each and every damage caused by wars, civil strifes, and natural disasters, maximum effort has been made to restore these symbolic buildings.

Attitude of a society to a piece of art or an architectural construction defined as historical artifact is shown in interventions, architectural supplementations and restorations to buildings to keep them alive. As a result of this attitude, it is accepted that buildings are perceived as a place of memory and symbolized with the city.

The most important symbolic monument of the city, Ayasofya (Hagia Sophia), was found as the Church of the Byzantine Emperor in the year 360, then converted into the Mosque of the Ottoman Sultan, and now serves as one of the best-known museums of Turkey. With architectural additions requested by Byzantine emperors and Ottoman sultans, restorations and other functional changes; Hagia Sophia had become a monument witnessing its own changes as well as its surroundings while

Keywords: *Hagia Sophia, temporality, immortal building, place of memory*

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collecting memories. Accordingly, Hagia Sophia can be described as an immortal building.

Immortality is out of time notion, however it is a reflection of time effects as well. Immortality is about resisting to time. A construction from the past which appreciates as time passes will also exist in the future preserving its value. The building has been strengthened with the memory phenomenon formed during construction, incidents that the building witnessed in its location, restorations, architectural supplementations and the perception of the world heritage.

The main purpose of this presentation is to show how an intangible concept as memory concretizes in an architectural structure within the frames of immortality and time concepts by examining Hagia Sophia.

INTRODUCTION

Istanbul had hosted many civilizations and cultures in the BC ages. The first establishment of Hagia Sophia in 700 B.C. have been the centers of early Greek civilizations and Byzantion city established in 700 B.C. The area chosen as the city center illustrates the texture feature of Acropolis of the ancient city. In this acropolis, different civilizations built many temples. The temple built by Yanko Bin Madyan at 615 BC or 1200 BC is known as the oldest structure built in this area (Akgündüz, Öztürk and Baş, 2006). The temple history lies between 660 BC - 73 AD and it's been destroyed during the invasion of the city. Then Helios Temple has been built instead during the reign of Emperor Septimius Severus (145-211) (Özkan Aygün, 2010). It's also known that Mother Goddess and Artemis temples have been built in the location of Hagia Sophia (Yıldırım, 2008).

The 1st church built in this acropolis during the reign of Byzantine Empire opened for worship in 360 and then destroyed at a revolt in 404. After the destruction of the 1st church, the construction of the 2nd church started in 408 and opened in 415. It's destroyed at a revolt in 532. The construction of the 3rd church (Hagia Sophia) started in 532 and opened in 538 and it is the oldest one among the well-protected buildings of the city.

Research subject to the presentation consists of three main stages and conclusion. In the first stage; the memory place under time concept, perception and attitude concepts are described and legends on Hagia Sophia, other buildings that taken Hagia Sophia as reference, discussions and considerations about Hagia Sophia are examined. In the second stage; spatial changes in Hagia Sophia's surroundings are studied with supplementary maps. In the third stage; information on architectural features, restorations and architectural supplementations is provided. To conclude, impact of time on the memory about a construction in the past,

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present and future is addressed while identifying immortality and temporality in architecture.

TEMPORALITY and HAGIA SOPHIA

Concept of time is the necessity of man and community, culture and civilization, dynamism and stability, substance and existence (Heidegger, 1996). Time is the most important concept for having a place in the memories of civilizations, in the embracement of a construction, event or situation and in the development of a belongingness and culture to create identity (Lynch, 2010).

The acceptance of a construction as a piece of art relates to the sensations created by that construction on the communities in time known as aesthetical values. This value shapes the perception of the community. Therefore, the embracement of the construction and transformation to a memory place relates to the attitude created as the result of this perception (Tunalı, 1989).

While a structure is totally examined, it should also be examined within the frame of temporality.

Legends

Many legends are created about Hagia Sophia. The effects of its architectural features over the community are legendary and so the construction, immortality and be seen as savior are the main subjects of these legends.

The wishing column (also known as perspiring column) of Saint Gregorios is also associated with Hizir and the legend of the column realizing the wishes still have acceptance even today. The legends such as starting a journey only after praying at Hagia Sophia, the doors built from the wood of the ship of Noah and blessed water curing the heart were accepted at the Byzantine period and embraced during Ottoman period.

Construction Taking Hagia Sophia as Reference

Hagia Sophia has been reference, measure and inspiration to many construction in Istanbul and in the world thanks to its architectural feature, internal and external reflection in terms of esthetics, structural solutions and similar feature. Art historians such as Cornelius Gurlitt, Ernst Diez and Cyril Mango pleads that Hagia Sophia has effected Ottoman architectural style (Mango, 2006;Tümer, 2006).

First the esthetical value of the structure is determined by comparing it with Pantheon. After the construction of Hagia Sophia, the structures in the Middle Italy have continued to be compared to Pantheon. However, the structures in the other parts

of Italy have taken Hagia Sophia as reference instead of Pantheon (Günther, 2011).

Figure 1. The plans of Hagia Sophia Church and St. Peter Church (Nur,2016).

St. Peter's Basilica (1626), has taken Hagia Sophia as reference for the internal narthex and the vaulting dome system used in the internal narthex (Günther, 2011).

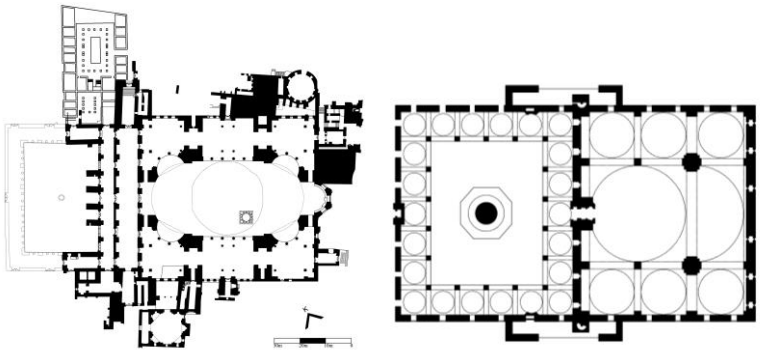

Figure 2. The plans of Hagia Sophia (1453) and Fatih Mosque (Nur, 2016).

Fatih Mosque (1470), domed central square plan, flattened dome and interlacing pendentives from the square form of the central dome to the dome and the tectonic structure are the similarities with Hagia Sophia (Necipoğlu,2015).

Beyazid Mosque (1506), Sehzade Mosque (1548), Suleymaniye Mosque (1557) and Kılıc Ali Pasa Mosque (1580) have taken Hagia Sophia as reference in the upper structures and added to two large flattened domes to the main dome (Mainstone, 1988; Kuban, 1988).

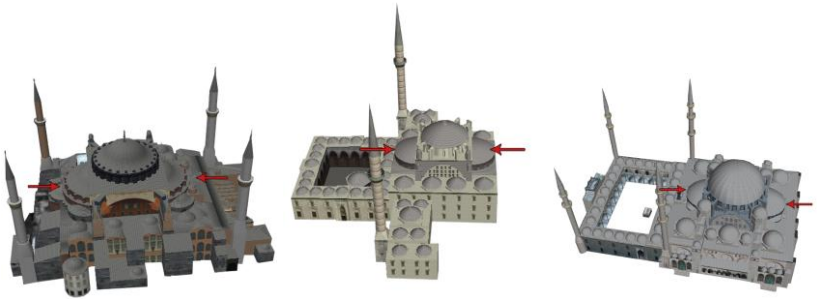

Figure 3. Hagia Sophia, Beyazid and Suleymaniye Mosque models

Sultan Ahmet Mosque (1616) and Camlıca Mosque (2017) have taken Hagia Sophia as reference for the upper structures and used flattened domes under the central dome.

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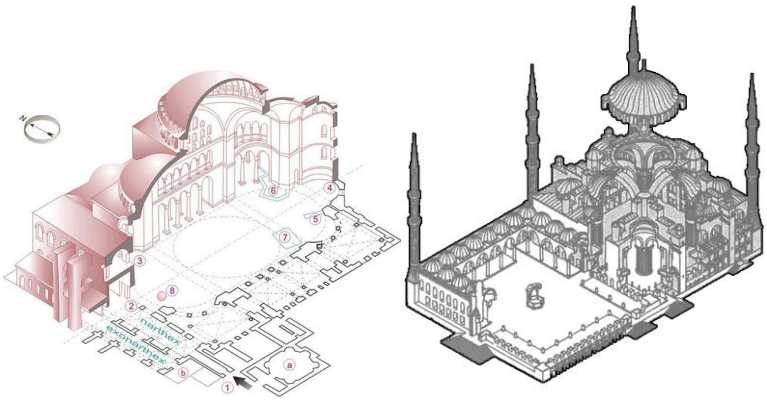


Figure 4. Hagia Sophia and Sultan Ahmet Mosques isometric section (Mainstone, 1988; Columbia University)

Mangana Saint Georgios Monastery (1055) and Selimiye Mosque (1574) have been designed to exceed Hagia Sophia in terms of architecture and esthetics (Gürzap, 2015).

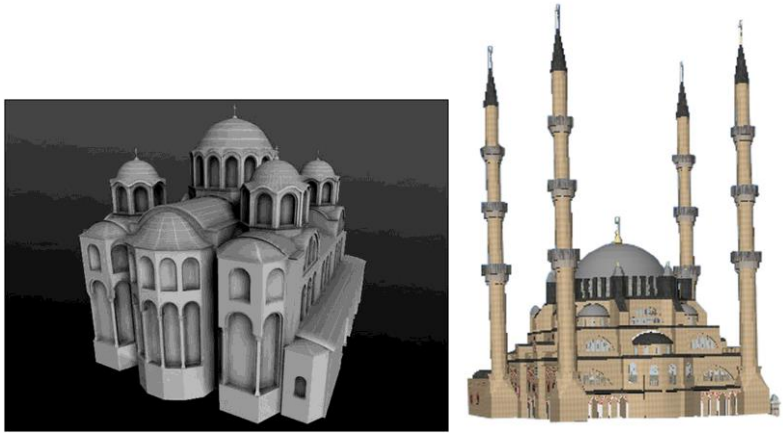


Figure 5. Hagia Sophia, Mangana Saint Georgios Monastery and Selimiye Mosque Models

Discussions and Considerations

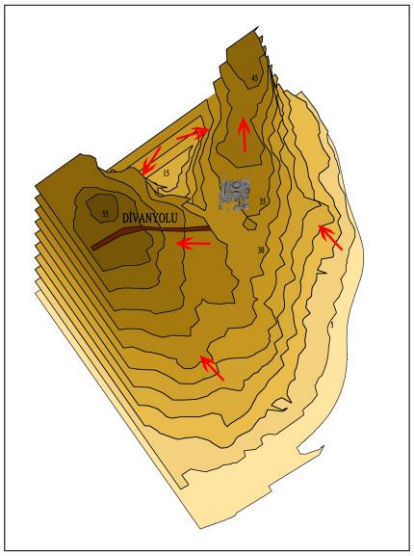
It's known that there are many discussion on Hagia Sophia which has survived 1500 years, witnessed two difference religions and social dynamics and finally became a museum by earning a value over religions and cultures.

Many rumors about the destruction of Hagia Sophia are spread during the invasion of Istanbul by Ottoman and the reign of Ottoman Empire. There are objections to the transformation of a structure used as church for 916 years to a mosque and other

objections to the transformation of a structure used as a mosque for 482 years to a museum. There are also claims of fake signatures on the documents. The idea of reopening Hagia Sophia to religious services have triggered the discussion of which religion it will serve to. These discussions continue today.

HAGIA SOPHIA IN THE URBAN FABRIC

Constantinos I has created Council Road line (Mese-Divanyolu) first while building the city of Constantinople (Cerasi, 2005). The main temple at the beginning of the road to Europe was placed and was determined the center of the city. The most important factors of choosing this area for Hagia Sophia are that this location is the most important point of the acropolis in Istanbul geography, the topographical characteristics and important position of the location in Istanbul view, strong dominance and acceptance of the location as memory place and belief in the holy soil.



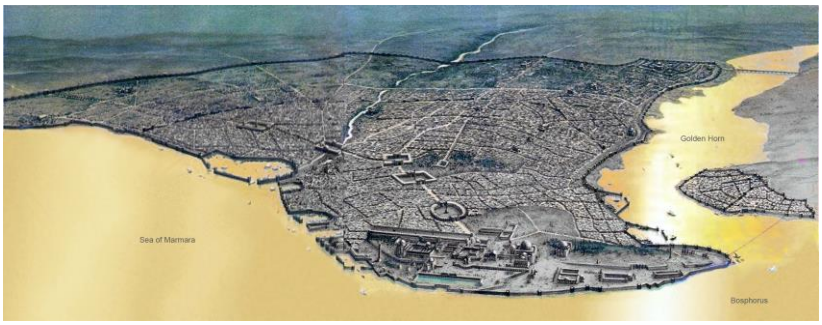


Figure 6. Topography and urban fabric of Byzantine (Nur, 2016).

In the reign of Byzantine Empire, Palace, Senate and the Courthouse, Hippodrome, Hagia Irene Church, cisterns and city walls were built around Hagia Sophia.

Hagia Sophia and surroundings are also accepted as city center in the reign of Ottoman Empire. Council Road maintained its

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importance with the same function and the line was powered by buildings around it. Hagia Sophia has effected its close surroundings due to its location. Topkapi Palace, Gulhane Park, Tiled Kiosk, Firuz Aga Mosque, Grand Vizier İbrahim Pasa Palace, Haseki Hurrem Bathhouse, Caferaga Madrasa, Sultan Ahmet Mosque, III. Ahmet Fountain, Archeology Museum and German Fountain have been built and the urban fabric is shaped by taking Hagia Sophia as reference.

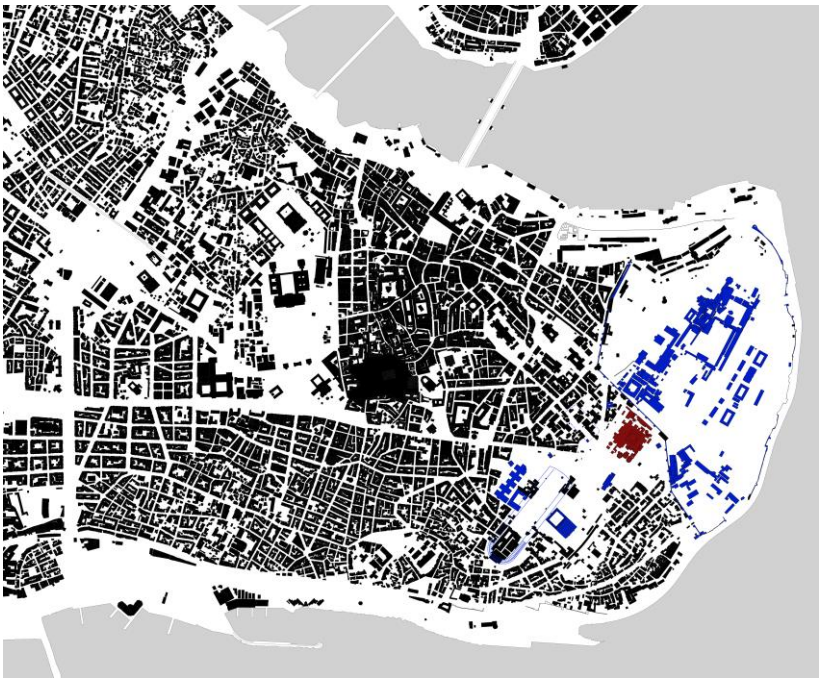

Figure 7. The constructions which have taken Hagia Sophia's location as reference (Nur, 2016).

In the reign of Selim II, it's thought that the wooden structures close to Hagia Sophia may damage Hagia Sophia in case of a fire. They are destroyed and a new environmental planning has been realized (Yücel, 2009). During the reigns of Abdulhamid I and Abdulaziz I sidewalks are built within the frame of environmental planning (Özcan, 2006). The wooden structures which were rebuilt around Hagia Sophia in time are redestroyed in the Fossati Restoration and in the year 1868. After Ishak Pasa Fire in 1912, in the year 1913 the square between Hagia Sophia and Sultan Ahmet Mosque is arranged (Akgündüz, Öztürk and Baş, 2006). When the maps are examined, it's seen that the unplanned urban fabric was planned and arranged in accordance with the restored constructions locations. In 1977 residential buildings survey, reconstruction and restoration was made in Sogukcesme Street and new open exhibition spaces were created as well as passages to the street (Küçük, 1985).

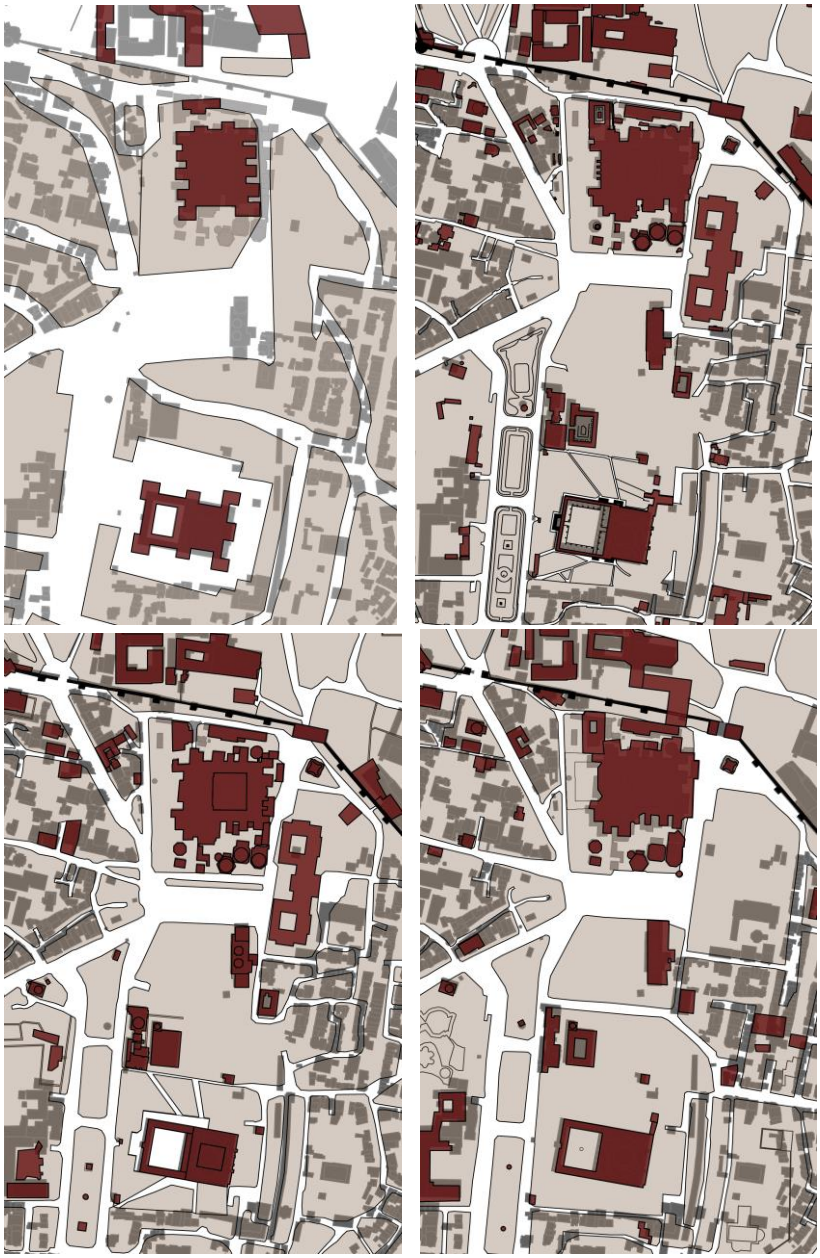

Figure 8. The comparison of 1909 Lacey Sillar-Westminster Map, 1918-1921 German Map, 1922 Map and Müller Map to the Present Map (Nur, 2016).

ARCHITECTURE of HAGIA SOPHIA

The breaking point of Hagia Sophia is accepted as the functional change with the change of demographic situation, culture and the belief of Istanbul city. Within the scope of this breaking point, Hagia Sophia with the architectural additions and liturgical objects added by the previous Emperors is reorganized to meet the necessities of the new era and needs and survived up to date with restoration works. As addition to these breaking points, the architectural features of the 1st and 2nd churches built in the same location before Hagia Sophia are also important for understanding the structure.

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Church

Although the architectural characteristics are not exactly known, after the researches it's thought that the 1st church—named as Hé Megalé Ekklésia— which has been started to build in the reign of Constantinos I (324-337) and completed in the reign of the Constantinos II (337-361) had wooden roof, stone walls, three or five naves, atrium and narthex in the front section and galleries on the upper storey (Diker, 2016). The Treasure Room (Skeuophylakion), Baptistery (Olympas) and Eparchy Palace next to the south wall have been built with the structure. It's thought the walls separating the middle and side naves are covered with mosaics.

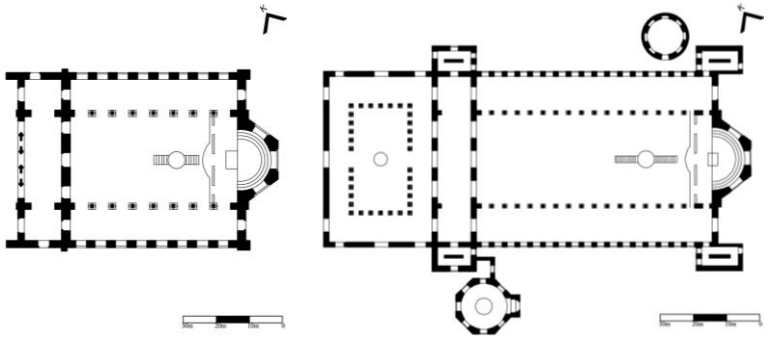

Figure 9. 1st Church and 2nd Church Plans (Başgelen, 1994; Nur, 2016)

The 2nd church built in the reign of Theodosios II by Architect Ruffinos and named as Dromikos is built on the foundations of the 1st church. It's thought that the 2nd church had wooden roof, five naves, arched ceiling, basilica plan and walls are made of stone and bricks. The entrance to the 2nd church was through columnar atrium to the west, stairs to the narthex of 5.00m height and monumental entrance of three arched doors (Doğan, 2009). The exact plans and correct architectural dimensions could not be reached however it's estimated that the atrium was 47.60 m x 35.50 m and the worshipping zone was 60m wide (Akgündüz, Öztürk and Baş, 2006; Yücel, 2009). The 2nd church with Skeuophylakion at the west was flamboyant compared to the 1st church and it can be seen from ruins of the column headings, embossments and monumental entrance.

The 3rd church which has been started to build in 532 in the reign of Justinianus, built by Architect Anthemios and Architect Isidoros and named as Hagia Sophia has domed basilica plan, atrium serving as cistern with fountain in the west and the middle, square worshipping zone and naves at both sides and the galleries on the upper storey reachable through four ramps (Mango, 2006). The worshipping zone is approximately 79.30 m x 69.50 m and 100 m x 70 m including the narthexes. The width of side naves is 18.20m and 18.70m. Abscissa exceeds 6m outside (Doğan, 2009; Diker, 2016). The construction is built with materials brought from the

wide borders of the Empire and the structural artifacts brought from the temples. Marble is used in the flooring and the walls and the usage of wooden materials are avoided due to the risk of being damaged.

It's known that Patriarchate Building and the Chapel is next to the upper storey gallery wall and there's another room near the south ramp. Additionally, there's hall linked to the bell towers and it has no connection with Hagia Sophia (Kostenec and Dark, 2014).

The dome was collapsed because of the earthquakes in 553 and 557. Then it's reconstructed by Young Isidoros in five years and 6.24 meter higher (Mango, 2006; Kuban, 2010).

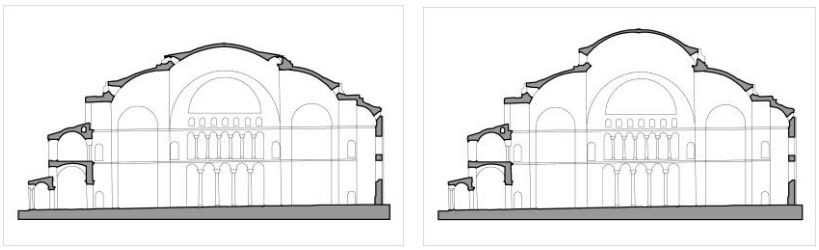

Figure 10. Hagia Sophia's sections in 537 and 562 (Başgelen,1994, Nur,2015)

Figure 11. The models of 2nd Church, 3rd Church (537) and 3rd Church (562).

Dome repairs are made in the reigns of Basileios I (867-886), Constantinos VII Porphyrogennetos (908-959) and Basileios II (976-1025) (Şehsuvaroğlu, 1953; Gurlitt, 1999; Gurlitt, 1912).

Hagia Sophia is plundered in 1204 during 4th crusade and no architectural applications are made except the addition of the closed and roofed entrance at the southeast until it's patronized by Byzantine Empire again in 1261 (Talbot,1993).

In the reign of Michael VIII (1259-1282) repairs are made by Architect Ruchas. In the reigns of Ioannes Kantakuzenous VI (1347-1354) and Andronikos II (1282-1328), the damaged dome due to the earthquakes are reconstructed and buttresses are added (Mango, 2006).

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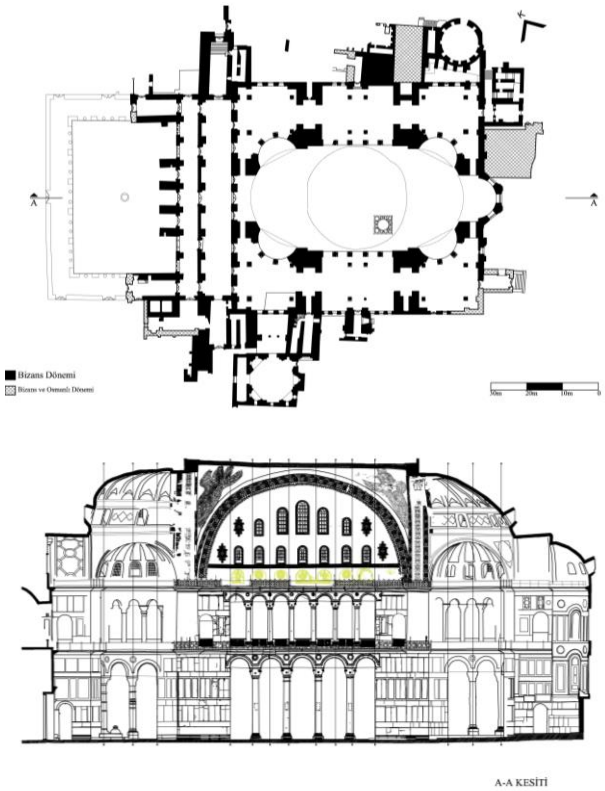

Figure 12. Hagia Sophia Church plan and section in 1453 (Nur, 2016)

Mosque

Hagia Sophia has been started to be used as Mosque with the conquest of Istanbul by Ottoman Empire. In the reign of Mehmet the Conqueror (1451-1481) new arrangements are made as the belief is changed. The liturgical objects are removed, the mass axis is dislocated to 100 south and the mosaics are covered (Öztürk, 2003; Yıldırım, 2008). A wooden minaret and a cistern is added and a madrasa is constructed next to it.

All Ottoman Sultans have restoration works against the factors such as earthquakes, fires, time, revolts and so. They also added various liturgical objects, architectural elements and new structures in its garden to enrich the construction.

The Timewise Examination of Hagia Sophia Mosque

Table 1. The timewise examination of Hagia Sophia Mosque (Y.Burcin Nur, 2017)

DATE	SULTAN	APPLICATIONS MADE
1481-1512	Beyazid II	Southeast Minaret was added. A storey was added to the Madrasa.
1520-1566	Suleyman the Magnificent	Two bronze candelabras were added in Hagia Sophia.

1566-1574	Selim II	Northeast Minaret was added. A storey was added to the Madrassa. The structure was strengthened with buttresses. A cistern was added and a fountain was built in the garden.
1574-1595	Murat III	Southwest and Northwest Minarets were added. Tomb of Sultan Selim II and Tomb of Princes were built in the garden. Muezzin's Loge were added.
1595-1603	Mehmet III	Tomb of Sultan Murat III were built.
1603-1617	Ahmet I	Tomb of Sultan Mehmet III were built in the courtyard. Tiled panels and calligraphic plates were added.
1623-1640	Murat IV	The Baptistery was transformed into Tomb of Sultan Mustafa I. Minbar and calligraphist plates were added.
1640-1648	İbrahim I	A public fountain is built in the yard.
1648-1687	Mehmet IV	Calligraphist plates were added.
1695-1703	Mustafa II	Calligraphist plates were added.
1703-1730	Ahmet III	Sultan's Loge was widened.
1730-1754	Mahmut I	A library to the side nave, Elementary School to the southwest, a fountain in the yard and an Almshouse to the northeast were built. Kasrı Hümayun (Sultan Kiosk) was added to Ayasofya.
1789-1807	Selim III	Calligraphist plates are added
1808-1839	Mahmut II	Two tiled panels are added.
1839-1861	Abdulmecid I	A cistern was added to the internal narthex. The statics was strengthened, the mosaics were repaired and recorded, liturgical objects were added, the surrounding constructions were reorganized, Sultan Kiosk was added, all surface coatings were repaired and Fossati Restoration was made and it has the most important role in the survival of Hagia Sophia up to date. At the same, Timing Room (Muvakkithane) was added in the courtyard.
1861-1876	Abdulaziz I	Madrasa is rebuilt.
1909-1918	Mehmed Resat V	The reports prepared by H. Prost and Maranconi could not be realized due to WW I.

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Figure 13. Hagia Sophia Mosque 1453-1481, 1481-1640, 1640-1861 plans (Nur, 2017)

Museum

In 1935 with the new Republic, Hagia Sophia was rearranged and transformed into a museum. The liturgical object which will not be shown into exhibition were removed from Hagia Sophia and restoration work was started (Eyice, 1951).

In the first years of Republic, the mosaics were removed by Thomas Whittemore and his works lasted for 19 years(Ogan, 1950; Nelson, 2013; Eldem, 2015).

Many local and foreign historians, architects, archaeologists and similar experts have worked in the mosaics removal and restoration works of Hagia Sophia and the made excavation studies in and out of the structure.

In 1935, Madrasa has collapsed and the ruins of 2nd church is found by A. M. Schneider (Ahunbay, 2015; Diker, 2016; Çift and Altunay, 2016).

1947-1950 During the excavation works realized by Muzaffer Ramazanoglu new discoveries were made related to the 1st church and during the excavation works realized by Architect Alpaslan Koyunlu in 1955 discoveries were made related to the 2nd church(Akgündüz, Öztürk and Baş,2006; Yücel, 2009).

In 1959-1960, Archeologist Rustem Duyuran have made ruins of four support walls of the monastery during the mosaic works of Dr. Cyril Mango and Professor Romilly J. H. Jenkins (Underwood and Hawkins, 961).

In 1975-1976, four support walls to the west side of Hagia Sophia have collapsed (Eren, 1983).

In 1983, in the drilling works realized by Master Architect Alpaslan, the ruins of the water tank and Patriarchate belonging to the church period and passages linked to the hippodrome were discovered (Eyice, 1991).

In 1992-1993, 2002, 2003 and 2007, reports were prepared to research how Hagia Sophia will be affected from a possible earthquake (Özkan Aygün, 2010).

Burial chambers and oil rooms were found in the tunnels below by Goksel Gulensu. Underground tunnels, wells and underground connections were found in works started by Cigdem Ozkan Aygun in 2005 (Özkan Aygün, 2006, Yamaoka,Hara and Hidaka, 2013).

Presently, restoration works, mosaic and excavations works continue. The structure is not totally taken under process and survey plans, restitution and restoration works are realized partially. Each application is carried on by different office and experts.

CONCLUSIONS

The legends created about Hagia Sophia show us the effects of this construction on the communities and how it's embraced by different cultures up to date even though they're not scientifically proven. The legends manage to survive up to date, the embracement of two empires are all strong signs showing us the immortality of the construction and its timeless value.

Hagia Sophia was a first in terms of structural solutions and it's greatly appreciated aesthetically and architecturally and effected the architectural styles after its establishment.

The discussions show us that Hagia Sophia is very important for every community and religion and it's strongly embraced and cannot be shared. At the same time, it's very clear that these discussions, claims and ideas support the immortality of Hagia Sophia.

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Even before establishment its location was accepted as a holy site and that's main reason that 1st church, 2nd church and Hagia Sophia was built on this location. Hagia Sophia was the main church of Byzantine Empire and then embraced by Ottoman Empire as a heritage and served as the main mosque. It's has been restored by the emperors and sultans of every age and they all wanted to leave a trace in the history of Hagia Sophia with the additions they made. Liturgical objects are added inside the construction to increase its perception and effects on the people.

Besides the demographical changes, the constructions collapsed in time due to earthquakes, fires and revolts had also significant role in the transformation of the urban fabric. Additionally, the functional change of Hagia Sophia has triggered the structural use and implicitly the change of the close surroundings.

In accordance with all these approaches, Hagia Sophia is the solid answer to intangible concepts such as immortality, temporality and memory because its legends are still believed, it's still subject to discussions and considerations, it's a reference position with its architecture and location, it carries its historical importance up to date and it has enormous history unchanging with the urban fabric.

Hagia Sophia is a place of memory existed in the past, today and will exist in the future. Hagia Sophia is to exist with time and to reach temporality and to become forever.

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Resume

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The Entrance to Trabzon from East Gate: Tabakhane and Ortahisar

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Abstract

The city of Trabzon, was established on a plenary hillside which remains in between Tabakhane and Zağnos valleys horizontally. In resources, it is mentioned that the first usage of the city's name was "Trapezus" which means "table" and this usage was a result of the city's position, since it is established on a decent hillside which rises between two valleys. The east border of the study, which is the East Gate (Tabakhane Gate) of the historical walls, is important as it is the entrance point to the city through "Gavur Square", which became the second centre of the city in time. The west border (Fatih Grand Mosque) of the study is also important since it is the oldest church of the city and it was the first example which was transformed into mosque due to Ottoman conquest procedures after the city was conquered by Fatih Sultan Mehmet. The border of the study is determined as the curled artery, which continues between these two historical elements and the public, and civil architectural examples in the artery from Tabakhane Mosque and Bridge to Fatih Grand Mosque are studied with a framework of historical chronology.

In the first phase of the study, brief information about the history of Ortahisar is composed and data about the historical structures in the determined area (Tabakhane Gate, Bridge and Mosque, Ortahisar and Old Government House, Fatih Grand Mosque) are compiled. In the second phase of the study, the space between the city's east gate

Keywords: *Historical City Center, Conservation, Tabakhane, Ortahisar, Trabzon*

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(Tabakhane Gate) and the Fatih Grand Mosque (Panaghia Chrysokephalos Church), which is one of the most important sacred structures, transformed from church and still exists today, is evaluated by comparing the oldest photos that can be reached, archive documents from the Directorate of Cultural and Natural Heritage Conservation Board in Trabzon region, historical plans and the recent photos that are taken from close points. Evaluation of the subject is made through legal regulations, conscious of protection and Architectural approach. With this study, it is shown that how the area, which is determined as a 2nd degree urban protected area, exposed to interventions in the historical context. The evolution of the consciousness of protecting history in Ortahisar, the oldest centre of the city, from Republic to today, is analysed and argued.

In this study, it is evaluated how the historical urban fabric of Trabzon resist towards deformations and illegal structuring, in the historical continuity. Interventions to historical fabric, violation of the legal borders and unqualified spots mixed in the historical memory in an urban protected area are emphasized. Upon the light of the consequences that are reached, the study aims to contribute to the architectural protection conscious, and to set an example for studies of city history and protection in local/regional means.

As a result of observations and studies made in the field, it is seen that public structures are more important than civil architecture in terms of conservation approach in and around Ortahisar. Because of the several legal regulations and interventions made unconsciously, it is seen that the functional continuity interrupted in the historic city center. On the other side, it is observed that the protection practices carried out in the field remain at the regional level, can not be integrated with other parts of the city, and the visual, social and functional relations can not be established. It is also seen that, the reconstructed buildings are not in harmony with the historical background, and the use of green space is becoming inefficient. In the study, it is concluded that the Legal regulations, which are the 1965 Property Law and the 1985 Construction Law, are among the important factors affecting the mentioned transformation and change process.

INTRODUCTION

Trabzon is an important city geographically, strategically and historically located in the Eastern part of the Black Sea. For centuries, the city of Trabzon, under the dominance of the Komnenos Dynasty, the Byzantine Empire, the Ottoman State and the last Republic of Turkey, carries significant traces, especially from Byzantine, Ottoman and Republican periods. The multi-layered nature of the situation allows the buildings of different cultures to be seen today in the city of Trabzon. Trabzon city is in the upper ranks in the immovable cultural properties (civil architecture, remnants, preserved streets, religious-cultural-administrative-military-industrial and commercial buildings, cemeteries and monuments etc) statistics that needs to be protected according to the statistics made in Turkey according to

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the data of the year 2015 with the number of cultural properties it owns (URL-1). Many of the examples of the building that constitute an important reference for historical continuity are located in the Ortahisar Region, which is the historical city center of Trabzon.

Trabzon city has been in an important structural change process for years. This process often affects the city negatively. The aim of the study is to go into how this process of change occurred between the Tabakhane bridge and the Ortahisar Fatih Mosque, which has been selected as the study area and a part of the city's 2nd urban protected area (see Figure 1). In the first phase of the study, essential information is compiled about the important historical structures of the area that are Tabakhane Door-Bridge and Mosque, Ortahisar, Old Government House and Fatih Grand Mosque. In the second phase of the study, the space between the city's east gate (Tabakhane Gate) and the Fatih Grand Mosque, which is one of the most important sacred structures that transformed from church, is evaluated by comparing the oldest photos that can be reached, archive documents from the Directorate of Cultural and Natural Heritage Conservation Board in Trabzon region, historical plans and the recent photos that are taken from close points.

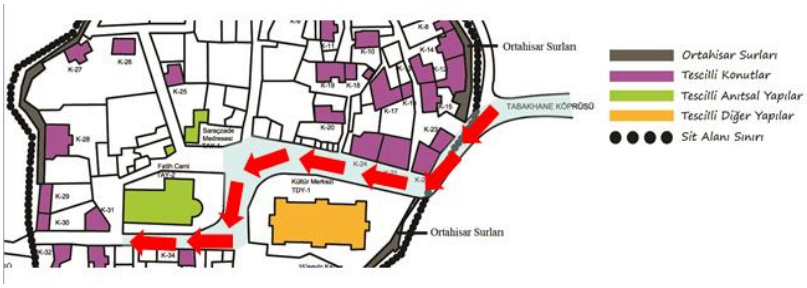

Figure 1. The Route of the Study Area

ABOUT THE DETERMINED HISTORICAL STRUCTURES

Tabakhane (Tannary) Gate, Bridge And Mosque

The Eastern Gate of the historical walls forming the eastern border of the study area, in other words Tabakhane Gate; is one of the entrance gates of the old city from the city walls while moving from the current city square (Atatürk Square) to the Ortahisar site. Evliya Çelebi, while counting the gates of Ortahisar, spoke about the "Debbaglar Gate" and mentioned that the Tabakhane Bridge was built on the masonry bases (Tuluk ve Düzenli 2010). In the records of Katip Çelebi, the Yenicuma Gate is the first gate that opened to the east of Ortahisar and the second is the "Tabakhane" Gate which is located inside the boundaries of this study. The name of the Tabakhane Gate was taken from the

leather bazaar, which was located in front of this gate (Usta, 1999).

According to Bıjışkyan (1969), in the early 19th century (1817-1819) there was a wide and deep trench in front of the Tabakhane Gate, with a bridge over it. While, the water coming from the channel of Iustinianos passes over this bridge, the Kuzgundere flows below. The creek, still known as "Kuzgundere", is covered up and the axis passing through is utilized as a settlement area. Today, under the recycling project, the region has been completely emptied and the houses have been demolished.

The Tabakhane Bridge, which was built on the Kuzgundere to the east of Ortahisar, was able to be exant by many repairs and expansion. The first foundation dates to the 1st century BC (Karpuz 1990). The Tabakhane Bridge is an Ottoman structure in its present state and regained its last shape in the 19th century (Karpuz 1990). The Tabakhane Bridge is made up of two separate thin bridges joined together by a longitudinal dilatation (Gerçek, 1990). It has a single arched opening at the first level. In the Ottoman period, a stone bridge with six oval arches was placed beside it (Karpuz 1990). The four culverts on this side were placed on the walls of the former bridge (Gerçek, 1990). It is thought that the additional bridge was constructed since the first bridge built during the Byzantine period became insufficient as a result of the changing life conditions.

The Tabakhane Mosque was originally planned as a small mosque, and it is thought that in the 1650s it had been repaired or rebuilt. In the 1973 reports of the Board, it is stated that the mosque is not appropriate to be reconstructed due to the fact that it is an "historical artifact to be protected" (Anonymous, 2017). However, in 1979, in the place of the second structure, which was demolished except its minaret, the third concrete structure, which was in use today, was built. In 1985, the registration of the structure was abolished (Anonymous 2017b) and in 1987 it was opened to worship (Tuluk ve Düzenli, 2010).

Figure 2. The old and recent photos of the Tabakhane Bridge and Mosque (URL-2; Neva Gerçek Atalay Archive 2013; Özen et al. 2010; Bahar Karakaş Archive 2015)

Ortahisar, Ortahisar Old Government House and Fatih Grand Mosque

Trabzon city is an example of a walled city and it is formed by staying intimate to the plan of walled cities; Inner Castle, Middlefort and Lowerfort. The Ortahisar (Middlefort) Region, which constitutes the subject of this study, was founded on the high rock mass between Kuzgundere and Imaret Creek (Daver,

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1987). Ortahisar, situated between Yukarıhisar and Aşağıhisar, is located on a flat ground (Bıjışkyan, 1969). Ortahisar has spread over a wide rectangular planned area (Daver, 1987). In the past, the Ortahisar Region was a region where managers, rulers and their dwellings are located, and usually contained administrative units. As the most important example of the construction related to the administration in this region, the Ortahisar Government House is striking.

Feruhan Bey stated that there was a governor palace in Ortahisar in 1847 (Usta, 1999). It is known that during the reign of Governor Emin Muhlis Pasha (1863) the construction of a government house began. However, this structure was burnt in 1865 and lost its function (Goloğlu, 1975), and it is thought that the new construction made in its place was completed at the end of 1860s. It is mentioned in the documents that the Trabzon Government House has been repaired many times from the years 1890 to 1920, and there was a necessity of expanding due to the unmet needs. In 1924, Atatürk saw the old status of the house during his first visit to Trabzon, and the reconstruction of the structure was put on the agenda (Yazıcı, 2008). The building, which served as the Government House until 1987, was opened as a cultural center in 1992 (Yazıcı, 2008). The building, which was built in the years 1920[1], is the most important example of the 1st National Architectural Movement in Trabzon. The Government House is an important symbol for Ortahisar (Gerçek, 1993) (see Figure 3).

Looking at the changes in the structure, it can only be said that the garden wall was rebuilt and the balustrades were removed. The West Garden is now serving as a parking lot. It has also been observed that the rich flora in the West Garden was destroyed over time. Today, it can be said that the structure, used as the Provincial Directorate of Culture and Tourism, is extant with a successful conception of protection, regardless of its surroundings.

Figure 3. Goverment House in 1950 and today (Bölükbaşı, 2006; Neva Gerçek Atalay Archive, 2013; Neva Gerçek Atalay Archive, 2017)

For the Fatih Grand Mosque; it was the most important place of worship of the city and is located in Ortahisar District, which was the first Muslim district after the conquest (Tuluk ve Düzenli, 2010). Albayrak (1998) stated that the mosque was built on the ruins of a worship structure belonging to the Roman Period. Immediately following the conquest of Trabzon, the structure was transformed from church to mosque due to conquest policies.

[1] *It is difficult to establish a clear information environment for the year of construction of the Old Government House. As Gerçek (1993) indicates that the construction year is in 1920s, Hüseyin Albayrak (1998) states that the year of construction is 1933.*

Figure 4. Ortahisar and Fatih Grand Mosque (URL-3; Neva Gerçek Atalay Archive, 2013)

URBAN CONSERVATION APPROACHES WITH LEGAL REGULATIONS IN TURKEY AND CASE OF TRABZON-ORTAHİSAR

After the Industrial Revolution, with the developing and changing living conditions, migration from the rural area to the cities, the globalization movements of the 1980s, increasing population, some damage to the historic fabric of Turkey has been caused and also irreversible damages have been caused at non-precautionary points. Despite the fact that various possible regulations and laws have been drawn up to minimize the possible damage and to protect the cultural properties, it can be said that the historical and cultural properties in Turkey are not well preserved within the framework of protection.

An attempt has been made for the first time in the name of urban protected area and conservation with the Law No. 1710 on Antiquities dated 1973 in Turkey (Official Gazette, 1973). This was followed by the Law No. 2863 on Protection of Cultural and Natural Properties, which entered into force in 1983. The aim of the law is to organize the necessary activities in order to protect the cultural and natural properties in general meaning, to make decisions and to identify the responsible organizations (Official Gazette, 1983). The Law No. 3194 on Construction, which entered into force in 1985, is seen as one of the leading actors in the formation and shaping of Turkish cities. However, the overall approach of the law overlooks the connection of the conservation areas with new settlements, the functional and social use of the region, and the fact that conversation is an important factor in urban planning studies (Official Gazette, 1985). The Law No. 5366 "Renewal Protection and Retention of Worn-out Historic and Cultural Immovable Properties", which entered into force as of 2005, allows urban conservation areas in Turkey (in capital and its periphery) to be reused in different contexts; mostly touristic, commercial and social (Official Gazette, 2005). The mentioned laws and regulations have played an important role in the transformation of many historical cities in Turkey. The historic city center of Trabzon was registered in 1985 as an urban site (Kahya, 2007). The Ortahisar region, which is included in the 2nd

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urban conservation area, is also being protected under the mentioned laws.

Ortahisar and its immediate surroundings are a region where the Turkish population is intensified and subjected to heavy resettlement after the conquest (Albayrak, 1998). The characteristics of the region have led to the concentration of commercial and social life at this point and have caused Ortahisar to become the center of the city. Considering the population increase and the concentration of migration from rural to urban areas and the historical and spatial development of the city of Trabzon, it is seen that the center of the city is located towards the east of the city (Atatürk Square) from Ortahisar and its immediate surroundings. While the city maintained its physical growth in the direction of the East, the historic texture of Ortahisar maintained its proximity to this new center, but it could not avoid losing its role as a center of the city. The conservation work done in the region was limited only to the historical texture in Ortahisar and an isolated approach of protection has been applied, ignoring the visual and physical relations with other parts of the city and its immediate surroundings. For example; The French architect and urban planner Jacques H. Lambert, who visited the city in 1937, worked on a series of studies to prevent losses in the historic fabric (Ortahisar), which he foresaw for the future, and prepared a city planning programme. The most striking point in this program is that while Ortahisar is growing in east-west axis, the greatest threat to historic texture is the axles and their connections that will serve the living spaces. This deficiency, which was put forward in 1937, did not find a response in practice and came back to the agenda again with a competition opened by the Bank of Provinces in 1968 (Zorlu et al., 2010). In the project that won the first prize in the contest, the ancient city was designated as a protocol area and tried to be preserved. The third planning study belonging to the region was started in 1989 after the registration of the 2nd urban conservation area in 1985 with the approval of the conservation development plan (Kahya, 2007) (see Figure 5). Until the 2000's, the main road connecting the west of the city with the new center of Ataturk Square was the meandering axis which passes through the middle of Ortahisar (Zorlu et al., 2010). The Tangent Road (Flying Road[2]), which is the alternative to Ortahisar's main axis, which was mentioned in Lambert's plan for the first time in the 1930's and which was put into practice in 2002, has fallen in front of the historic walls of Ortahisar with its 8 carrier pillars at a height of several meters and has shadowed Ortahisar and city silhouette. This shows that the concept of protection applied in the region is carried out independently of other points of the city and also without visual, social and functional relation.

[2] *"Flying Road" is a term used for the Tangent Road in the article "Tanjant Yol Nereden Geçecek?", which was published in Journal of Architecture, volume 250, in 1992.*

Today, the Tangent Road undertakes the majority of the density of the main axis passing through Ortahisar. Therefore, Ortahisar, which was a place where administrators, rulers, administrators's and managed's houses and the Government House which functioned for 60 years existed once, now become an idle zone which is not used. The Ortahisar region has become an area where middle and lower income groups have lived because of the evolving and changing living conditions, and this residential area has been abandoned by the owners and leased to low sums.

Figure 5. Conservation Development Plans of 1988 (Anonymous, 2017c) and today

It is seen that the structures in the 2nd urban conservation area which are considered worthy of protection in the conservation development plan of 1988 are still recorded as protected in today's conservation development plan (see Figure 5).

Comperative Photos of The Area: From Past to Present

Figure 6. A View from Tabakhane to Ortahisar; 1950's[3] and Present (URL-3; Bahar Karakaş Archive, 2013; Bahar Karakaş Archive, 2017)

In the old photograph[3], it seems that the old texture, which is harmonious with others and has a beautiful continuity, has been deteriorated today. The reason for this is the concreted apartment building (6 floored) built in the 1960s instead of traditional housing, which respects its surroundings with its proportions and measures (Interview with Bekir Gerçek[4], 2017).

Figure 7. An Overview from Mimar Sinan Road to Tabakhane; End of 1940's and Present (URL-3; Neva Gerçek Atalay Archive, 2013; Neva Gerçek Atalay Archive, 2017)

As stated by Gerçek (1990), there was a coffeehouse on the bridge of Tabakhane with a view of the city walls and valleys, and leather shops just below it. In the historical photograph, the mentioned coffee shop which rises above the carriages at the end of the bridge and the shops of the leather dealers under the bridge can be seen. However, in today's photographs, it is observed that these structures do not exist today. In the old photograph, it is seen that the building on the left side of the bridge is known to have

[3]The years given for the old photographs have been shaped by the estimates of the users of the site for at least 80 years and do not give a definitive historical dates.

[4]Bekir Gerçek was born in Trabzon-Ortahisar in 1948 and is still living in Ortahisar neighborhood. Architect Bekir Gerçek worked as the executive director of the Chamber of Architects Trabzon Branch for 20 years and as a member of the board between 1973-2013.

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collapsed in 2016, even though it has a historical value. In today's photograph, it is noteworthy that the last building mass of the Tabakhane Mosque is incompatible with the surroundings. It is also said that only the minarets of the mosque came up to today. It can be seen that the structure of the region in the 1940's was in harmony with the surrounding area and stayed at a certain gabarite border; however today, the structures are as high as possible and adversely affect the cityscape.

Figure 8. Top view of Tabakhane Bridge; 1930's and Present (URL-3; Bahar Karakaş Archive, 2013; Bahar Karakaş Archive, 2017)

When looking at the old photograph, the Tabakhane Bridge which is the exit door of the city to the East, Olcay Printing House (It is claimed to be the first printing house in Trabzon), the building rising above the carriages and the leather shops (debbağhane) whose name are coming from the name of the bridge can be seen. The concept of park and garden developed with the Republic was applied in major points in Trabzon. Flower Garden located under the Tabakhane Bridge and Atapark can be shown as the examples of park-garden understanding during the Republican Period (Interview with Bekir Gerçek, 2017). The biggest change that can be easily noticed when comparing two photographs is that the pavilion used as Olcay Printing House is destroyed for years and the balcony has collapsed.

Figure 9. The building of the mentioned Shops and the Current Carrier Traces of the mentioned Shops (URL-2; Bahar Karakaş Archive, 2013)

When going down to the Tabakhane Bridge, it is known from the users that there are some shops on the right side of the bridge (Interview with Bekir Gerçek, 2017). When looking at the wall passing to Government House from the place where the flower garden is located, the remains of the columns that are estimated to be the carriers of these shops can be seen. The presence of the shops which are mentioned is also present in the old photographs.

Figure 10. Northern Facade of Tabakhane Bridge; 1920's and Present (URL-3; Bahar Karakaş Archive, 2013; Bahar Karakaş Archive, 2017)

In the old photograph, the structures seen in the south from the culvert of the bridge are the original Trabzon Houses with triangular pediments and inner hall plan type. Until 2016, unidentified and non-significant apartment-like buildings were found causing conurbation in this region. In 2016, all these unqualified buildings were demolished as part of the Tabakhane Valley Urban Transformation Project, which was carried out by the Housing Development Administration (TOKİ) and the Trabzon Metropolitan Municipality and the urban transformation project is still continuing nowadays. It has generally been observed that the bridge has not been altered much and has come up to date in a proper manner.

Figure 11. Departing from Tabakhane Bridge to Ortahisar; 1960's and Present (Gerçek 2011; Neva Gerçek Atalay Archive, 2013; Neva Gerçek Atalay Archive, 2017)

Despite the changing conditions, the route from Tabakhane Bridge to Ortahisar is still a very important transportation trace. Between these two photographs, there is not much change in terms of functional and facade character in the context of structures.

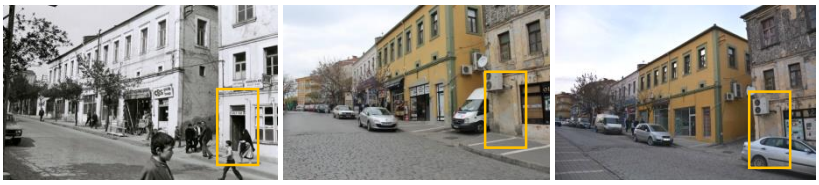

Figure 12. Opposite direction of the Government House; 1970's and Present (Gerçek 2011, Bahar Karakaş Archive, 2013; Bahar Karakaş Archive, 2017)

The road passing Ortahisar between the two bridges in the east-west direction leads directly to the Sarayatik Mosque Street from opposite of the Government House. The entrance of this street can be seen in the photographs. One of the biggest differences between the two photographs is the ruined southern facade of the Olcay Printing House. It is also seen that the door space of Olcay Printing House has been closed. It was learned after the meeting with the owner that, due to a change of the function, the old entrance gate located on the south façade of the building, whose upper floor used as a residence, was closed. It is seen that the two

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historical buildings next to the Olcay Printing House have been functionally altered (Kahya, 2007) and have been properly preserved and reached today.

Figure 13. A View to the Fatih Grand Mosque from the Government House; 1950's and Present (Bekir Gerçek Archive, 2013; Bahar Karakaş Archive, 2013; Bahar Karakaş Archive, 2017)

When looking at the old photograph, the bread oven which is compatible with the surroundings with vertical and façade proportions and the coffee house of the neighborhood next to the oven can be seen. When looking at today's photographs, it can be seen that the reinforced concrete apartment, built in the place of bread oven in the 1960's, shows a structure which is in contrary to the old city silhouette, with its measurements and proportions (Interview with Bekir Gerçek, 2017). This is thought to be one of the multi-storey apartment buildings, built in the region, in line with the decisions on the implementation of construction servitude of the Property Law, which was enacted in 1965 (Official Gazette, 1965). In addition to this, there is a two-storey building of Karabacak Construction that is completely unrelated to its surroundings with the choice of colour and materials.

Figure 14. View of Fatih Grand Mosque from the Western Front of the Government House (1960's) and Present (URL-3, Bahar Karakaş Archive, 2013; Bahar Karakaş Archive, 2017)

It is seen that the upper floor of the traditional Trabzon residence on the left side of the picture taken in 1960, is destroyed today. Apart from this, there has not been much change in the context of gabarite and façade editing of constructions. Zağnos Road, which is seen in the photo, is continuing from right after the western entrance of the old city (Zağnos Gate) to the first crossroad behind the Mosque. While the İç Kale Road continues to the south from crossroad, the Government Road (today called Mimar Sinan Caddesi) starts towards to the north. Fatih Grand Mosque is located about two and a half meters below from Zağnos Road. According to Anthony Bryer's assertion, the Bridge of Zağnos, which is on the west of the Mosque rose steadily with the change in history and reached today's altitude (Bryer and Winfield, 1985). The rise in this bridge also affected the altitude of the road and the Mosque remained in the hole. And nowadays, the restoration work of Fatih Grand Mosque is still going on.

CONCLUSION

The cities, which are the shelters of the society, are a totality of culture with their historical past, with their inhabitants and with their structures, in other words, with their architectures (houses, public buildings, sacred buildings, museums, bridges, arches, castles, walls, monuments etc.). In ensuring the continuity of cultural integrity, the role of the architectural structures, which bridges between the past and the future and also called cultural heritage, is great. Keeping these kind of values alive is important for the urban users to feel the belongingness to the city and also to convey this feeling to future generations. For these reasons, historical fabrics must be properly preserved and kept alive for the continuity of city identity and memory. Being historical and registered is not a sufficient reason to protect the structures situated on the historical fabric. To protect these structures, it is necessary to assess them in terms of their importance and location in the historical environment, instead of coming up with specified proposals for each building.

In the case of Trabzon, Ortahisar region and its immediate surroundings of the city are centers with historical continuity. However, urban conservation approaches of the city authorities and the practices they have carried out in this context led to the deterioration of the visual, functional and historical continuity in the historic city center. In the study conducted on the main axis between Tabakhane Bridge and Fatih Grand Mosque, it was observed that the public buildings in the area were protected more qualified than the civil architectural structures. In addition, in the historical center, it is noteworthy that the green touch has been destroyed by unconscious interventions; the new reinforced concrete building heights have not respected the historical texture and are overwhelming. The 1965 Property Law and the 1985 Construction Law have caused the mentioned situations to occur. After the said legislations, the city's destruction was accelerated and the city's identity was lost due to the contradiction to the principles of urbanism while doing restructuring.

In terms of conservation approaches carried out on a single building scale, the values that the Ortahisar historical center holds must be considered as a whole without being separated. In addition to the rules, requirements and the technical interventions, it should not be ignored that the main user of the city is the people and if the continuity of the city identity and memory is ensured, the users will feel belongingness, own the city and take an active role with responsibility in the matters of the city.

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An Essay in Adaptive Reuse: The Case of Bergama Küplü Hammam

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Müjgan Bahtiyar Karatosun**

Abstract

Bergama is an important settlement center which have different civilizations. Today, it comes forward with especially the cultural heritage of Antiquity but there is an important heritage which has Ottoman period's impress too. The works which reflect to aqua culture effectuate a part of that heritage. Especially Turkish bath buildings have an important place to remind and sustain that culture.

The aim of this study is making an essay in adaptive reuse via Küplü Hammam which is an important representative of Ottoman aqua culture in the urban memory. In this sense, Küplü Hammam will be examined in the context of its characteristic properties and it will be evaluated as spatial and volumetric flow to provide its characteristic properties' sustainability. In this context, it is intended to develop some acceptable strategies for the building's adaptive reuse. Thus, this study will contribute for the characteristic properties of the building to keeping alive them with protection and sustain their place in urban memory.

Keywords: *Küplü Hammam, conceptual essay, adaptive reuse, urban memory*

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INTRODUCTION

Aqua culture is an important part of urban memory. In this sense, Bergama, which is a district of İzmir, is an important settlement having a cultural heritage that reflects the urban memory with its deep aqua culture. Bergama, which houses many different civilizations, contains aqua culture heritages that reach daily from these civilizations. A significant part of this heritage is also the hammam buildings.

Antiquity and the Ottoman period was an important process in terms of the development and spread of hammam buildings. For this reason, many important hammam structures were built during Antiquity and during the Ottoman period. In this context, hammams in Bergama, which especially arrived from the Ottoman era on a daily basis, have great prospects in terms of reflecting the aqua culture and the memory of the city at that time. One of these buildings, Küplü Hammam, which reached the site from the Ottoman period in the settlement and reusing to host a different function; at the same time an important example emerges that reflects the aqua culture and urban memory of the time. But this reusing hammam was not able to continue functioning after a while and was not used.

This study examines the characteristics of the Küplü Hammam and aims to develop conceptual reading trials and suggestions for maintaining the sustainability of the new function and the permanence of the cultural memory. It is considered that the proposals will contribute to the sustainability of the new function by evaluating the spatial, volumetric and massive character of the hammam and contributing to the preservation of the place in the urban memory.

KÜPLÜ HAMMAM (THE HAMMAM WITH AN URN)

Küplü Hammam is located in Osman Bayatlı Street, beside İncirli Masjid and Taş Inn, Bergama, İzmir (Figure 1 - 2). In this location, Küplü Hammam is close to the city center of Bergama.

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Figure 1. The location of Küplü Hammam (Google Earth/ 2017).

Figure 2. Küplü Hammam's location on the map (Bergama Municipality archive / 2016).

The inscription of Küplü Hammam couldn't be found. It was mentioned by Bayatlı that the hammam was built together with İncirli Masjid and Taş Inn. It was stated in a foundation registration which is belong to 1427 that the hammam was built and dedicated by Hibetullah who is the son of Hatib Mahmut Pasha (Bayatlı, 1956).

Küplü Hammam has this name because of the urn that was in the building (Figure 3). It is known that this urn is belong to Antiquity (Bayatlı, 1995). This suggests that the Ottomans used the urn in the bath as practicing adaptive reuse of the material culture of Antiquity. The urn has remained in the bath for about 400 years and was later given to the French by Sultan II. Mahmud. It is now exhibited in the Louvre Museum (Özdemir, 2009).

Figure 3. The urn of Küplü Hammam (Bergama Municipality archive/2016).

The building material of Küplü Hammam is rubble stone and lime mortar (Bayatlı, 1956). The main entrance of the hammam is provided from the door on Osman Bayatlı Street (Figure 4). In addition, there was another entrance of hammam for women. Looking at the layout of the plan, it can be seen that the hammam consists of cold space, lukewarm space, warm space, three special washing cells, an eyvan, a toilet, furnice space and water tanks (Figure 5 - 6).

Figure 4. The entrance facade of Küplü Hammam.

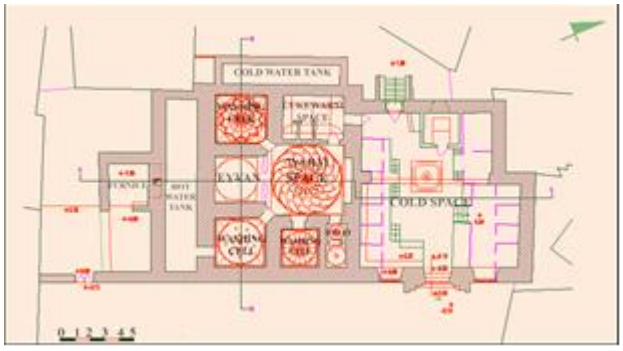

Figure 5. The plan of Küplü Hammam (Bergama Municipality archive / 2016).

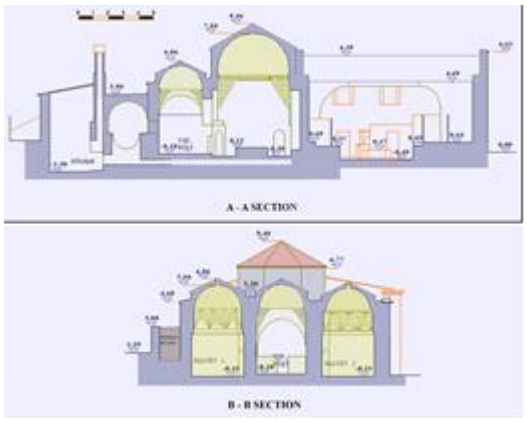

Figure 6. Sections of Küplü Hammam (Bergama Municipality archive / 2016).

When passing the main entrance of the hammam, it reached the cold space. This space, which also serves as a welcoming place, is for preparing before washing and relaxing. The upper cover of this space is wood, but it was understood that it was covered with a dome earlier than the traces in the structure (Bayatlı, 1956). The floor material of the cold space is marble. On this floor, there is a pool in the middle of the space. In the cold space, there is a door

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near the small door that opens for women and it provides passing to the lukewarm part.

Lukewarm part provides passing between cold space and warm space. Also it is a relaxing space after washing. Its floor material is marble as like the cold part's. There is a small door in the lukewarm space for passing to the warm space.

The warm space includes a central space where the navel stone is located, three special washing cells, an eyvan and a toilet. People can use the central space, eyvan or special washing cells to clean their bodies. But special washing cells that its name is ''halvet'' are suitable for small number of people. Other washing spaces can be used by many people in the same time. The upper cover of warm space is a big dome. There are domes on special washing cells, eyvan and toilet too. All of these domes have unique ornaments and decorations. All spaces in the warm space have marble as the floor material. They have marble tubs for accumulating water and use it during washing with copper bowls.

The heating system of the bath was formed by heat channels called hell roads passing under the floor as it is in many other Ottoman hammam buildings. The heat formed in the furnice space warms the hammam by spreading the hot spring through these channels. A chimney system has also been created for the release of air and the exchange of air in the space.

For the Ottoman hammams, the largest space as volume and mass is the cold space. After that the warm space follows the cold space as volume and mass. The lukewarm space is the smallest space of an Ottoman hammam. But in detail, special washing cells, eyvans and toilets can be smaller than the lukewarm space. In Küplü Hammam, this hierarchy is like many other Ottoman baths.

One of the most important hammam building of the period, Küplü Hammam was used for a long time after various repairs and was abandoned after a while. There is not much to do from the well-worked marble elements that was in the hammam in the past inside. In addition, the interior of the hammam is completely plastered with concrete and covered with ceramic in some places (Özdemir, 2009).

The Küplü Hammam was registered with the decision of the Supreme Council for the Protection of Cultural and Natural Assets on 26.10.1984 and 466 numbered. The restoration project was prepared for the hammam which has not seen any intervention from the year of use shutdown until 2001and the application was made in 2008 and the reuse was opened with the function of cafe.

The restoration project of Küplü Hammam had been foreseen to continue to be used with its original function. But the building was located in a central location in Bergama, it was decided to reuse it as a cafe because it did not demand the hammam function.

As Küplü Hammam Cafe, the hammam building which has been reused as a cafe and opened to use, has been used for a while with this function. During the time that the hammam was used with the cafe function, only the cold space was arranged for this function; other spaces are out of use. However, later this function could not continue and the building use was closed. Today it is open for special exhibitions at certain periods of the year.

Given the inappropriate function of the building, the maintenance of this function has caused especially economic problems in the building. In addition, the fact that the structure can not be evaluated together with its surroundings and is not arranged to be compatible with the characteristics of the structure of the given new function has been an important factor in its inability to continue its use. Because of these reasons, the building that closed is unprotected under natural conditions because it is not maintained even if it is used for a short period during certain periods of the year. Depending on this, some deterioration in the structure, which is based on natural causes, also started to occur.

AN ESSAY IN ADAPTIVE REUSE FOR KÜPLÜ HAMMAM

The reasons for adaptive reuse of monument structures can be summarized as the loss of their original function or as functionally obsolete (Altınoluk, 1998). The restructured constructions continue to reflect the symbolic and original places in the memory as well as transfer them to future generations by preserving their aesthetic, social, artistic and spiritual characteristics (Throsby, 2006; Madran, Özgönül, 2005; Aydin, 2010). From this point of view, the original function is functions such as education, health, industry or other public use that it has a positive effect in terms of loading new functions to them for maintaining the structures, transferring them to future generations and preserving their place in the urban memory (Ahunbay, 2013). In this context, the adaptive reusing of the Küplü Hammam can be regarded as a positive approach in terms of protection. However, in order for the new function given to the structure to be sustainable and to be able to maintain its place in the urban memory with both its original and new function, some characteristic features must be taken into account. These characteristics are especially spatial, volumetric and massive in nature of the structure. In this sense, for the new function to be given Küplü Hammam;

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- Spatial
  - Spatial fluidity and hierarchy
- Volumetric
  - Volumetric fluidity and hierarchy
- Massive
  - Massive hierarchy

factors should be investigated and a new function should be developed to protect the character of the structure.

Küplü Hammam has own special characteristic spatial layout. For this reason, the spaces of the new function that will be given to the hammam should be observed and organized considering the original spatial characteristic of the structure. In this context, reading Küplü Hammam's spatial fluidity and hierarchy graphics will be effective. If the spatial fluidity to be created by the new function to be given is compatible with the original spatial fluidity graph of the building, this function will be stronger both in the sense of sustainability and in the spatial memory (Figure 7-8-9-10).

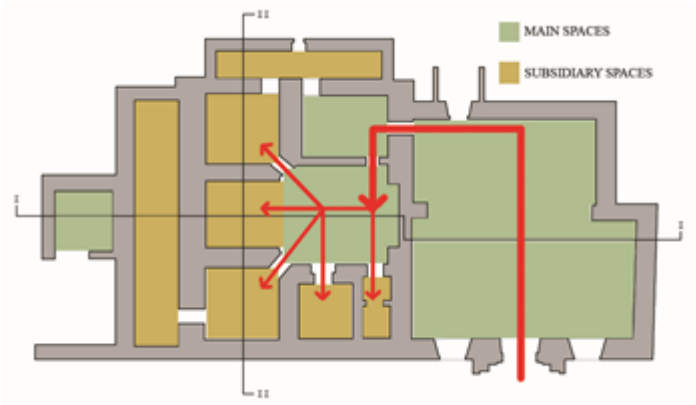


Figure 7. Spatial fluidity plan graphic of Küplü Hammam.

Figure 8. Spatial fluidity section graphics of Küplü Hammam.

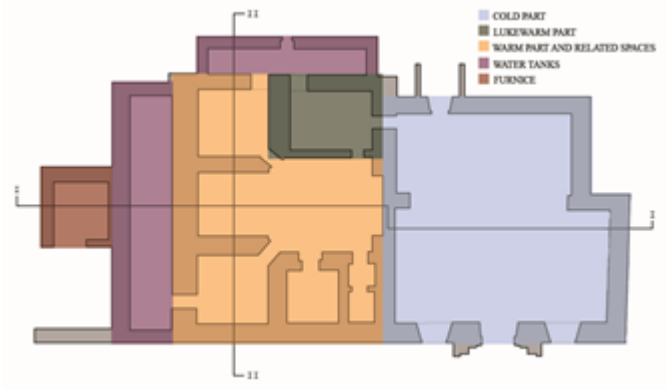
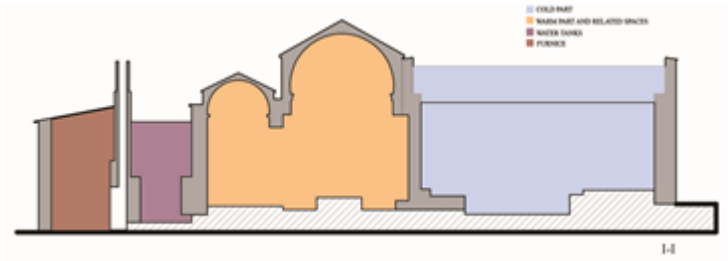


Figure 9. Spatial hierarchy plan graphic of Küplü Hammam.



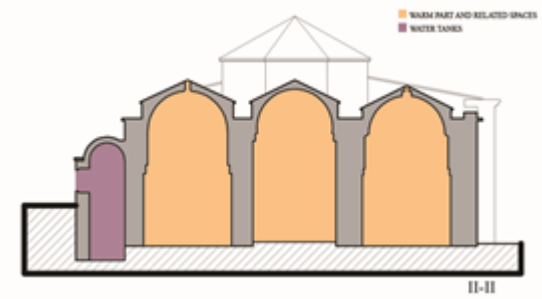


Figure 10. Spatial hierarchy section graphics of Küplü Hammam.

Küplü Hammam has an original qualification as volumetric. There are main volumes and a passing volume to provide the transition between the two main volumes. All these volumes are supported with related volumes and all together, they form a total volume. So when the structure will be reused, this volumetric characteristic should be used in accordance with its original state. The adaptation of the new function to the volumetric partition and hierarchy of the structure will also support the place in memory of the structure by preventing the volumes contained therein from being left idle or having more volume than can have a volume (Figure 11-12-13-14).

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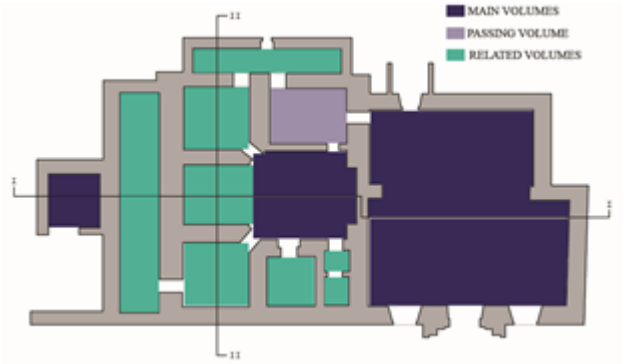
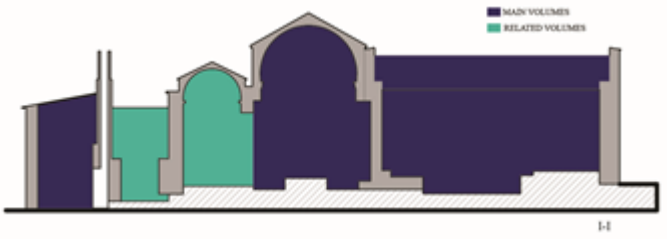


Figure 11. Volumetric fluidity plan graphic of Küplü Hammam.



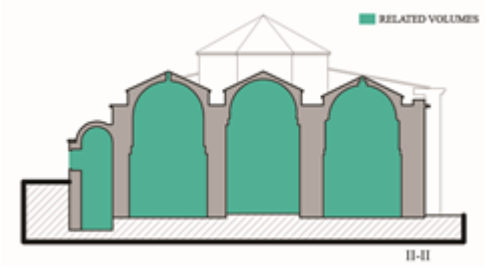


Figure 12. Volumetric fluidity section graphics of Küplü Hammam.

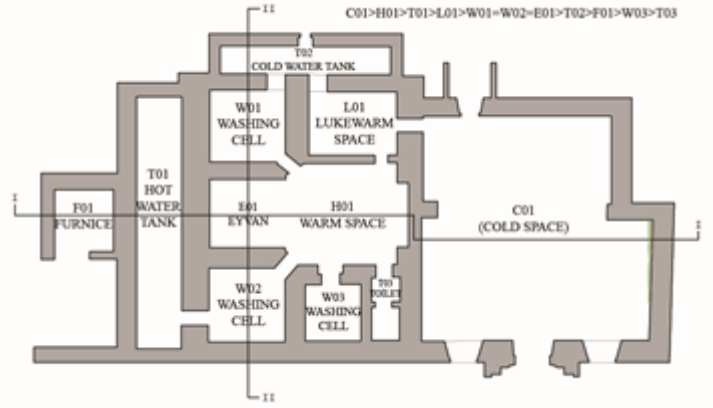
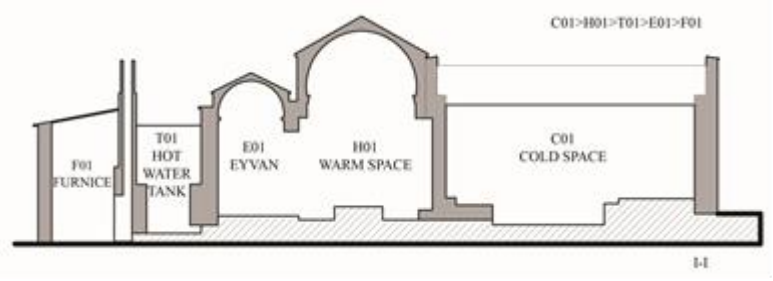


Figure 13. Volumetric hierarchy plan graphic of Küplü Hammam.



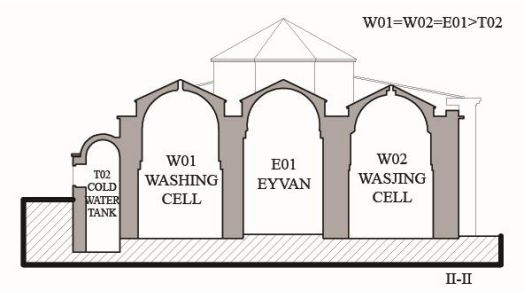


Figure 14. Volumetric hierarchy section graphics of Küplü Hammam.

The mass is an important parameter in the functional formation of the structure. May be the case that the mass, including spaces and volumes, is lost in its characterisrtic if it is not judged by correct functioning. In this sense, especially the massive hierarchy as vertical and horizontal is very important to decide for a new function as sustainable on the Küplü Hammam structure. The division of massive parts of the structure and the total effort to use the divided masses must first be considered by considering how the memory of the place as a bath will be affected and a suitable function must be provided (Figure 15-16).

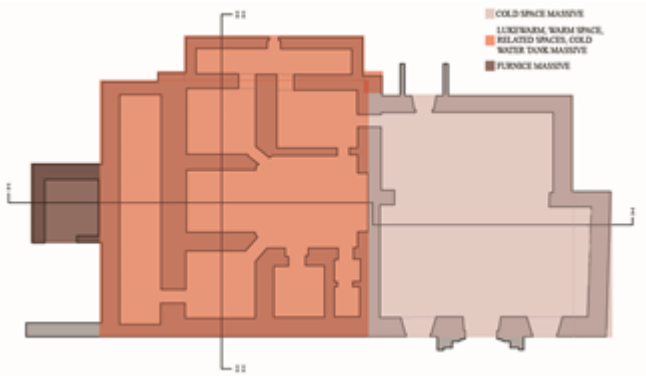


Figure 15. Massive hierarchy plan graphic of Küplü Hammam.

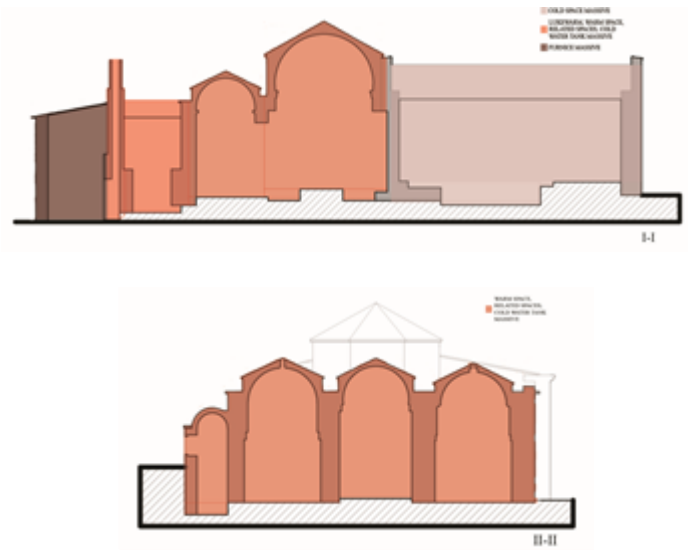


Figure 16. Massive hierarchy section graphics of Küplü Hammam.

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CONCLUSIONS AND RECOMMENDATIONS

The memory of place is a complex concept that contains many tangible and intangible data. One of these statements as tangible and intangible in the same time is historical buildings in the city. Bergama, which has a wide memory in this context, has many important historical buildings. The hammams, which are the important historical buildings that Bergama has in the forefront of aqua culture, are important in terms of reflecting the city's memory.

Küplü Hammam is one of the important structures reflecting the memory of the city over the aqua culture in Bergama. Küplü Hammam, which has an important place in the urban memory both structurally and in terms of usage, also has a special characteristic as an Ottoman period hammam structure. For this reason, it is important to assess the structure in both an environmental sense and to read its own characteristic, in order to protect its place in memory.

In this study, evaluating of the characteristic features of the Küplü Hammam as concept was done. This essay contains the massive, volumetric and spatial features that make up the basic character of the structure. The essays were reconciled with the reuse of the Küplü Hammam and the maintenance of this function; thus trying to clarify the features that it has in the sense of place memory. In this context, it is considered that the new function which will be given to the structure by examining the characteristic features of the structure will contribute to transfer the memory of the place to future generations by protecting this characteristic.

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Re-Defining Traditional Bazaar Areas and Shade Structures Via Parametric Design Methods

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Abstract

For the continuation of life, people created various equipment and goods. To create mutual benefits, they've exchanged the overpruduced items with different products. This has begun the shopping act. By the increased amount of transactions, a need of defined area for shopping have arisen.

For a temporary time, trading areas have been developed at different locations at a certain period. In the course of time, beside trading, these areas served as socio-cultural spaces where the human relations were established. Moreover, demand of being able to immediately access to needed goods have emerged. This situation made having a permanent trading area essential. Therefore, enclosed and permanent trade areas from bazaar, inn, bedesten, arasta to shopping malls have emerged. Next to all these trading areas, traditional bazaar areas keep being established.

Nowadays, there is a need of providing some determined comfort conditions to the users for these street alley bazaars. Decreasing the

Keywords: *Bazaar areas, folding architecture, innovative design, computation, environmental parameters*

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effect of unfavorable weather conditions and providing supportive certain services and units (like WCs, security, cleanliness, etc.) are some of them. As a fundamental solution, without disengaging the user relations with the outside, shade structures are generally provided. Shade structures can support cleaning and similar jobs by gathering and using rainwater besides its purpose of protecting the user from bad weather conditions. Application examples of these systems are gradually increasing. However, it is necessary to develop new approaches, in order to stop these proposed shade structures, become prototypes and to adapt the proposal to its environment and to increase diversity.

In this study, a convenient shade structure and its alternatives, which are adapted to environmental conditions, were designed to create a sample model for other bazaar areas. In models, basically, folding design approaches were pursued. For production of these shade structure models, parametric modelling technics (Grasshoppers and Rhinoceros software) were used and different variations of model were generated. Chosen examples of models were evaluated in the aspect of feasibility. A comparison was made between the existing examples and our designed models. Ecological contributions of these models were also taken into consideration and harvestable rainwater amount by this system was calculated. Accordingly, advantages of the system to the bazaar area and to its environment were studied.

INTRODUCTION

In order to maintain their survival activities, the human being has needed various materials. At first, while people were gathering what they need, this activity left its place to producing goods over time. People started shopping by exchanging their goods which could be produced in diverse fields. Shopping activity created areas where people can come together (Dinçer 2010).

In time, the shopping has become an activity that formed the identity of the cities. This activity, has trigered intense shopping axes in the city and various spaces on these axes (Ülker, 1999). Cultural differences and technological advancements of societies have caused these spaces to be changed in time (Koçhan 2015). While these spaces, where people can come together, were open areas near religious buildings during Egypt-Hittite period; they were transformed into central open areas (Agora or Forum) which were encircled by various buildings in the city center during the Ancient Greek and Roman era. The common feature of these areas was that various sportive and cultural activities, religious and administrative ceremonies were taken place in there. Due to the fact that, activities were short-term, products in bazaars were being presented on temporary stands (Dinçer 2010).

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Some situations like growing cities, increasing population and instant access to needed materials have shown up in time. These reasons triggered the need of stable commerce areas (shops) which would be accessible every day, addition to short-term bazaars. By increasing consumption, these spaces transformed into markets, passages and shopping malls. However, nowadays, in contrast with the transformation in shopping spaces, sense of bazaar still continues in open areas and through street alleys with a little difference from its very first shape. These bazaars which were named as "district bazaar" are being set up weekly.

Bazaars are the most basic units of commercial areas. Local products, foods, clothes and households are sold in these bazaars. Nowadays, while some bazaars are established in places which were determined in urban planning, in some cases, they take place streets at the time of the event. When bazaar areas are observed, it is seen that some shading covers prevent the daylight underneath. Also, disorganization and complexity are really common problems. After some investigation in Karabuk city, some bazaar areas are remained at some nodes where traffic is dense because of environmental development overtime and people who use private cars to arrive are usually having parking problems. Besides, lack of public lavatories is a reality, so that people cannot cover their needs in street alley bazaars.

Surviving district bazaars have low comfort and unfavorable environmental conditions for their users comparing with other shopping spaces. These areas are not only suitable for climatic conditions but also can not satisfy personal needs like car park and sanitary spaces (Kartal, 2013). As a solution to this, especially in order to protect users from environmental conditions and maintain sustainability, various designs and competition projects (İstanbul Besiktas Fish Bazaar, Safranbolu Yeni Mahalle Thursday Bazaar, Antalya East Garage Bazaar Area Urban Design Competition, Morocco Casablanca Bazaar Area Design Competition etc.) have being developed recently. For some of these designs while the sustainability is a priority, for some of them it remains in the background. At the same time, some of the designs carry feature of being a prototype, so that, they cannot get integrated with the environment of the project area and its needs. For that reason, by utilizing modern-day technological opportunities, it is a necessity to increase easy-to-build design variations for bazaar areas. Also, these variations need to be designed appropriately for conditions of where they will be going to build.

Shopping malls which were composed by the historical development process of bazaars can answer certain public needs

today. However, even though traditional bazaar areas are our cultural heritage and still popular, they cannot meet public necessities properly. The intention is to enhance these areas to provide more comfortable shopping experience by having better visuality of bazaars and fitting daily requirements.

In this study, by utilizing opportunities of parametric design tools, on the basis of folding design models, an evaluation of shade structure examples, which were developed for Karabük City, Besbinevler 75. Yıl District Bazaar area, has been presented.

MASS CUSTOMIZATION

Mass production is a way to produce things by utilizing standarts, rules or codes. While this method provide opportunities to have things more economic and standardized, by the technological advancements; users requests, demand or desire more personalized products. At this point, mass customization comes to existence as a new term and strategy; Mass customization (Dye, 2004).

Mass customization is a method that means configuring or changing the model at some points of the mass to fit in specific desires, or needs. This strategy creates opportunity to create flexibility, and also affordability in production process and gives us chances to develop new techniques to create differential, adaptive, collective and parametric designs throughout the design phases. By the opportunities of CAD-CAM programs and various production tools like 3D printers, and CNC milling machines, more complicated and non-repetitive designs in terms of making of architecture can be created. Despite all advantages, mass customization have several limitations in it. One of them is ratio/scale problem, and related to that affordability in production. Most of the examples are in small scales however by technological advancements and developing CAD-CAM programs in close future this is not going to be a constraint for mass customization anymore (Dye, 2004).

In this study mass customization methods have been used in terms of technology (Folded structures, Adaptability and Producibility) and local data concerned with lot (area) and natural & urban environment such as building, topography, plants etc. Mass customization materials and folding methods have been decided (Dye, 2004).

FOLDING IN ARCHITECTURE

Folded plate models are structural systems composed of linear and planar components which distribute the load through the

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direction of the connection line of folded plates (Moussavi, 2011). These models can generate different formations by getting together on horizontal (plan) and vertical (elevation, façade) planes. Count of folding can be increased in models within the compass of plan scheme and by a certain scale. The ability of increasing and decreasing heights with a determined scale on material connections provides an opportunity to create depth on structural system. Increasing the depth of folding enables plate surfaces to work as beams. This situation also supports the variety of forming in accordance with environmental factors. Using origami design methods creates opportunities for designers and engineers to analyze contemporary forms and structural systems, and it is also a chance to enhance unsatisfying current architectural and structural "vocabulary" of building materials (Sorguç et. al. 2009). Other than its load carrying feature, folded plates contribute architecture with various optical effects like tilting, waving, asymmetry, mirroring etc. (Moussavi, 2011).

According to Hemmerling (2010), there are three essential attitude of folding design methods in respect to design, manufacturing and performance. First, due to its "highly experimental, nonlinear and process-oriented" feature, folding design constitutes advanced opportunities and unpredictable results. Second, folding structures provides self-supporting systems and usually they are practical and material-efficient. The latter is its adaptability to find out best solutions in regard to material, form, structure and balance by modifying various physical parameters throughout the process.

Application examples can be listed as; plane hangars of Orly Airport - which were built in 1923 – are known as very first examples of folded plate models (Šekularac, et.al. 2012). Furthermore, Colorado Springs Air Force Academy Chapel by SOM, Yokohama Port Terminal, The First Presbyterian Church of Stamford (aka "The Fish Church"), St. John's Abbey Church and Hex-Sys Office Building, etc. can be shown as some other extant examples. Among these, Hex-Sys building in Guangzhou, China distinguishes due to its similarities with this study related to forming and being sensitive to its environment. The building has a light, flexible, reusable and sustainable system. It composed of hexagonal geometric modules (Figure 1a). These geometric modules were designed centripetal to hexagon as a concave roofing system. Hexagonal concave modules were formed by the connection of sub triangle pieces. These modules form a structural system by getting together and they also help to gather rainfall water efficiently by upper surfaces and create an aesthetic view at the interior area (Anonymous, 2016).

Besides, many academic and special studies/works can be found through the literature search. The work of Cambridge University Students, "The Octahedron" work of LMNts Architecture and Origami Pavilion by Tal Freidman etc. can be given as examples (Figure 1b and Figure 1c). In these examples, The Origami Pavilion (2016) has very unique similarities to this work with its way of design, thinking, form and how it was fabricated. The pavilion doesn't require any additional support system, because the origami folding technics create a structural system and its branches where aluminum thin-shell plates connects each other. Similarly, by starting with paper models based on origamic techniques like reverse pattern, yoshimura pattern (diamond pattern), diagonal pattern and miura ori pattern (herringbone patern), Buri and Weinand tried scaled wooden structures. With these methods, they pointed out linear relationships between folding depth and structural strength. Also, they have simulated that folded models can not only be used as building form but also the structure in the building elements (wall structure). They aimed to create timber construction panels by benefiting from economical ways and generating complex geometries. In terms of using environmental factors for parametric design, another study can be given as an example which mentions daylight optimization with a specific origami style named "kaleidocycle" (Elghazi et.al. 2014). In that study, a model called Kaleidocycle skin was designed by arraying Kaleidocycle rings within the hexagonal grid in order to calculate the daylight amount and compare it with existing facade systems. The work was conducted as two phases. First phase was to simulate base case and to get prior results. Second phase was about optimizing the system by changing parameters like opening of the Kaleidocycle ring or rotation angles in order to get best results for daylighting.

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Figure 1. Hex-Sys Building (a) (https://xxi.com.tr/etiket/hex-sys, 2017); The work of Cambridge University Students (b) (Sorguç et. al. 2009); Origami Pavilion (c) (http://talfriedman.com/origami-pavilion, 2017).

PROPOSAL MODEL AND ITS APPLICATION

With the intent of maintaining traditional bazaar culture and providing a healthy, comfortable and environment-friendly shopping activities, a study of shade structure was designed (Figure 2) by utilizing opportunities of parametric design models for the open bazaar area in Karabuk city – Besbinevler 75. Yıl district and it is also reachable from Cumhuriyet District. Existing bazaar area has a trapezoid geometry and 9800 sqm area. That area is surrounded by four story apartment blocks except its south-east direction. The site's downward slope is from north-west to south-east and there are a number of trees in two green axes at the north and south-east side.

Figure 2. Site plan of proposal model.

A module was defined before starting the bazaar area design. The main reason for choosing modular system is to increase compatibility for other areas. As a result of an intervention to bazaar area, the entrance & exit can be made only at the upper level from a certain point (Figure 3a). Accordingly, it is crucial that circulation answers essential needs. For that reason, a main

circulation axis was determined inside the area. Four different zones which hold various groups were placed adjacent to circulation axis to ease finding products. On the contrary of modern day bazaar sense, special landscape spaces are defined inside and beside of the area. By this way, the aim is to create a positive psychological influence on people. Air ventilation is thought by removing shading structures from these spaces.

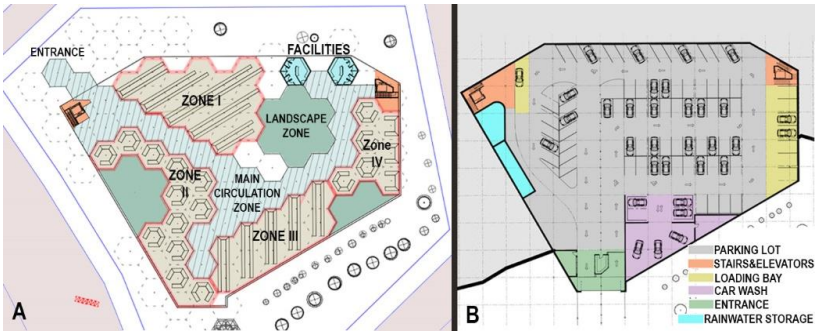

Figure 3. Plans of Bazaar (A) and Carpark (B) Areas

In proposed model, leveling the slope was the primary aim that can create advantages to ease movement and carry goods with less effort. In this context, adding a level underneath the bazaar (Figure 3b), would be a solution for both parking problems and complexity. Beneath the bazaar, there is a car park, car wash and also storage tanks for rainwater harvesting. Access to car park is provided by stairs and elevators from two cores at edges of the bazaar (Figure 4, Figure 5 and Figure 6).

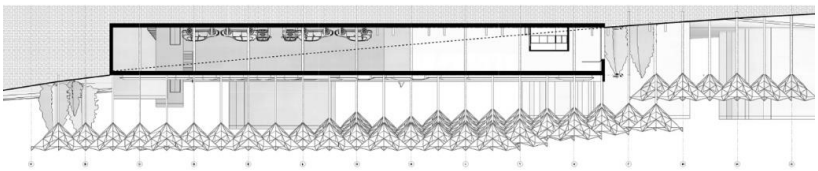

Figure 4. Section of bazaar area.

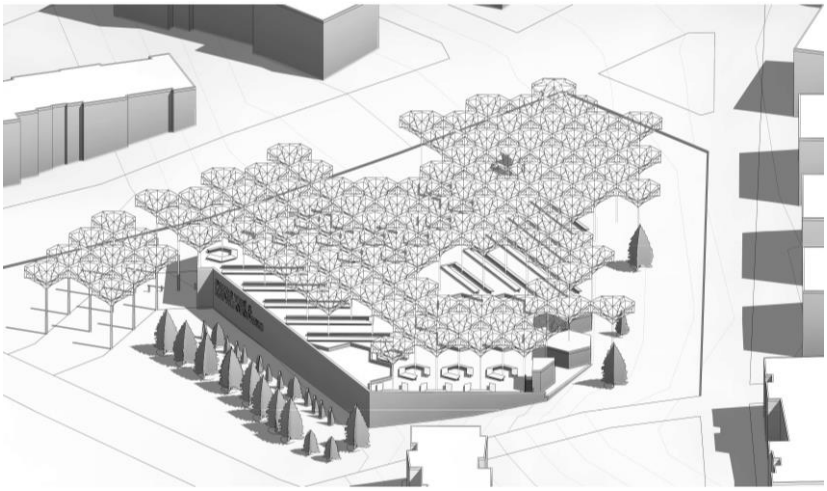

Figure 5. Perspective from outside of bazaar area.

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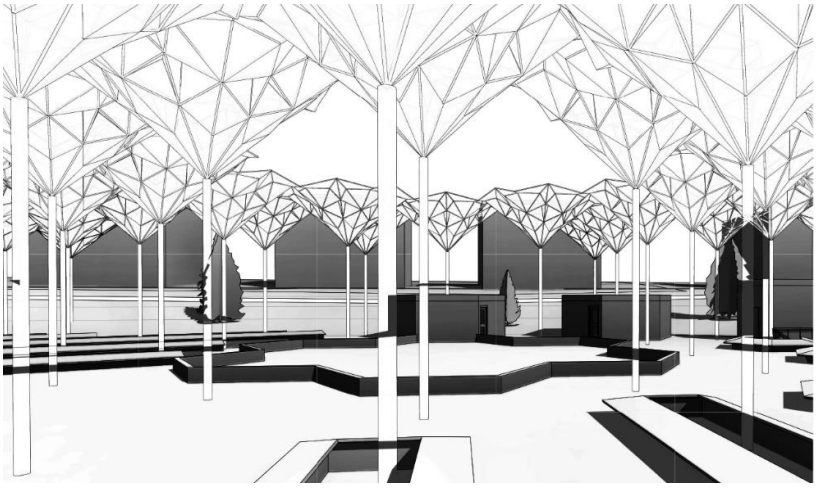

Figure 6. Perspective from inside of bazaar area.

For the selected zone, proposed shade structure series' main frames were formed as polygonal geometric modules. Polygonal pieces of shade series were consisted of triangle surfaces which can generate different patterns by parametric variables which benefit from Rhinoceros -Grasshopper visual programming. These surfaces are tilted toward the centre of polygon in order to gather rainfall water efficiently. These tilts may vary from the inside out in regard to triangular patterns. By this way, 2D patterns also present different pattern examples in third dimension. Bowl-shaped model was designed to be carried by vertical pipes which can be adjusted for heights.

In this study, hexagonal shapes were used as polygonal components (Figure 7). These shapes consist of a hexagon in the center and other similar six hexagons around it. Intersections, corners, and center points of those hexagons match each other. Matching points define triangular surfaces. The distance between surrounding hexagons and center hexagon is used as a variable. Diversity can be attained every time by adjusting this variable. Hexagonal shapes are distributed on a hexagonal grid order. Thus, they define a pattern, which exemplifies folded architectural approaches, with together. Each unit of the grid determines domain limits of "distance" variable.

In third dimension, the height value was determined for every connection, intersection and center point of hexagonal shapes. While some of these values are connected to each other, some of them works independently (Figure 8). Height of center point of a module is related to environmental parameters. Furthermore, according to architectural requirements, the heights are constrained by minimum and maximum limits.

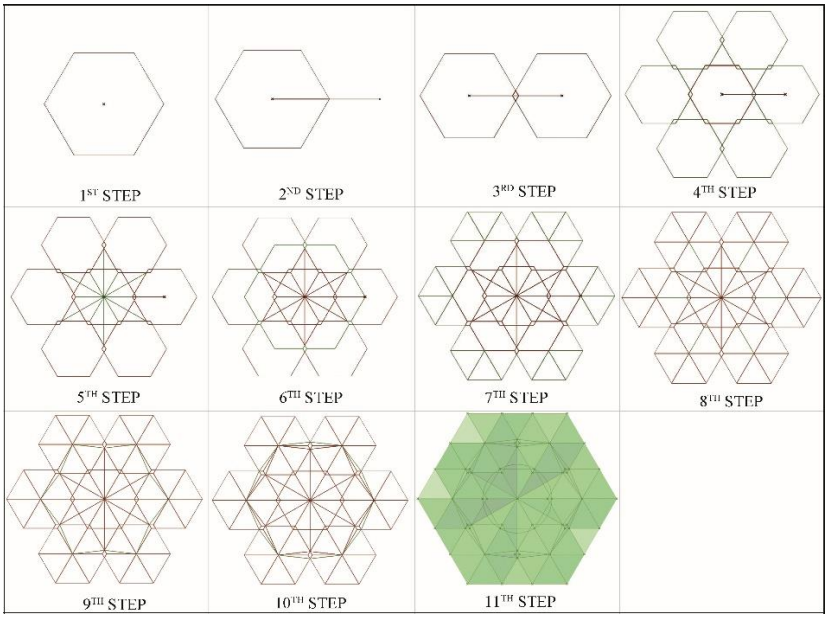

Figure 7. Formation of a hexagonal module.

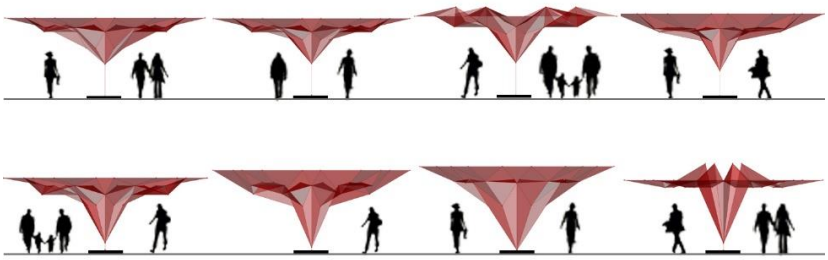

Figure 8. Façade variations of a hexagonal module by different height variables

Modules were proposed as 3m or 4m consoles by considering exhibition areas of goods in the bazaar, movement of users, and structural features of the shade structure. Existing green areas are used as limiting parameters to settle modules into the site. Tree series, in green areas, have an influence radius on model in respect to their size and height. Other than the limiting factors, these modules were settled in the hexagonal grid order which stay inside of the legal construction boundary of the site (Figure 9). Heights of the modules also were organized by taking human scale into consideration as in planning. Additionally, they are arranged simultaneously by considering heights of surrounding buildings and slope condition of topography. Thus, new varieties are attained.

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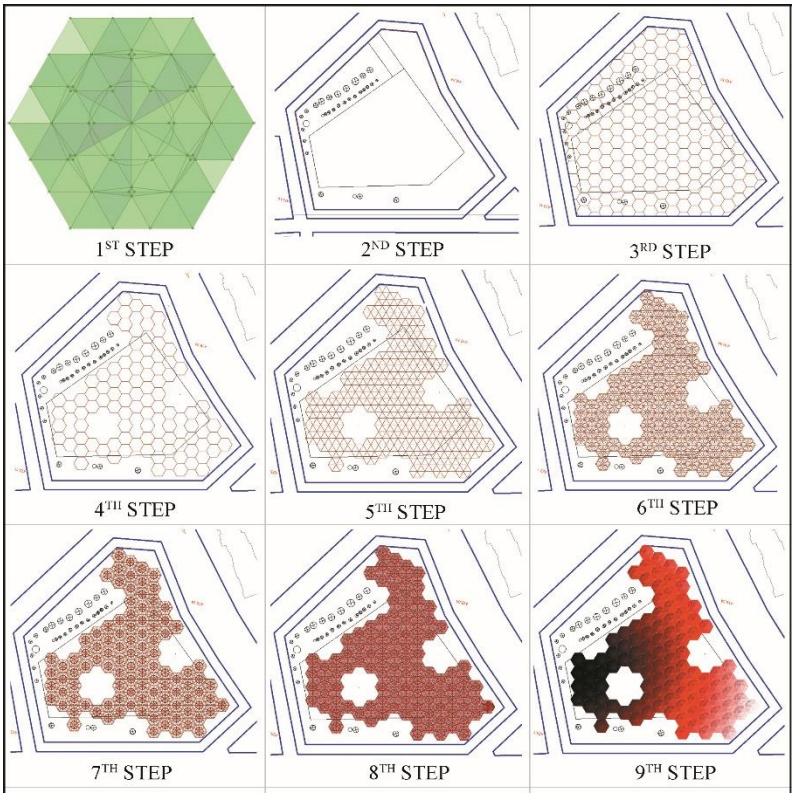

Figure 8. Distribution and generation process of the module in the site

Beside decisions of geometric forms, material selection is considered in the proposal model. Accordingly, while creating these skeleton models, electrochromic glasses are thought to be used on surfaces for the purpose of utilizing natural light more and for shopping in a more comfortable area (Tavil, 2004). However, when we consider the high cost of this material, instead cost-efficient materials (like, glass, polycarbon or membrane etc.) can be used. Steel was decided as the main material of the structural system (Figure 10).

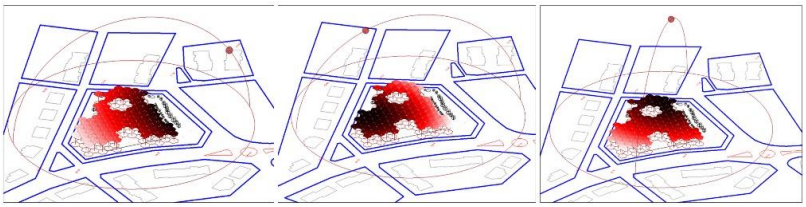

Figure 10. Simulation of Daylight effects on the proposal shade structure

Furthermore, calculations were made related to gathering and utilizing rainfall waters for sustainability intentions for the model which produced within the context of this work. According to this, 4,18 m^3 water can be gathered from one unit, and 393 m^3 water from 94 units that settled at the bazaar area. It is determined that gathered rainfall water can have stored at the proposed basement floor area. Gathered rainfall water can be used for multiple purposes like cleaning the bazaar area, irrigating green spaces and as tap water in WCs that are built for the bazaar and users.

CONCLUSION

In this study, Solution proposals to some determined problems like complexity, parking problems, lighting, air quality, visual richness, basic needs etc. are sought via innovative design approaches. In this regard, an example model is developed for the bazaar area at hand. An upper shade structure is designed by utilizing opportunities of parametric design method within the context. As a result, throughout the process, obtained experiences and suggestions can be summarized as;

As it is seen in area study and from literature examples, folding models provide substantial alternatives. In proposed model, a certain geometric form is used for modular manufacturing. Different geometric forming's are thought that can be used for increasing diversity.

Recently, as it can be understood from the interest among the computational design subjects, it is obvious that parametric modelling tools provide plenty of alternatives and faster manufacturing opportunities. At the same time, relationships and limitations that are created by parametric modelling supports the occurrence of controlled diversity. These features are verified by evaluating in the context.

The design subject of chosen open district bazaar areas contains contemporary discussions like protecting natural resources, traditional and vernacular features. In the example of area study, these discussions also take place different from existing applications. These topics are linked to parametric modelling tools and contributed as limitation instrument to evaluate alternatives.

It is attempted to show that traditional bazaar areas can contribute protecting natural resources (water, sunlight etc.) effectively in the sense of sustainability. In design process, material selection is an important subject that needs to be taken attention beside planning.

Lastly, in order to maintain traditional bazaar culture, some improvement suggestions are presented via a design study. Furthermore, by support of different ideas, increasing their numbers becomes necessity.

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The Adaptive Reuse of Kirkuk Citadel

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Abstract

Knowledge and memory influence the interpretations of a built environment, implying particular expectations in regard to the built environments and their roles in a society. People and their culture constitute the spirits of a building and a space. Memory also can dominate many heritage users, individuals, social and political groups over many centuries. Memory and spirit of cultural heritage enriches cultural identity under the global development. The adaptive reuse of heritage buildings is valued for the contribution for social and environmental sustainability as well as retaining memory. The inherent value of cultural heritage components and their place within the community's memory helps to reinforce sense of place. In conservation sense identity, memory and the relationships of people give cultural significance to historical places.

Evolution of the built environments bridges past and present to the future and embrace memory. However the cities as organisms are in a dilemma along with the loss of city memories and city spirits. These collective memories that bring spirits to a place play very important role and determine the cultural significance of places. The main contribution of this study is to emphasize the importance of adaptive reuse as a carrier of spirits to have a collective memory in order to sustain the

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development of a place. This article explores the relations between spirit and memory of a place by focusing of adaptive reuse project in Kirkuk citadel. Aim of this study is to question and evaluate restoration of Kirkuk Citadel in terms of urban identity and sense of place referring the early Kirkuk city and development of it. This paper also intends to put important guidelines for the future restoration projects of Kirkuk citadel – which is very urgently required – and high lights the importance of revitalizing this area, which is now the semi-dead heart of the city. The paper advocates policy makers is to increase the adaptive reuse policy as an integral tool of regeneration and sustainability policies in order not to lose collective memory.

INTRODUCTION

In contemporary conservation theory and practise, adaptive reuse is considered an important strategy towards conservation of cultural heritage (Machado, 1976, Jessen & Schneider 2003). The term 'adaptive reuse' – also called 'remodelling', 'retrofitting', 'conversion', 'adaptation', 'reworking', 'rehabilitation' or 'refurbishment' (Giebeler, G. 2009) and repurposing. Adaptive reuse vocabulary means "The renovation and reuse of pre-existing structures for new purposes" (Merriam Webster Dictionary). The process of converting a building to a use other than that for which it was designed, e.g., changing a factory into housing. Such conversion accomplished with varying alterations to the building.

The historical buildings of a city represents the time line in which the city developed during the history, they give the city its distinctive identity, there existance across the time gives familiarity to the place, they are combined with common memory of the citizens. Conserving these buildings is not only a moral issu now, but enviremental, economic and social too, they are priceless once we loose them, we loose them for ever, it cant be replaced, even if we dublicate it, we never get the same feeling again.

Kirkuk City for thousands years was the Citadel of Kirkuk, and then the settlments spread around the Citadel and the urban fabric grow bigger. When the modern homes were built people started to leave the Citadel, building new and bigger houses, the infrastrucre of the Citadel was neglected and the heart of city turned into slums, sometimes the negligence was intended politicaly to change the city demographly by moving the Turkmen ethnicity from the old city and then eracing their heritage, this was unfortunatly occured during Saddam's regime during the ninetees of the past century, after evacuating the people of the Citadel, in purpose that been said was a restoration project of the citadel. Then it was clear to be the opposite by all meanings, among more than 650 traditional houses, only 45 was remained (Saatçi, 2003).

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Beside all that the advances in technology and commerce, including the growth of industrial and office automation, and user demands for more comfortable environments for work and leisure have led to large number of buildings becoming obsolete or redundant and these changes have provided an abundance of buildings suitable for rehabilitation and reuse (Johnson 1996). The new architecture in Kirkuk separated from the history and heritage of the city, people were fascinating by the modern architecture. Contemperory architecture states that we should not live in a bright shining new future, anymore than we should hide in a comfortable pastiche of the past. We must inhabit an ever-evolving present, motivated by the possibilities of change, restricted by the baggage of memoryand experience (Chipperfield, 1997). The issue is no longer about the new versus old, but about the nature of the vital relationship between the two. The new architecture is about process rather than product. It welcomes the dynamic of the future and addresses the lessons of the past (Powell, 1999). The Citadel represent's the heart and the center of the City of Kirkuk, despite being in this importance its antiquated and abandoned for decay, Its really hard to imagine city center with area more than 200,000 m^2 and nearly with no significant use for it, in order to revitilize this area adaptive reuse was suggested as the main policy. Bringing various uses to the old urban fabric and creating exciting spaces in what Latham describes as creative reuse (Latham, 2000).

GENERAL EXAMINATION OF ADAPTIVE REUSE

Adaptive Reuse Stratigies

According to a littreture review in PHL University College & Hasselt University, Belgium, they identified three different **littreture approaches** in the field of heritage conservation and architecture: typological, technical and architectural strategies (Plevoets & Cleempoel). In **typological approach** Cantacuzino organised the historical buildings according to their building type before conversion (Cantacuzino, 1989). According to this approach religeous buildings can convert into different use but in the same catgory of relireous buildings, a castle or a town house can convert to contemperory residential buildings and a craft shop or exchange can use as a modern commercial building (Cantacuzino, 1989) (Latham, 2000). in **technical appraoch** Highfield discusses the improvement of fire resistance, thermal performance, acoustic performance, prevention of damp penetration, condensation and timber decay (Highfield,1987). he approach's the host space merely as a shell or contai-ner and therefore give little attention to the conservation and heritage aspects. Plevoets & Van Cleempoel in their paper presented four

categories in **strategic approach** according to four books, by different architects (Plevoets & Cleempoel). Robert, P. gives examples from ancient times up to the postmodern era (Robert, 1989). Brooker and Stone looked at exem-plary cases of contemporary conversions, for them the most important and meaningful factor in adaptive reuse is the original building (Brooker & Stone, 2004). Jäger classification is according to the applied strategy towards the existing fabric, The cases are selected based on their architectural quality and originality (Jäger, 2010). Cramer and Breitling make a distinction between 'design strategies' and 'architectonic expressions' where by they describe design strategies as physical interventions and alterations to the building and architectonic expressions as the aesthetic qualities of the intervention (Cramer & Breitling, 2007). These different catgories and overlapping between them are illustrated in the bellow (figure 1).

<table>
<tr><th colspan="4">Design Strategies</th><th>Architectonic Expressions</th></tr>
<tr><th>Robert 1989</th><th>Brooker & Stone 2004</th><th>Jäger 2010</th><th colspan="2">Cramer & Breitling 2007</th></tr>
<tr><td>Building within</td><td>Insertion</td><td>Transformation</td><td>Modernisation</td><td>Correspondence</td></tr>
<tr><td>Building over</td><td></td><td rowspan="3">Addition</td><td rowspan="5">Adaptation</td><td rowspan="4">Unification</td></tr>
<tr><td>Building around</td><td rowspan="3">Intervention</td></tr>
<tr><td>Building alongside</td></tr>
<tr><td rowspan="2">Adapting to a new function</td><td>Conversion</td></tr>
<tr><td>Installation</td><td rowspan="3"></td><td>Junction and delineation</td></tr>
<tr><td>Building in the style of</td><td></td><td>Replacement</td><td rowspan="2"></td></tr>
<tr><td>Recycling materials of vestiges</td><td></td><td>Corrective maintenance</td></tr>
</table>

Figure 1. analogy between described stratigies (Plevoets & Clee-mpoel, 2011)

The function is the most obvious change, but other alterations may be made to the building itself such as the circulation route, the orientation, the relationship between spaces, additions may be built and other areas may be demolished' (Brooker & Stone, 2004) It is essential that any building being considered for major refurbishment have a thorough survey undertaken to confirm its structural and constructional quality, and its compliance with building ordinances (Langston, 2008).

To make the process of adaptive reuse easier, there should be numerous strategic steps from different members of the society. A great example for succesful adaptive reuse policy is the city of Los Angeles, through innovative public policy and creative private development, Los Angeles is demonstrating how older buildings can be repurposed to serve the new, for policy leaders, they must remove regulatory barriers to make building reuse easier, using

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downtown as a policy innovator to test new ways to encourage building reuse, including the reuse of existing structures, alongside strategic infill construction and even changing parking policy. As for property owners and developers they must to conserve the original character of existing buildings, including architectural features and building materials that tell a unique story to prospective tenants and buyers, they have also to plan for diverse uses and frequent changes in use when investing in new building infrastructure and services, including elevators; heating, ventilation, and air-conditioning systems; soundproofing; and building access and design flexible interior spaces that appeal to the growing market for open plan living and work environments. They should create diverse, mixed-use urban neighborhoods that attract and support building reuse projects (Lindberg & Goldberg, 2013).

Adaptive Reuse Towards Sustainablity

Adaptive reuse and sustainable design have a significant role in the future of architecture (Snyder, 2005). One of the important advantages of refurbishment is time, converting an existing building is faster than constructing it, rehabilitation typically takes half to three-quarters of the time necessary to demolish and reconstruct the same floor area (Johnson 1996), the shorter time lead's to fewer financial and less disruption. Despite the time advantages, the cost of converting a building is generally less than new construction because many of the building elements already exist (Langston, 2008).

From enviremental aspect using the existing stock reduces the use of new materials and the environmental impacts and CO2 emissions connected to their production, while the embodied energy of the existing material is preserved and not wasted. Further-more the substantial wastage from demolition that would otherwise go to landfill is also avoided (Orbasli, 2009). Energy consumption is inversely propotional with envirenment well being, a study of the wide portfolio of buildings held by the Ministry of Justice estate has revealed that pre-1900 buildings use the least energy and less energy even than buildings built between 1990 and 2000 (Wallsgrove, 2008). Therefore the UNEP emphasizes that adapting and retrofitting of existing buildings to the optimal energy efficiency standard must be given more focus by the building sector (UNEP, 2009).

Architectural Conservation

Architectural conservation is the process by which individuals or groups attempt to protect valued buildings from unwanted change (Griffith, 2010).

Department of the Interior of United States defined the following treatment For architectural conservation, first **Preservation,** it is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Then there is the **Rehabilitation,** which is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. The act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period is called **Restoration.** Finally **Reconstruction** is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location (Weeks and Grimmer, 1995).

Urban Identity and Sense of Place

"If you don't know where you're from, you'll have a hard time saying where you're going." (Berry, 2014). Sense of place is a combination of characteristics that makes a place special and unique. Sense of place involves the human experience in a landscape, the local knowledge and folklore. Sense of place also grows from identifying oneself in relation to a particular piece of land on the surface of planet Earth. İt results gradually and unconsciously from inhabiting a landscape over time, becoming familiar with its physical properties, accruing history within its confines (Rydon, 2014). when live in a place especialy from childhood, you will preffer the charecters of that place in future. Environmental psychologists have quantified links between exposure to natural environments in childhood and environmental preferences later in life (Bixler, Floyd, Hammitt, 2002).

Adaptive reuse develops the urban fabric while keeping the sense of familiarity and the culture of the place, it has moral, economical and even sustainable value. Good urban revitalisation not only involves diversifying economic activities but also harnessing the heritage value and preservation of the social fabric. Every building has its own biography. A knowledge of the whole life of a building brings an essential understanding of its features and its problems (Encyclopedia, 2010).

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UNIVERSAL AND LOCAL EXAMPLES

European House of photography

The former hotel *Henault de Cantobre* in Marais at Paris, France was a problem building before the adaptive reuse of it. This hotel and many other hotels from seventeenth and eighteenth century in Marais, was in exhausted and threatened situation, their salvation was to bring a new cultural uses to it. The eighteenth century hotel *Henault de Cantobre* is a protected monument; it is prohibited to make any significant changes to its structure or appearance. However a derelict building that blocked out the views of the hotel was demolished and replaced with a new building, because the extension was a necessity. Construction began in March 1993 by *Yves Lion Architecte*, the work with protected monument was limited to restoration in accordance with the *Batiments de France*. However, a new building was attached to the rear wing of the old one. The new added building submits and undergo with its historic neighbor. A similar stone to that of the hotel used as a facing material binds the two structures together with harmony, while the insertion of vertical sheer glazing helps to avoid a sudden join between the two buildings. Old and new must cohabit; the best of new work increases the statue of the old, but without condescension says *Lion.* The building converted to a cultural institute (house of photography) with new uses like lecture rooms, galleries, staff rooms, library, bookshop and etc. The project attempted to retain a sense of familiarity and comfort (Powell, 1999).

A note of disagreement came from the critic Jean-Paul Robert, who argued that the old hotels should be lived in again not sold out to the culture industry.

Figure 2. View of the original and added part of the house of photography building

Manouchehri House

Manouchehri House is a boutique hotel and textile centre, originaly a 19th century merchant home in the historic quarter of Kashan, Iran. Its primary architecture dates back to the Safavid dynasty. Manouchehri House was partly ruined by the 1778 earthquake and was rebuilt in the Qajar era. In 2007, the house was bought and registered as a heritage monument, despite being in a state of disrepair (Manouchehri House, web). The initial purpose that informed the undertaking was threefold: the revival of historically significant hand-woven textile traditions of Kashan which were on the brink of extinction; the renovation, restoration and revitalisation of a historic house and its surrounding neighbourhood in order to draw attention to the vast treasury of this architectural heritage in danger; and raising awareness of the cultural, artistic and technological traditions embedded in the Islamic architectural traditions of this region. After major restoration work, It was awarded Aga Khan Award for Architecture 2014-2016 Cycle and Lonely Planet Top Choice award in 2012. This private residence has been brought back to life with the highest standards of historic preservation and the latest in modern amenities. Eight private guest rooms with unique architectural details surround a peaceful courtyard that features a reflecting pool flanked by gardens bearing local fruit. Guests are welcomed with a refreshment in the elegant lobby outfitted with traditional Iranian furnishings and showcasing an art gallery in the atrium above. A state-of-the-art subterranean movie theatre, converted from the original basement cistern. A spacious textile workshop featuring looms for velvet and brocade weaving support the revival of traditional arts of the region. These rare and precious textiles are available for purchase in the hotel's gift shop, which presents a multitude of objects from Iranian artisans and craftsmen. The project has met with so much success that it has drawn thousands of people from across the world, and has triggered many similar initiatives across the city (Aga Khan, 2014).

Figure 3. from the left view of Manouchehri house before and after renovation, and from the right the revival of historically significant hand-woven textile traditions of Kashan which were on the brink of extinction, and bellow it one of the bedrooms (Al-Jameel et. aetl, 2015).

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Erbil Citadel Revitalization

It is a tell or occupied mound, and the historical city center of Erbil which is recently the capital of Region of Iraq. The citadel has been inscribed on the World Heritage List since 21 June 2014. From prehistory and the Assyrian period 2300 BC, to the Sassanids, till the resent days where Turkmen citizens from Begteginids, atabeg dynesties, are occupied in this citadel for nearly a thousand years ago, to the modern day (Sourdel, 2010) where **i**t has been claimed that the site is the oldest continuously inhabited town in the world (Unesco, 2010). Erbil Citadel has witnessed continuous deterioration from the beginning of the 20th century; the services where hard to provide, the cars where unaccessible because of narrow insanitary alleyways, with the increased impression of being old-fashioned and inconvenient have led to the departure of wealthy prominent families of the Citadel in favor of the lower city, leaving the abandoned houses to be occupied by the refugees and squatters. In 2006 Regional Government decided to depopulate the Citadel so that it could be conserved and revitalized. In 2007, Erbil Citadel Revitalization project was started by the High Commission for Erbil Citadel Revitalization (HCECR, 2016) in collaboration with UNESCO. The revitalization of Erbil Citadel is approached through the concept of adaptive reuse as the core strategy for a culturally-driven revitalization (HCECR, 2012). Adaptive reuse of Erbil Citadel has concentrated largely on the issue of the allocation of new uses for each individual building and the Citadel as a whole. İn this project it is stated that, to guide the determination of the new use for each building, the new use ought to be convenient with the spirit of the original use; the character and value of the building; the technical and practical appropriateness of the building in terms of space available, adaptability, location and the access to vehicles; and finally, the socio-economic context and the sustainability of its management framework. For the Citadel as a whole, it is stated that, the new uses allocation is inspired by the Citadel historical district division as Saray District was devoted to a predominant cultural-related use, Takya District was devoted to a predominant touristic-related use, Takya District center was devoted to a predominant office- and archeological-related use and Topkhana District was devoted to a predominant residential-related use (Al-Jameel, 2015).

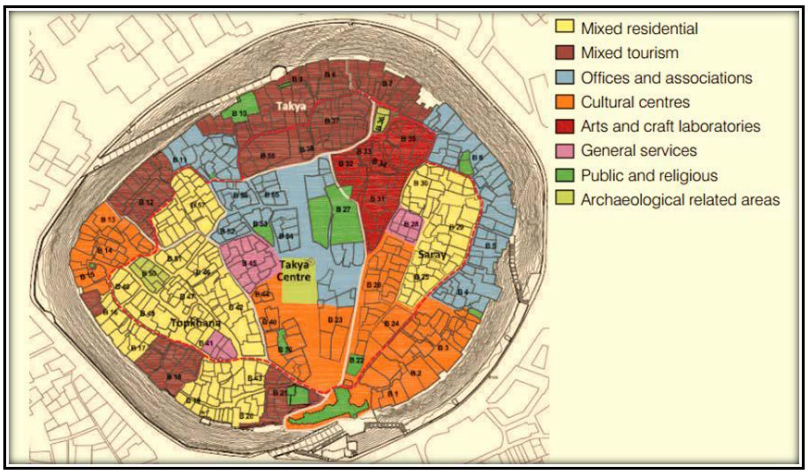

Figure 4. Erbil Citadel Land Use Plan Proposal (Al-Jameel, 2015)

HISTORICAL ASPECT OF KIRKUK CITADEL

Kirkuk Early History

Many tablets and other remnants were found in the city dated to 2600 BC and linked to the civilization of Sumer (Bakır-Sefer, 1965), then the Akads reigned for two centuries in this region which was known as Arrapha 2350 - 2154 BC (Edwards, Bury, Charlesworth, 1970) After two short periods - the Gutians (60 years) and the third Ur dynasty (65 years) (East, 1961) The Assyrian empire (old, middle and new) reigns over 1400 years in the region 2025 - 612 BC (Pollard, 2015). Civil wars led the Assyrian empire to disintegrate, paving the way for the Med and the new Babylonian empire to dominate the region for a short period of time (66 years). The region after 546 BC witnessed the ages of the Persian empires, between 546 - 331 BC it was under the dominion of the Achaemenid empire and was known as Athura (or Assyria) (Sicker, 2000). The ages of the Persian empires experienced an interruption between the periods of Macedonian (332-312 BC) and Seleucids (311-150 BC) until the time of the Parthian empire. In 139 BC along with its region the city was under the Parthian rule, till the 226 AD the Sassanid's took control of region (Samarrai, 1988). After Al-Qadisiyyah battle with the Sassanid Empire 636 AD the Islamic army entered into the city of Kirkuk (Samarrai, 1988). It remained within the boundaries of Abbasid State, which was founded in 750 BC; the origins of Kirkuk's Turkish population can be extended to this age (Saatchi, 2003). A descendant of Turkish origin mother Caliph al-Mu'tasim (833-842) and the son of the famous Abbasid Caliph Harun al-Rashid established a special military force from the Turks (William, 1922). In order to rescue Baghdad from the pressures of the Buyid dynasty, Abbasid Caliphs insistently invited Tuğrul Bey's army, which eventually ended the rule of the Buyids 1055 AD (Turan, 1965). With the Seljuk's dominion the period of Turkish sovereignty begins in the region (Saatçi, 2003).

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After Imad ad-Din Zengi became the "atabeg" of Mosul in 1127 (Ayalon, 1999) the region enters the sovereignty of the Zengid dynasty and then shares the sovereignty with the Ayyubids in the region. During 1258 AD the region is conquered by the Mongolian invasion; and the Ilkhanate and the Jalayirid Sultanate sequentially dominated the region. In 1411 it's noticed that Mosul and Kirkuk will entered into the Kara Koyunlu rule, also called Black Sheep Turkomans (Jawad, 1947). In 1470 the Ak Koyunlu which they were Oghuz Turkic became dominant, and in 1508 the Shah Ismail began to govern the region under the Safavid dynasty (Sümer, 1959).

After the battle of Chaldiran 1514, Kirkuk was bound to the Ottoman lands by Bıyıklı Mehmet Pasha in 1516 (Pitcher, 1972). Between the 17th and the middle 18th centuries, there were a lot of contentions in the region between the Ottomans and Iran. Over the peace treaty between the Ottomans and Iran in 1746 (Uzunçarşılı, 1973) Kirkuk remained on the Ottoman teretory until the British occupation 1918 of Iraq.

The Development of City Structure

It can be said that Kirkuk during the history was only the area of fortified city (Kirkuk Citadel), and it saved for a long time this identity. It's clear that the hedges lost their importance in the area during the fifteenth century and the settlements began to spread out of hedges. But in Kirkuk situation the settlement outside of the Citadel began in later periods, that is because of the absence of the politic settlement and the fact that the region being a field for long-lasting discords between the Ottomans' and the Iranians, these reasons caused the late settlement after the late of eighteenth (except some small areas) (see Figure 5) (Saatçi, 2003).

The city can be distributed in three parts according to the composing structure:

1- The citadel and the area beneath it.

2- The bisecting of the "*Korya*" in the other part of "khasa" river.

3- "Tiseen" area which was an independent village south *Korya* District, then it merged with the bisecting of *Korya.*

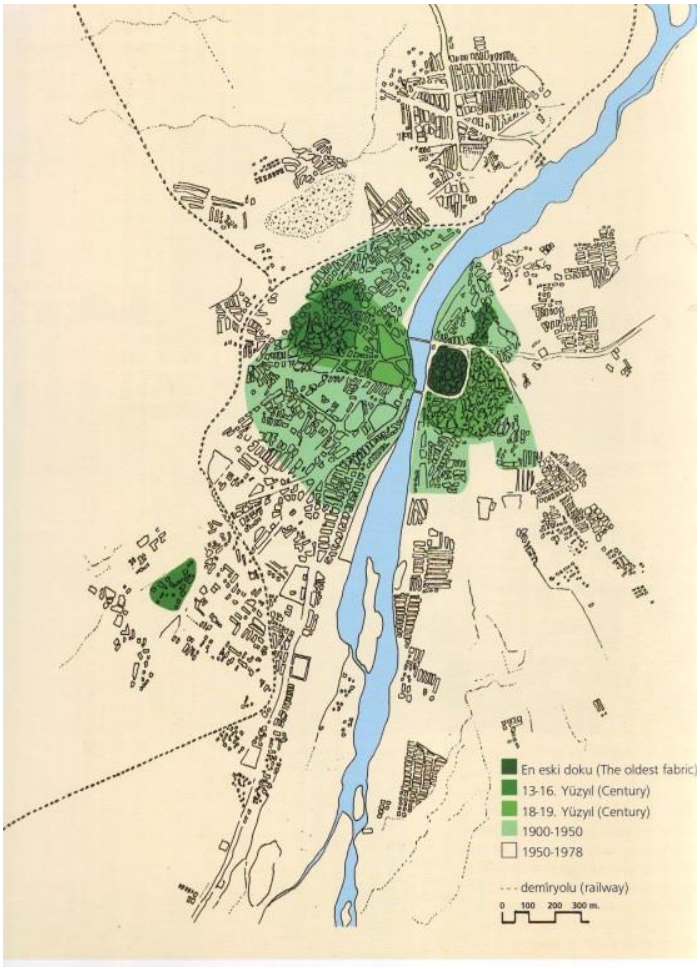

Figure 5. Kirkuk city devolepment, the darker places represents the older parts of the city (Saatçi, 2003).

KIRKUK CITADEL CHARACTERISTICS

Figure 6. Western silhouette of the citadel (Anonymous, 2016)

The idea of the citadel started with the need of protection from enemies aggressions, therefore it is surrounded by huge hedgeds. For Kirkuk citadel the hedgeds not remained in the scene today, the silhouette of the citadel is consisted of residential buildings, although the two northeren corners of rectangular fortress was excavated by the Antiquities and Heritage Department in Kirkuk, which were built with tauf. The other parts of the fortress may be remained under the foundation of houses that built across the borders of the citadel forming the new outline elevation of it. The invention of gunpowder made the traditional wall of a fortress useless especialy during the 15th century, so during that time the wall of the citadel neglected, and rich people started to build there houses above the old wall benefitting from the great view they will have at there. So the citadel become to seem more like a

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residential area over a tell, than a fortress with defensive wall. Kirkuk citadel had four gates (see figure 7), only one of them is remained, "Top Kapı" gate, which was constructed in 1882. The construction of the gate, of which a plan and an elevation drawing (see figure 7), was completed in the same year (Saatçi, 2003, Archive of Prime Ministriy of Turkey).

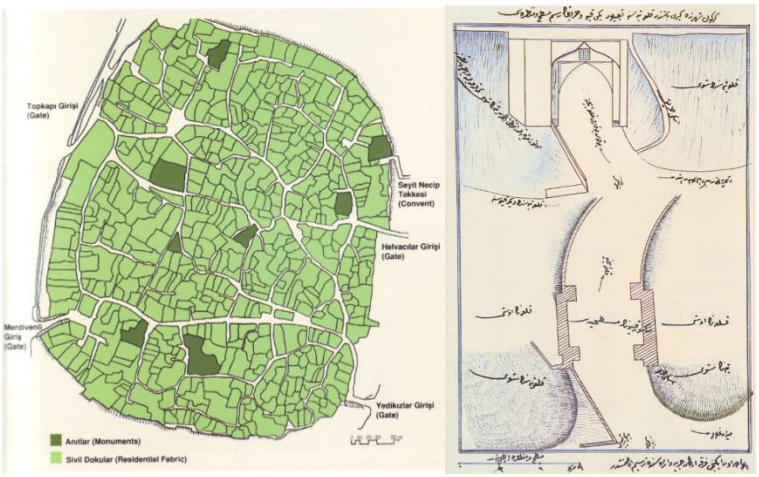

Figure 7. from the left plan of the old urban fabric of the citadel. From the right plan and elevation of the Top Kapi (Saatçi, 2003).

Figure 8. from the left North western side of the Citadel. From the rıght an alley with "Taq" (Saatçi, 2003).

The citadel is allocated alongside the seasonal river *Khasa Su* from the West side, this river devides the city into two parts, *Eski Yaka* and *Korya*. The urban fabric of the citadel used to be consisting of narrow and organic alleys, and cul de sacs which sometimes covered with pointed arch vaults. This vaults called "*Tak*" which is considered a passage between two homes facing each other in the alley, where both homes often owned by the same person. These "*Tak*"s will provide a perfect shade for the pedesterians during the hot summer days and rainy winter season. Somtimes when different direction alleys intersect they form an open space which called "*Meydan*" which service as people gothering and meeting area, it also can be as open market fort he residence of the citadel. The most of the built area in the citadel were residential areas (more than 650 houses) interspersed with religious, administrative and monumental buildings. The house of Kirkuk contain a combination of architectural charecteristics between the Turkish and Iraqi heritage with special and unique charecter

which is the "*Büyüg Ev*" which can be seen in the plan of almost all the houses in Kirkuk and surrounded Turcoman cities and villages. It represents a functional combination of living room, bedroom and storage. These are briefly illustrated in the remarkable book of Prof. Suphi Saatchi (Saatçi and Uluengin, 2007).

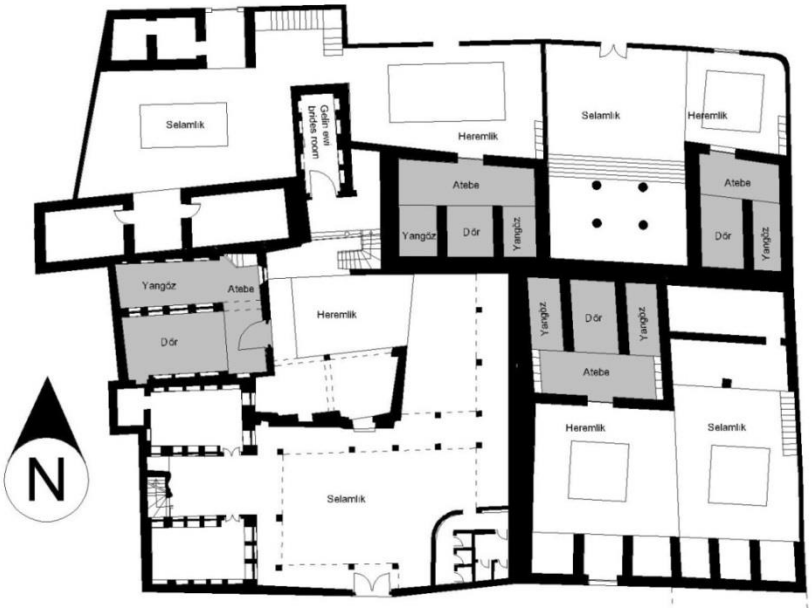

Figure 9. Four preserved houses in the Citadel, the shaded areas represent the "Büyüg Ev" .

During the Nineties' within the Baath regime party the main goal of the authorities in Kirkuk that time was to erase the Turcoman identity of the City and Arabize it. Therefore the architectural monuments and the old districts were targeted, the citadel itself included (Mardan, 2004). In 1997 in the purpose of restoring the citadel the residents were taken out from their homes, bulldozers demolished every urban fabric in the citadel, from more than 650 houses only fewer than 50 had remained! The citadel from inside turned into semi vacant area with single monuments and houses stripped from their normal urban fabric.

Figure 10. First image google arth record in 2010 and second one is arial foto of area before demolishing.

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METHOD AND NEW APPROUCH FOR KIRKUK CITADEL

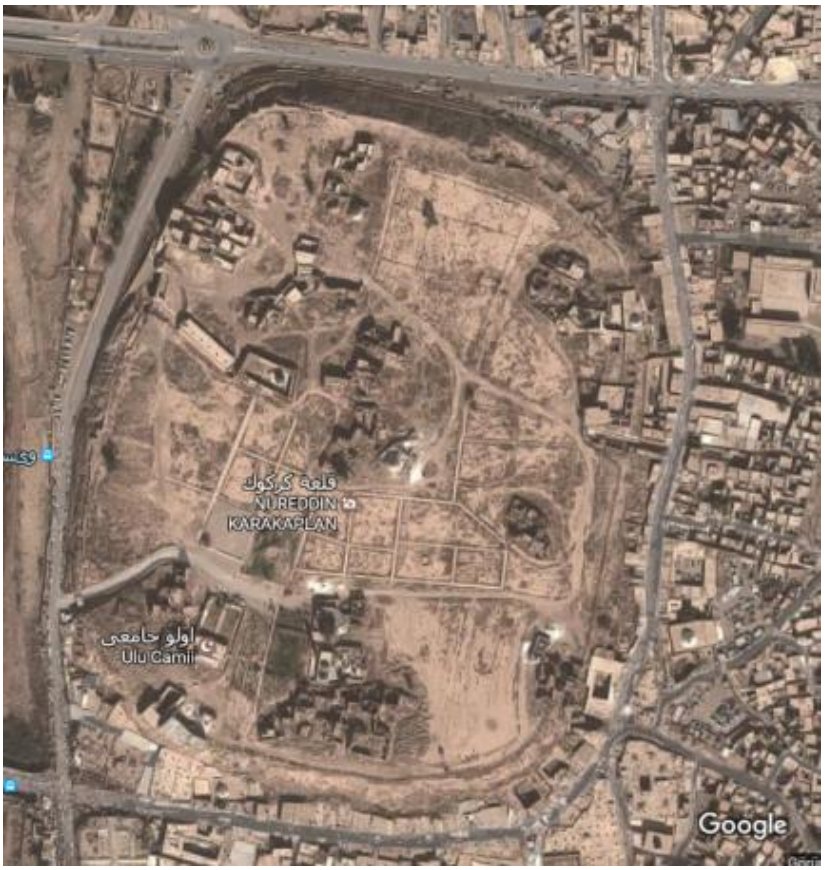

Figure 11. Kirkuk Citadel exposed to vandalism during Saddam regime, before and after September, 1997 (Matti, 2013).

Unless passing by its side, Kirkuk Citadel nowadays seems like totally separated from the city. It's not clearly linked to the city. There was no vital activity created within it, nor movement axes between the city center and the citadel. It's noted that the growth of the city of Kirkuk came mostly in the other side of the river "*Korya*" in both directions away from the citadel (Figure 5). The Citadel still sadly stands without a proper interest in re-qualifying and making it one of the landmarks that can be benefited from in tourism and other sectors, besides linking it with the city and its urban activity.

In order to give new functions to Kirkuk Citadel and to the remaining buildings in it, the first step must be to determine the reasons for its reuse. Throughout history, functional improvements or emerging new requirements have left the most of citadel buildings' against functional obsolescence. As well as historical and cultural reasons, this relates to environmental and economic factors. Environmental changes may require reconsideration of the building. For example residences located in commercial areas in Kirkuk, may have to change their function, like the remaining of "*Khanaka*" house in the opposite side of the Citadel, which was within a residential area, it's now surrounded by crowded commercial buildings even some of these buildings

are existed within its territory. The environmental alteration from residential to commercial use led the original house being left for decay. The next step is to specify the design qualities that can be given by the buildings within the Citadel. The spatial form of construction is directly related to the new function which it can provide, and is perhaps the most important factor. For example, if a Khan reused as a cinema, it may never work or it will make a great loss to the architectural and historical identity of the building. The volumetric dimensions of the building are a factor for choosing a new function, requires the analysis of the main unit of the given function, if the building is a hotel the main unit is a hotel bedroom, if it is a primary school it's a classroom etc. A monument may appear to be a hotel by being divided horizontally and vertically several times, but in this time the historical and architectural value of the building will disappear. Another factor is the functional curriculum of the building; the new function must be compatible with the natural circulation of the building. Finally, the location of the building is an important factor. For instant, the inner-city *Khans* of the eastern and southern sides of the Kirkuk Citadel (see figure 13) through the city's crowded trading center can be hotels according to the three factors above, but due to its important commercial position within the city, it is more accurate in terms of economy to separate those structures for the commercial functions (Altınoluk, 1998).

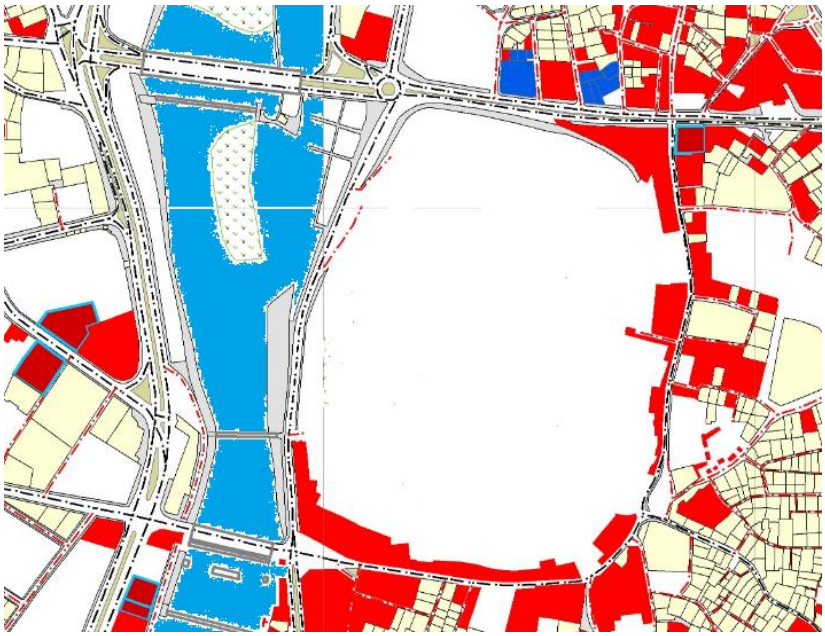

Figure 12. the commercial land use downside and around the Citadel (MGArchitects, 2013) edited.

In order to get a clear idea of the new approach for the Citadel, a part from the Citadel selected to apply the method above. The North-Western part of the Citadel (*Maydan* district) will be a good selection, because it contains most of preserved and remained houses (nearly 20 houses). The orange color units in (figure 14)

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represent the preserved house, light green refers to *Hassan Pakiz* Mosque, and dark green unit refers to the tomb of Seljuk princess "*Baghda Ay Hatun*" which is known as the "*Gok Kunbet*" between the people and finally the red unit represents the old bazar "*Kilchiler Bazar*". The other houses and building are not remained during the 1997 demolishing's as mentioned above. The remaining and preserved houses and monuments are in very bad conditions, some of the houses are only ruins, lost many of its architectural characters, and the restoration of them is needed urgently. Neither documentation nor data were taken for the Citadel before the demolition took place, only a general plan which contains simply the building units and the alleys formed between them (see figure 14). So the restoration of the ruined houses must depend on architectural character of preserved and documented houses of traditional Kirkuk houses. In the bellow figure 13, the lost items of the parapet, handrail and other ornaments are regained depending on the traces existed in the site and the similar examples of the traditional Kirkuk houses, not forgetting the eye witnesses from the old people which were used to live in the Citadel.

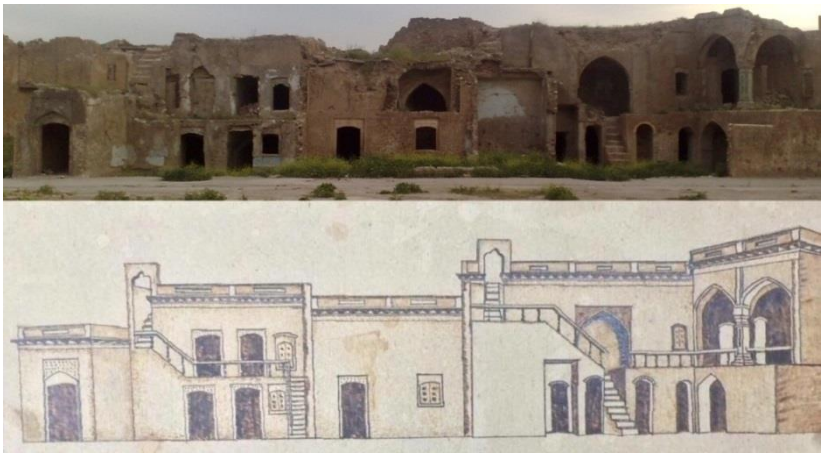

Figure 13. The restoration of four neighboring houses in Maydan district, elevation (the author).

After projecting the outline of the demolished houses and the vanished alleys in the current situation plan of "*Maydan*" district (see figure 14), it's clear how the old fabric and the sense of place disappeared, only single buildings almost like the Seljuk outside cities' Kervansarays, the organic structure of the old district nearly or maybe completely disappeared.

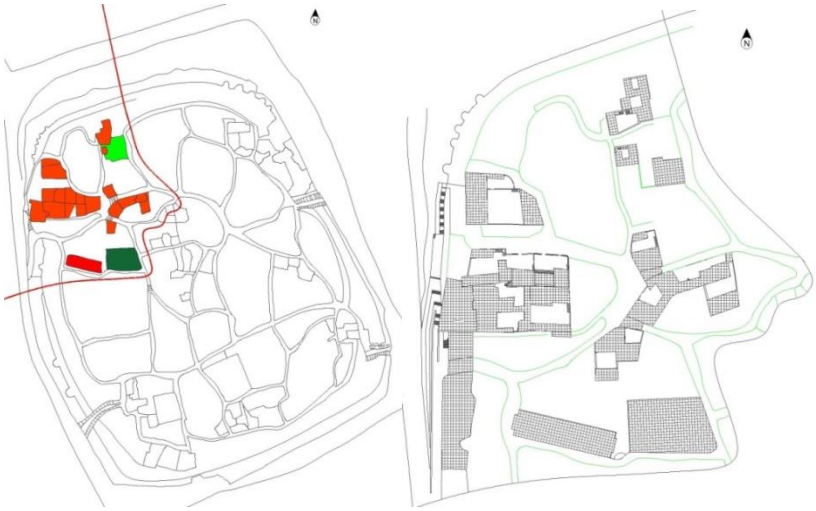

Figure 14. from left Citadel General Plan (Archological directorate) edited. From right the site plan of "Maydan" district (the author).

In order to regain the original sense of enclosure and the organic structure of the urban fabric of the Citadel, adding new structure to the scene will be inevitable. The new structured buildings will follow the original characteristics of Kirkuk Citadel which explained briefly above in the Kirkuk Citadel Characteristics section. The new structure will follow the path of the alleys that is documented and projected on the general plan, as well as the allocation of the building units around the alleys (see figure 15). The plan characteristics of the "*Buyuk Ev*", the courtyard and its entrance "*Taq Alti*" and other characteristics will be the guideline for the designing of the new plans. Building materials will be stone and the local traditional gypsum which is called "*Nura*". These new additions will host for as much as possible the services' parts of the new functions to minimize the possible damages on the original buildings from reusing it. *Maydan* district is the farthest part of the Citadel from the commercial area and it has its own gate which called "*Top Kapi*", so these factors make it the best place to host cultural, recreational and touristic functions. New functions like ethnic museums, small library with reading areas, educational hall (Hassan Pakiz Mosque), recreational house for kids, small boutique hotels and a gallery (*Kilchiler Bazar*) will be the proposed functions for the original buildings. Multipurpose hall, recreational area, outdoor, small café, museum administration and services, and finally a traditional institution will be the functions of the new structured buildings. The new functions were created to arise awareness of the importance of heritage between kids and the younger generation and to provide institutions that teach the younger generations the traditional craftsmanship and to protect it from loss. These functions will also bring people from the west side of the Citadel which used to be a very low density area. The other parts of the Citadel are recommended mostly for commercial functions.

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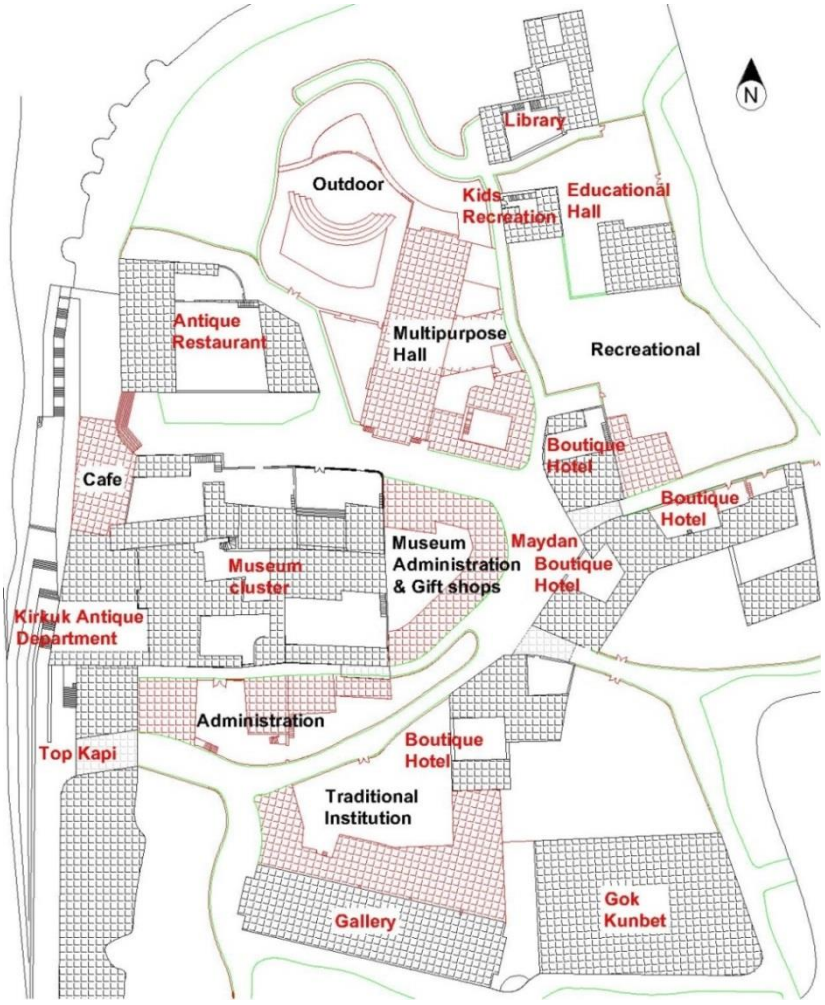

Figure 15. New functions for the original and new added buildings (the author).

Taking into account the variability of requirements, the action must be rigorous in historical constructions, mistakes should not be experienced. Every decision should not be gainful, especially in the context of monumental structures.

CONCLUSIONS

Old buildings become unsuitable for their designed requirements, as development in technology, politics and economics moves faster than the built environment; adaptive reuse comes in as a sustainable option for the reclamation of sites. Citadels are considered the historical monuments and landmarks that the cities are known by, as in Aleppo, Kirkuk and Erbil Citadels. The Citadels in these kinds of cities hedged the old city during the ancient times and until the late Middle Ages, these cities grew form inside the citadels in different directions around the citadels. The shape of citadel, the nature of the land use within it and the axes came out from it determines the city's growth. A suitable approach for Kirkuk Citadel must link it with surrounding neighbors and the city as a whole, by pedestrian axes and new functions that will attract the society and tourists to the Citadel.

The absence of the historical urban fabric of Citadel may lead to persistent need for reconstruction, in order to regain the original sense of enclosure within the neighborhood of the Citadel. Due to the small sizes of spaces within the original buildings of Citadel it can't satisfy a cinema activity for example, but it can be boutique hotels, small shops or maybe special museums, some Mosques can reuse as a schools with others maintain its same religious functions. Activities like cinema, outdoor or indoor stages, services etc. can be located within the new constructions.

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Resume

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