A+ArchDesign

Istanbul Aydın University
International Journal of Architecture and Design
Year: **6** Issue **1 - 2020 June**

İstanbul Aydın Üniversitesi
Mimarlık ve Tasarım Dergisi
Yıl: **6** Sayı **1 - 2020 Haziran**

Genel DOI: 10.17932/IAU.ARCH.2015.017

Cilt 6 Sayı 1 DOI: 10.17932/IAU.ARCH.2015.017/2020.601

A+ArchDesign

ISSN: 2149-5904

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Language - Dil
English

Publication Period - Yayın Periyodu
Published twice a year - *Yılda İki Kez Yayınlanır*
June - December / *Haziran - Aralık*

Year: 6 Number: 1 - 2020 / *Yıl: 6 Sayı: 1- 2020*

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Printed by - Baskı
Şan Ofset Matbaacılık
Adres: Hamidiye Mah. Anadolu Cad. No:50 Kağıthane - İstanbul
Tel: 0(212) 289 24 24
Faks: 0(212) 289 07 87

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Assoc. Prof. Dr. Ayşe Sirel

Capitalism and The Transformation of Social Practices in Space: The Example of Edirne Alipaşa Bazaar and Margi Shopping Center


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Received: 15.03.2020
Accepted: 29.05.2020

Abstract: *The social change that accompanies modernization and capitalism has also brought about spatial change. In order to maintain the profitability of the capital, it has used the space as an infrastructure. For this purpose, the capital has invested in cities with the remaining amount from the labor force. The abstract qualification of the place has influenced social practices and has become a practice of increasing quantitative values. Bourdieu's habitus describes the process by which the practices of the social system are formed. The practices of the capitalist system have changed the urban space to develop the capital. Consumption society has realized its practices through image spaces in this city which is transformed with capital. In this work, the reproduction of the space and how social practices are realized in different places have been examined theoretically and by observation. Edirne's urban development has advanced in the direction of increasing profitability, and the historical city center is behind this purpose. For this reason, Alipaşa Bazaar has not been able to provide the services provided by Margi Shopping Center and has been unable to respond to everyday needs. This has affected the historical continuity of urban life and compared it with the danger of identity loss. The city center has shifted towards attraction areas like the Margi Shopping Center and has lost its historical core vitality.*

Keywords: *Capitalism, space, social practices, consumption*

Kapitalizm ve Mekânda Toplumsal Pratiklerin Dönüşümü: Edirne Alipaşa Çarşısı ve Margi Alışveriş Merkezi Örneği

Özet: *Modernleşme ve kapitalizmle birlikte gelen toplumsal değişme mekânsal değişmeyi de beraberinde getirmiştir. Sermaye kârlılığını devam ettirmek için mekânı altyapısal olarak kullanmıştır. Bu amaçla sermaye emek gücünden arta kalan miktar ile kentlere yatırım yapmıştır. Mekânın soyut nitelik kazanması toplumsal pratikleri etkilemiş, niceliksel değerlerin artması yönünde pratikleri dönüştürmüştür. Bourdieu'nun öne sürdüğü habituslar toplumsal sistemde pratiklerin oluşma sürecini açıklamıştır. Kapitalist sistemin pratikleri sermayenin gelişmesi yönünde kent mekânını değiştirmiştir. Tüketim toplumu sermaye ile dönüşen kentte görüntü mekânları aracılığıyla pratiklerini gerçekleştirmiştir. Bu çalışmada, mekânın yeniden üretimi, toplumsal pratiklerin farklı mekânlarda nasıl gerçekleştiği kuramsal olarak ve gözlem yolu ile incelenmiştir. Edirne'nin kentsel gelişimi karlılığı arttırma yönünde ilerlemiş, tarihi kent merkezi bu amacın gerisinde kalmıştır. Bu nedenle Alipaşa Çarşısı, Margi Alışveriş Merkezi'nin sunduğu hizmetleri sağlayamamış, gündelik ihtiyaçlara cevap veremez olmuştur. Bu durum kent yaşamının tarihsel sürekliliğini etkilemiş, kenti kimlik kaybı tehlikesiyle karşılaştırmıştır. Kent merkezi Margi alışveriş merkezi gibi çekim alanlarına doğru kaymış, tarihi çekirdek canlılığını yitirmiştir.*

Anahtar Kelimeler: *Kapitalizm, mekân, toplumsal pratikler, tüketim*

1. INTRODUCTION

Capitalism, which develops first in England, Northwest Europe and Northeast America, is the rational state of the economic movement. It is the use of technically efficient production tools and scientific management methods instead of inefficient traditional methods.[1] [1] The relationship between money and spatial and temporal practices that develop depending on social issues and are often the result of social struggles has been regulated in the development of capitalism. Time and space are defined by the organization of social practices that lead to commodity production. However, the dynamic power of capital accumulation and the conditions created by the social struggle made this arrangement unstable.[2] [2] For this reason, spatial problems have been experienced in cities, while some places are developing faster, some places have sunk into oblivion. Capital constantly rearranges time and space in order to get rid of situations where social struggles are irregular, and transforms the production of space into commodity production.

Capitalist production made it necessary to build new markets and educate consumers through advertising and media with the scientific developments at the beginning of the 20th century. The same commodity logic and instrumental rationality in the field of production are also established in the field of consumption. Leisure, art and culture have been incorporated into the culture industry, mass produced and incorporated into a commodity culture.[3][3] With the shift of emphasis from production to consumption in capitalism, spaces have developed within the framework of the production of consumption practices. The main characteristics of these spatial organizations are the fact that consumption is controlled in a controlled manner, the credit card is valid instead of cash, most needs can be met from the same place, the items sold can be calculated, the items sold can be calculated, the same product guarantee is given everywhere, the weather and climate conditions do not change, the absence of crime and uncertainty, the presence of a hidden conveyor system.[4] [4] The spatial organizations have reduced the local characteristics of the space, behavioral patterns, traditions, customs and traditions, face-to-face relations, and made communication with people who are not there important through texts. Social structure has therefore expanded in space and time. Objects, codes and symbols have had social meanings.

In order to understand the abstract effect of social structure on space, instead of the concepts of time and space that change perceptions, practices with objective values should be examined. Because although practices are geographically and historically different and constantly change due to the reproduction processes of capitalism, they cause the space to transform objectively.[5][2] In this study, the type of space production of social practices is discussed. With modernization and capitalism, the situation of changing the understanding of space and time to create a consumer society has been examined theoretically. At the same time, the realization of the practices required by the social structure in the shopping spaces is emphasized. Based on this theoretical ground, Alipaşa Bazaar and Margi Shopping Center in Edirne have been compared in terms of consumption practices and spatial organizations. The comparison method revealed that Alipaşa Bazaar is in danger of losing its historical and architectural identity values, and that the historical core of Edirne has lost its importance in terms of settlement. The infrastructural formation of spatial organizations could be evaluated within the framework of the effect of capitalist capital accumulation on urban development.

2. SPACE AND SOCIAL PRACTICES

Space is specified in the architectural dictionary as an emptiness that separates the human being from the environment to a certain extent and enables the activities to be continued.[6][5] However, space is not only a

[1] Bocock, R.,2014, p. 45
[2] Harvey, D., 2012 p. 269
[3] Featherstone, M., 2013 p.40
[4] Yırtıcı, H., 2005 p.79-82
[5] Harvey, D., o.c., 2012 p.230
[6] Hasol, D., 2005 p. 313

limited emptiness but also a social product. Lefebvre divided the formation of social space into three as perceived, designed and lived spaces. The perceived space includes the interaction of the person with his environment, the designed space includes the use of mental processes, and the living space includes the complexities in daily life and the formation of culture.[7][6] In other words, social space is formed due to the perception of the society, the spatial organizations in which practices are produced and the changes experienced during the realization of these practices in the space. In this study, the issue of creating social practices by the space in the process of human inclusion in a certain social environment and the physical transformations it undergoes in this process are emphasized.

The human body naturally reproduces space, just as a spider forms its web. While the space gains the direction of movement with the body, it leaves the abstract quality and has a concrete quality and moves from the mental to the social. The movement of the body produces spaces specific to each practice.[8] [6] The original practices produced come together in the space and form the social space. The systems that regulate the movement of the body are called habituses. These systems are the tendencies that occur in the body in social life. Our practices are the product of our habitus. Habitus are original and creative because they are in the body, so the actions they produce are also unique. People with similar habitus perform similar practices and actions.[9] [7] The practices that habituses produce in this way enable the perception of space by living with the movement of the body. The formation and continuity of the space take place through practices. Space is integrated with the concept of time by means of the body and is affected by the characteristics of time. Changing practices in the body over time also reproduce habitus. Habituses constitute the social structure through the practical logic they produce. In this formation process, the environment and society take shape and the sources of information used in daily life are re-formed. The renewed sources of information determine social groups, class distinctions, identity achievements and behaviors.[10][8] Social structures exist in concrete form as practices, not abstract in space. If social structures are not reproduced by practical logic, the movements of the body are limited, social sameness occurs, and the features peculiar to the place disappear. When the body is limited in space, it resists against it and tries to regain a social character by changing the existing order. The effects against social practices in space are interventions to the body.

The concept of modernization, which we use to mean the development of social life, has made life dependent on the land dependent on the cities with capitalism, which is an economic system that regulates production and consumption relations. Capital concentrated on the regions it wanted and established new economy-based geographies. The increase in capital and the change in production methods caused crisis and chaos, in which case the space was rearranged. The fact that the labor force is out of the workers' control and can be exchanged has increased the migration to the cities. Production is no longer intended for need, but for circulation under market conditions.[11][4] The fact that life dependent on the land has become dependent on the cities has concentrated the capitalist space in the cities. Social organization and coexistence have been realized by organizing practices in cities. Capital has changed and transformed the capitalist space, causing a change in practices.

The rapid production of the space together with the land has weakened the social aspect of the space. The space, whose social aspect has weakened, has been produced with Cartesian thought and has become an object separate from the subject. The space formed in this way did not have a certain direction, the space lost its harmony with the body.[12][6] Priority has been given to the practices of capitalism over the nature of

[7] Lefebvre, H., 2014, p.69
[8] Lefebvre, H., 2014, o.c., p. 189-191
[9] Bourdieu, P., Wacquant, L., 2014, p. 116-122
[10] Çeğin, G., Göker, E., Arlı, A., Tatlıcan, Ü., 2014, p. 314-316
[11] Yırtıcı, H., 2005, o.c., p. 77
[12] Lefebvre, H., 2014, o.c., p. 215

the body in space. When discriminations such as class, race and gender occurred, the body was negatively affected by this situation and reproduced itself to adapt to the situation. Practices have developed against the forces of socialization, discipline and punishment. Generalizations about practices should be made to understand the resistance to these forces[13] [2] In order to make the spatial evaluation of the contemporary capitalist society, the social structuring and the social values established on it should be examined first. In order to reveal the mobility of capitalism in space, practices should be examined and their relations with space should be evaluated. In order to preserve the existence of spatial differences, capital must find its place in the global flow. In a system determined by the consumption ideology by the capitalist economy, the practices produced by the habitus reflected in the act of consumption as a circulation value should be applied to the space.

3. CHANGE OF SPACE-TIME UNDERSTANDING

In tribal societies and societies divided into classes, the routinization of daily life and social life consisting of regular practices are regulated by tradition. The disappearance of the ongoing influence of tradition in post-medieval Europe is the result of many different factors. However, the transformations in labor and property, which took concrete form in the formation of capitalist urbanization, caused the radical loss of the power of tradition, which is the main source of the routinization of daily life. With the development of urbanization and capitalism, the concept of community has disappeared, the concept of mass society has emerged, and this concept has become integrated with the concept of industrial society.[14][9] The forms of organization in the mass society, together with capitalism and modernization, have created new space-time conceptions. It has been re-established and organized with time and space control mechanisms. Social practices have also transformed by being affected by this process.

The disappearance of tradition occurred through three transformations. The first of these is the transformation and commodification of labor into labor force as a means of surplus value. In this way, there was a loss of control over labor time and the products of labor, and the meaning of labor was weakened. Peasant labor was a natural component of broad community practices, and workers had a close and knowledgeable relationship with nature[15] [9] When labor is divided into concrete and abstract labor, these values are united in the exchange process. Here the money-commodity relationship has come to light, people in the market are defined as buyers of things. Money has become the measure of value and a means of circulation. In traditional societies relations were in the form of commodity-money-commodity, this circulation shifted with capitalism to the circulation of money-commodity-money + surplus value (profit). Labor power could be bought and sold in the market and therefore used to generate surplus value.[16][10] The quantification and commodification of time have increased the control of class processes over the production process. For these reasons, the link between labor and the products of labor has been weakened. Social practices in space have transformed from task oriented to time oriented. Changing social relations have begun to move from rural to urban areas, social relations in the city have been realized with the help of roles and different statuses have emerged.

The second important transformation is the transformation of the temporal and spatial routes of the day. Work, leisure and leisure time are cut off from social activities. Time has been created, objectified in the sense of being detached from the practices of social life. This situation increased the effect of capitalist control and created the distinction between public and private spheres, and home-work place. People's bond with where they live has been weakened. In short, space and time are arranged for actions that will serve the capitalist system. The third transformation is the commodification of urban land into created space, that is, the daily residence of the majority of the population. The created space is far from being in relation to

[13] Harvey, D., 2012, o.c., p. 230-239
[14] Giddens, A., 2000, p.164-166
[15] Giddens, A., 2000, o.c., p.164-166
[16] Harvey, D., 2015, p.124-125

nature. Capitalism has produced the boring physical environments in which urban life is maintained with architectural functionalism. The moral bindingness of traditional practices has been replaced by habits based on economic difficulties.[17][9] The land was owned and administered by the profit-seeking class. The value of objects and soil has constantly changed according to market conditions, and their qualitative values have been pushed to the background. Attachment to objects and land has disappeared, and they can move dynamically in the market. In this way, the place can now be purchased ready-made, and its quantitative value has been affected by market conditions. The quantitative value gained by the space has caused it to be produced quickly and designed to respond to different functions in order to keep up with this change.

It has been possible to seek profit by changing the use and definition of space and time. The material exchange of commodities has required displacement and spatial movement. Every complex production system required the organization of space. Overcoming spatial barriers took time and money. Therefore, the efficiency of spatial organization and movement has become an important problem for all capitalists. Effective spatial organization has affected the socially required turnover time.[18][2] Abstract relations in cities have become concrete with the organization of space, and social patterns become objectified with space. The capitalist system has transformed the space into infrastructure to maximize its profits, eliminating differences. In this way, different geographies have been connected to each other in a similar time-space understanding and the global economic system has been formed. The social world consists of four-dimensional time-space entities that are interdependent and mutually changing in temporal-spatial terms. Marx argued that the development of capitalist relations has the effect of overcoming all spatial barriers, and therefore space is destroyed by time. Spatial organizations are essential to overcome space.[19] [11] Spatial organizations can be reconstructed by the quantification of space and time. The spatial organization of capitalism has ensured domination over space and time, increased profitability and weakened the bond with place. For example, factories have forced workers to break from their own rhythms and work in accordance with the rhythm of the factory.

Modernity, which expresses the change in social life and organization forms, separated time from space by time zones, detached social activities from their localized contexts and rearranged them in developed space-time distances. At the same time, it produced systematic knowledge of social life, and this situation made social life a part of reproduction by moving away from the invariability of tradition.[20][12] Modernity has been associated with the four great revolutions. The first is that in daily life, the laws of nature apply instead of the rules of God. The laws are based on a cause effect relationship. Second, with the political revolution, the source of power has been the people, not god. Mind came to the fore in the administration and democracy was adopted. Third, with the cultural revolution, social relations and thought system became secular. Fourth, with the industrial revolution, vehicles have become technological and nature has been taken under control. In this way, the production of the material world has increased, people have acquired the objects ready.[21] [4]With these revolutions, freedom and social welfare have increased, social practices have constantly renewed, new situations and new knowledge have emerged. With these changes, cities have also changed, new residential areas and new centers have emerged. Space and time have been reorganized in cities. The freedom and progress understanding of modernity has been reached with the practices of capitalism. Capitalism has invested in places by transforming surplus value into capital, capital has grown continuously, social relations have created new spatial arrangements.

The concentration of capital, the spatial concentration of production tools, management units and workforce have led to the concentration of consumption tools they need. At the same time, the increasing dependency

[17] Giddens, A., 2000, o.c., p.167-198
[18] Harvey, D., 2012, o.c., p.258-262
[19] Urry, J., 2015, p.109
[20] Giddens, A., 2014, p.57
[21] Yırtıcı, H., 2005, o.c., p. 24-25

between production and management units has prevented the being up and running of the economic process. These processes have led to the formation of large urban structures. The role of the labor force in the production has expanded with technological developments. The dependency between technical and economic units required the workforce to work more programmatically. Therefore, the skills of the workforce had to be increased. The increasing importance of the labor force has equally increased the role of common consumption tools and public resources and services. Services such as housing, school, kindergarten, nursing home, health, culture, transportation have become obligatory in terms of the needs of the urban structure and production process.[22] [13] Space has become a part of social organization, not a natural state and an ontological area of existence as in the classical understanding. For this reason, many different disciplines come together while creating space within the capitalist system. Mass culture should also be well understood, as production takes place in mass. Material life and human lives should be examined in order to watch the transformation of the space.

Events and processes have become increasingly interdependent in the organization of capitalist labor and time. Everything depends on developments elsewhere. Ephemerality is important. There is shortevity in products, fashions, ideas, values, technologies and the like. Immediate and disposal are emphasized. Not only in material things, but also in values, lifestyles, relationships, and attachment to place, all were easily discarded. Short-term, indicators and images are important. A worldwide industry has produced and marketed images not only for products but also for people, governments and the like.[23][11] Social change took place rapidly in space and time, by means of impermanence, instantness, and short-term. The abstract quality of space and time has created new conceptions of time and space, and social relations have begun to take place in abstract space systems. With communication and information technologies, spatial places have turned into flows. Production and consumption are no longer dependent on a specific location, global markets have emerged.

Globalization and localization trends combined with image spaces. The accumulation was organized in different ways, and new commercial integration and fragmentation occurred. Image spaces have increased the dominance of images, the image industry has influenced and colonized the psychic world. In this world where images dominate, people have had difficulties in positioning themselves, and people's creation of culture has been taken under control.[24] [14] The texts have defined new spatial uses by ensuring the control in the space. Face-to-face interaction has decreased in modern spaces with texts. The texts showed the existence of people who were not there and formed an important source of information. Social systems have expanded by interacting with people who are not there through texts. The expansion of social systems and the realization of social change required movement in time and space. Western industrial capitalism has spread around the world using space. Spatial organizations where this spread occurs the fastest, the relationship of the space with the place is weakened, the impermanence and short-life are emphasized, the images take place and the consumption becomes the first-degree important spatial organizations have been airports, ports, highway systems and shopping centers.

4. THE FORMATION OF SOCIAL PRACTICES IN SHOPPING SPACES AND THE CONSUMPTION SOCIETY

In general, shopping is the purchase of some product for a certain price. However, the phenomenon of shopping is a form of behavior in which social communication and interaction are effective beyond the exchange of products for money. For this reason, shopping spaces in history have added vitality to city life.[25] [15] Agoras in ancient cities and squares in medieval cities constituted the most important shopping spaces of the cities. In these places, shopping activity has included urban functions such as gathering for

[22] Castells, M., 2014, p. 256-258
[23] Urry, J. 2015, p.263- 264
[24] Morley, D., Robins, K., 2011, p. 52-67
[25] Vural, T., 2005, p.115

various purposes and social communication with other citizens. The urban space and the shopping area are intertwined. The shopping space was at the core of the city and formed a multifunctional public space.[26] [16]

Small craft production in pre-industrial societies was one of the society's main sources of income. The products used by the low-income groups were produced in the small shops and houses of the craftsmen in the market area and sold at low prices. The products used by the low-income groups were produced in the small shops and houses of the craftsmen in the market area and sold at low prices. The goods of nobles and courtiers were produced by masters and sold to privileged people at high prices. While low-priced products are available in almost every city, marketing of products that require specialization has been sold in a small number of cities. For example, special glass production in Venice, production of silk fabrics in Bursa. These products were sold in trade centers on historical trade routes. Ottoman cities generally developed around the market area. The bazaar area consists of one or more streets lined with inns, covered bazaars and workshops. Inns have been used by craftsmen, merchants and travelers for accommodation and trade. Bedestens, on the other hand, are the centers of the settled and traveling merchants.[27][15]

Between the 16th and 19th centuries, the trade center was transformed due to the changes in social and economic relations within the Ottoman urban system. Craft activities have shifted to trade events. The area covered by the bazaar has expanded. Building density and activities in buildings have increased. The functions realized in building types are concentrated. While the craft preserved its old structure, trade grew. [17] As the 1800s approached, with the industrialization developing in Europe, intense migration to cities started. With this migration, a large amount of food needs arose, so small market areas were insufficient. From the beginning of the 1700s, products such as fruits, vegetables and fish began to be sold in locations far from the city centers, with large closed market areas. These market areas that emerged in the 18th century were the first examples of large shopping centers. After the industrial revolution, the historical trade routes declined in importance and accommodation activity in trade centers gave way to sales activity. In this period, as a result of rapid urbanization, consumer needs and consumer products diversified and these products started to be sold in newly formed passages. Beyond being a place of trade, the arcades have become places where modern urban life has flourished.[28] [15]

Until the 18th century, city life, which was generally under the rule of a dominant political authority, has undergone various changes with the effects of capitalism. These effects have occurred as a result of industrialization and globalization processes. The newly formed city is an industrial city and a commercial center. Administrative and religious functions have lost their importance. Urban space is wider than the pre-industrial city. The roads have widened, the structures have risen. Privatization in urban land use has increased. There has been a distinction between residence and workplace. Urban recreation areas have increased.[29] [18] With the increase of technology and industrialization in the 19th century, Taylorism, the production system based on the division of labor over the machine, gave way to the Fordist mode of production. Fordism has preserved old technologies in the field of labor process, and increases in productivity have been achieved by shifting work to the unmoving worker. Using the assembly line, workers do one thing in one move. Uneducated labor force could be used. Standard product output was obtained, and a large number of products were produced from the same product and sales were made at low prices.[30][4]

With the systematization of production and the introduction of machinery, products began to be produced

[26] Birol, G., 2005, p.422
[27] Vural, T., 2005, o.c., p. 120-123
[28] Vural, T., 2005, o.c., p. 124-126
[29] Gemici, E., 2007 p.8-9
[30] Yırtıcı, H., 2005, o.c., p.42

faster and in greater quantities than those produced by craftsmanship in pre-industrial times. An understanding similar to the systematization of production in factories has to be applied to the marketing of products in shopping areas. It is no longer meaningful to sell identical products at different prices in different stores and to bargain for them. Therefore, there was a need for shopping spaces and large stores where new market strategies were developed and implemented. Large stores first appeared in 1852. In these venues, the profit rate is low, the sales volume is wide, the prices of the goods are fixed and clearly stated. In these venues, the profit rate is low, the sales volume is wide, the prices of the goods are fixed and clearly stated. Everyone can enter these stores and look around. Products started to be displayed with goods that support each other or stand out, and consumers were interested not only in the products they needed but also in different types of products.[31] [15]

In the period after the Second World War, restructuring occurred in Europe, along with the physical structure, the cultural structure also changed. In the pre-industrial period, cities had housing, small craft and trade in their centers, but today they have been divided into different activity areas as a result of industrialization, the development of motorized transportation vehicles and economic developments. Therefore, instead of concentrating around a single center, cities have turned into units where different sub-centers come together.[32] [19] New shopping areas called supermarkets have emerged to meet the needs of residents outside the city. Baudrillard likened hypermarkets to an assembly plant. The difference of hypermarkets from assembly plants is that employees wander from one part of the space to another rather than walking around in successive stages. Consumers come here whenever they want, choose and buy. But this hyperreality has a hidden mounting band behind it.[33][20]

The existence of the Fordist mode of production depends on the existence of standard consumption patterns on the one hand, and the existence of broad and stable markets on the other. Markets should be large enough to allow for the sale of standard goods and be stable enough for a large investment to redeem. Consumption amount is important in a production style dependent on these conditions. Production costs must be minimized constantly. With the end of the 60s, the standard consumption patterns of the society began to change, and consumer demands have diversified and gained a constant change depending on the increasing level of welfare. "Flexible accumulation", which is defined as the dominant production practice today, is structured within the newly developing consumption relations. Diversity, the ability to respond instantly to changing requests, even constantly creating new needs, desires, and providing a production organization suitable for the continuous change and diversification brought with it have become structural relations that form flexible accumulation.[34][4] The increase in consumption relations and at the same time the decrease in the pedestrian density in the contemporary city space and the fact that these places become a central business area consisting of streets and multi-storey buildings completely devoted to vehicle traffic have created an environment for the recreation of this space within the building. The most important representative of this situation is the modern shopping center. For the first time in America, Victor Gruen stated that social requirements, as well as physical requirements, will be met in an urban environment that is safe, protected, air-conditioned, isolated from vehicle traffic and designed the Northland Shopping Center.[35][16]

The shopping center phenomenon in the United States can be explained in the context of the fundamental changes that occur in the organization of the social sphere that affects urban life. These are summed up by the concept of reducing density, that is, spreading the population and economic activities across the metropolitan area. This process requires the restructuring of the central city and the surrounding

[31] Vural, T., 2005, o.c., p. 127-129
[32] Vural, T., 2009, p.148
[33] Baudrillard, J., 1998, p.98
[34] Yırtıcı, H., 2005, o.c., p.100-101
[35] Birol, G., 2005, o.c., p.423

metropolitan region in accordance with the new logic of global capitalism and the abandonment of industrialization in developed economies. The result of the changes in the social sphere since the 1970s has been a new settlement model -multi-centered metropolitan area- in terms of quality. The economic structure has been articulated with units that gain independence from a center and the need for coexistence, and are separated from the centralization that is becoming more and more specialized every day. Thus, chain stores, factories, bank offices, McDonalds type fast food restaurants, mass meeting places are all built on the larger areas of the growing metropolitan area.[36][21] Modern stores and shopping centers have increased repeatedly in many different regions. The sameness that took place in this way was reflected in the social life in the city. Capitalism has organized the practices that take place in the city in line with its own needs, the practices of the system have dominated the social life.

The fundamental problem of contemporary capitalism is no longer the contradiction between the maximization of profit and the rationalization of production, but between the necessity of placing and selling products produced with potentially unlimited productivity (at the level of technology). At this stage, it has become vital for the system to control not only the production device, but also the consumption demand, not only the prices, but also what will be demanded at this price. It is a natural feature of the system that the individual's behaviors adapt to the market and, in general, social attitudes adapt to the needs of the producer and the goals of the techno-structure. Contrary to the previous one, it is the producer firm that controls the market movements, manages and models the needs with social behaviors, that is, the production order.[37][22] Therefore, consumption has developed depending on the production order. For the continuity of the production order, consumption practices are designed in the space and implemented with guidance. The guidance provided by the texts minimizes the seller-customer relationship, suggesting that it provides freedom to the person. This freedom is realized in the form of an illusion, as practices are predetermined. However, consumption is also a system that ensures the regulation of indicators and the integration of the group. Therefore, consumption is both a moral and a communication system, a structure of exchange. Pleasure defines autonomous and finite consumption. However, consumption is never that. When the pleasure is consumed, it is never consumed alone, it is entered into a system of widespread exchange and coded production values in which all consumers are mutually included in spite of themselves. In this sense, consumption is a signification order like language or kinship system in primitive societies[38][22] Common characteristics of airports, ports, highway systems and shopping centers where consumption action takes place and is connected to the production system are efficiency, calculability, predictability and control.[39] [23]

1. Efficiency is the selection of the optimum method for a purpose. It would be inefficient for people to discover the best tools for their purposes on their own every time. Internal rules and regulations also ensure high efficiency. Large stores with all kinds of products are more efficient than shopping at a number of specialty stores spread across the city or suburbs. The use of credit cards has increased efficiency.
2. Computability emphasizes what can be calculated, counted, quantified. Quantity has begun to replace quality. Computability and processing speed will be higher. The quantified products and processes become more predictable because the same material is required everywhere.
3. Predictability allows people to know in advance what they will encounter in a rationalized society. Those wandering in the mall are away from criminal acts and bad weather conditions that can disturb them in the city streets. In the mall, children can play safely in the playground.
4. Increased control and unmanned technologies have begun to replace humans. Inspection is carried out not only with machinery and tools, but also with materials, skills, knowledge, rules and regulations, processes and techniques. The robot, computer and assembly line inspect the visible,

[36] Gottdiener, M., 2005, p.121-124
[37] Baudrillard, J., 2013, p.75
[38] Baudrillard, J., 2013, o.c., p.84-87
[39] Ritzer, G., 2014 p. 73-191

> while bureaucratic rules, handbooks explaining the procedures and techniques adopted, also inspect the less obvious. This way, people no longer cause uncertainty or unpredictability, because they are no longer directly involved in the process.

All these criteria that constitute the space have destroyed the memory for the use of the space by pushing the local features, behavioral patterns, traditions, customs that are effective in the formation of the space. The determination of space by social consensus has disappeared. These criteria produced for the realization of the capitalist system have had a say in the use of space. The design methods of consumption spaces could not be explained with traditional space concepts. These concepts transformed into new concepts with the process that started with the transformation of the space by capital, and new spatial arrangements occurred. These concepts explained that the relationship of space with the place disappeared, the quantified space repeats in every geography, the size of the space increased and became independent of its qualities, the relationship between function and form was reduced to the shell and the bond between inside and outside was cut, the space reduced to the infrastructure is detachable and adaptable to changing market conditions, and the location of the product groups in the space is arranged according to marketing strategies within the services. At the same time, he stated that the users of the space became consumers, the experience and memory in the space were destroyed, the use of the space was given by texts and showcases instead of them, the use of space was given to consumers by means of the hidden assembly line and labor power was saved, the capital increased its profits by making arrangements of time and place with demonstrations, that every enterprise that takes place in the space has a quantitative value and that the hyperreal environments created create illusions of abundance and need.[40] [4]

The aforementioned common features of consumption places have created social practices and these practices have taken place in spaces. Practices have made shopping faster, easier, more efficient and safer. Practices and factors generating practices are specified in the table below. (Table 1) Consumption practices are realized by the organization of the space of the consumption society, which is formed by the rationalization of consumption tools after the means of production. Practices in the spaces are conveyed through face-to-face interaction or written communication with those who are not there. In this way, the ideology of the social structure is formed through spaces. The desire for holistic welfare is provided with small satisfaction, and the complexities and conflicts that may occur are prevented. In this way, the society is taken under control more easily, and the practices organized direct the society.

[40] Yırtıcı, H., 2005, o.c, p. 111-151

Table 1. Efficiency, calculability, predictability and control principles lead to social practices

Principles	**Systems**	**Changing Spatial Concepts**	**Social Practices**
Efficiency	Connecting shopping centers to the highway system	Context/Field	Accessibility and parking
		Context/Field	Having an urban function
		Scale/Size	Being able to define the space from outside
	Credit card valid instead of cash	Quality/Quantity	Safe shopping
	Meeting all needs from the same place	Incident/Demonstration	Responding to consumption demands
		Incident/Demonstration	Being able to appeal to the customer
		Experience/Text	To be able to freely act of consumption
		Space/Infrastructure	Ability to increase consumption
		Function/Service	To be able to describe the products separately
		Scale/Size	Ability to move around in the store
		Scale/Size	Ability to move horizontally and vertically
		Scale/Size	Providing an attractive and spectacular space
		Function/Service	Socialization
		Function/Service	Ability to engage in activities other than shopping
Computability	Quantification of objects	Quality/Quantity	Safe shopping
Predictability	Finding the same quality everywhere	Quality/Quantity	Safe shopping
	Control of weather and climatic conditions	Form/Shell	Shopping in all seasonal conditions
	No crime and uncertainty	Incident/Demonstration	Safe shopping
Control	Hidden conveyor system	Usage/Assembly Line	Safe shopping
	Eliminating the error with the computer	Incident/Demonstration	
	Controlling the flow of goods	Quality/Quantity	

5. TRANSFORMATION OF SHOPPING SPACES IN EDIRNE

Edirne was founded as a city with strong defense, on the banks of the Tunca River during the Roman Empire, at the junction of the roads leading into the Balkan. Due to its location, its trade was developed and it was the capital of the Ottoman Empire. Land and river transportation has made Edirne a trading center. Its commercial, cultural, artistic and architectural features come to the fore. Industry in Edirne started to

develop especially during the II. Murat period. Since it is on the Silk Road, it has become a large business center. This situation led to the construction of large caravansaries and inns.[41][24]

Trade relations took place with Romania and Hungary in the 16th and 17th centuries. Edirne has become a city that mediated between the Mediterranean and the Danube. Among the goods that came to Edirne in the 18th century, the most important ones were the woolen fabric types known as London. Edirne sold wool, buffalo leather, silk and wax in return for this foreign purchase. After the proclamation of the Republic, trade in Edirne continued mainly in agriculture. Sunflower, sugar beet, wheat, rice, milk and dairy products are processed in factories and alms in the region. Industrial products such as textiles and apparel have been produced after the 1970s. Since 2000, with the Pazarkule border gate being kept open, there have been important developments in shuttle trade, excursion tourists have started to shop.[42][25]

Although agricultural activities are predominant in Edirne, it has been the stopping point of trade between European countries and Anatolia due to its geographical location. In addition to the local people of Edirne, those coming from Balkan countries and those who want to go to Europe from the vicinity of Istanbul used the shopping areas. This situation has contributed to the development of tourism in Edirne, which has historical characteristics. Within the scope of the study, the variation of the shopping action according to the space was examined by comparing Alipaşa Bazaar and Margi Shopping Center. This analysis revealed the effects of urban development on social practices.

In the study, the first example given to shopping spaces in Edirne is Alipaşa Bazaar. Alipaşa Bazaar was built in 1561 by Hersekli Alipaşa by Mimar Sinan in order to gather the merchants who sell precious goods under a single roof. There are 130 shops and 6 gates in the bazaar. The length of the bazaar is 300 meters. Shops are lined around a large closed street from the Balıkpazarı gate to the İğneciler gate. In the Ottoman period, needle makers, coppersmiths, blacksmiths, cotton dealers, fishermen, painters, halvacists bazaar was located here.[43][24] The Bazaar is located in the city center of Edirne, at the intersection of Talatpaşa Street and Saraçlar Street (Figure 1). The urban texture has developed in a way to highlight the covered bazaars, mosques and bazaar. The bazaar has defined the transition axis at the core of the city. The shopping activity that takes place here is in a dialectical relationship with the urban space. The bazaar is compatible with the human scale and other buildings on the street. The gates of the bazaar connect with the streets where trade is located, and the urban life in the streets flows seamlessly in the bazaar (Figure 2).

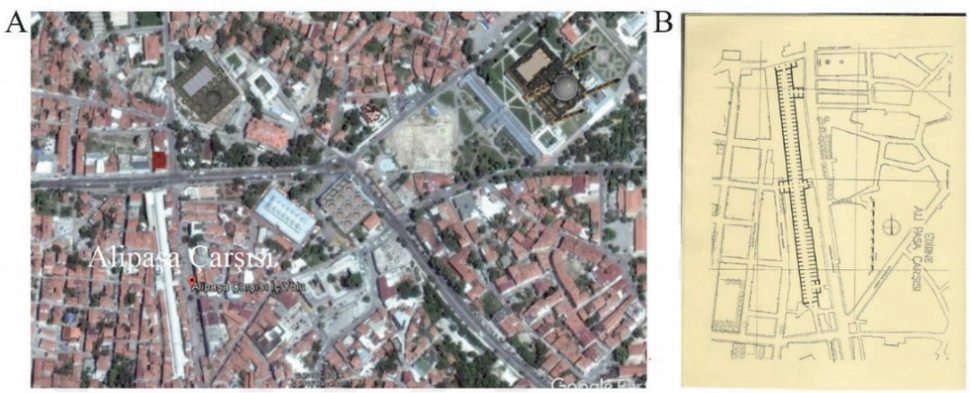

Figure 1. Alipaşa Bazaar Location; (A) Alipaşa Bazaar Aerial Photograph [26]; (B) Alipaşa Bazaar Plan[44] [27]

[41] Edirne Ticaret ve Sanayi Odası Rehberi, 1985, p. 36-38
[42] Sönmez, Ö. A., 2011, p. 63-64
[43] Edirne Ticaret ve Sanayi Odası Rehberi, 1985, p. 47-50
[44] Özdeş, G., 1988, p.24-25

Figure 2. Alipaşa Bazaar Views; (A) Alipaşa Bazaar Gate [28] (B) Alipaşa Bazaar Interior [28]

Another example of the study is the Margi Shopping Center. This place is located in the newly developing city center of Edirne, between Talatpaşa Street, which is the Istanbul D100 highway, and Alamut Street (Figure 3). It was established on a total area of 30.000 m2. This region is located in Edirne's development axis in the direction of Istanbul. In order to have commercial potential, the new dense urban axis, dense residential area, industrial zone, university district were chosen as the location for Margi shopping center. Margi defined closed and open spaces according to its surroundings, and created his own square, streets and social spaces (Figure 4). Therefore, it has created a tension with the city center. The center it created has an artificial character that was later edited (Figure 5). The square, which will give the impression of an open-air bazaar or a district market, has been planned with an understanding reminiscent of the dynamic structure of the city center with cafes and restaurants with open seating areas.

Figure 3. Margi Shopping Mall Location; (A) Margi Shopping Mall Aerial Photo [26] (B) Margi Shopping Mall Exterior View [28]

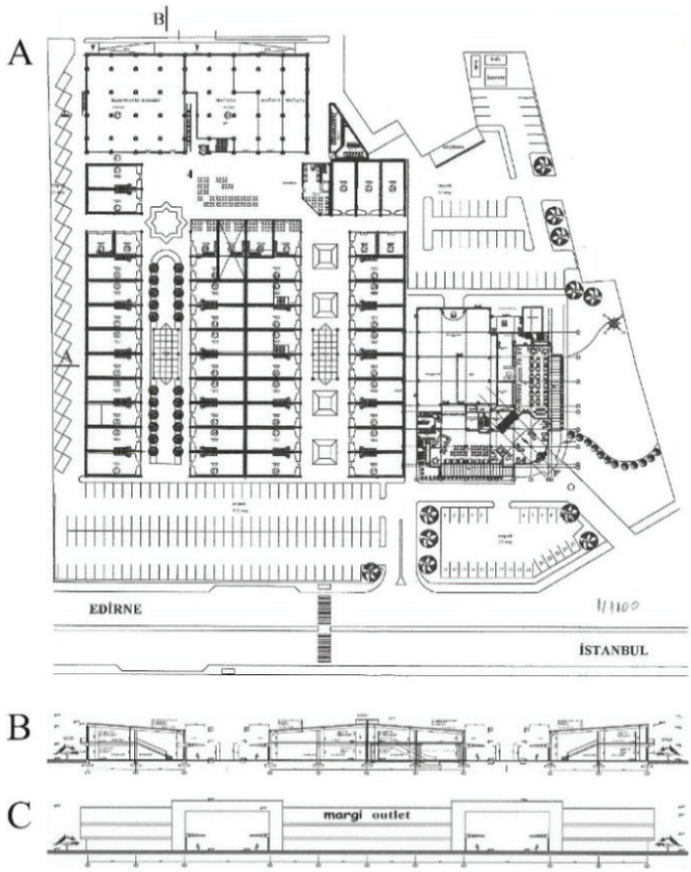

Figure 4. Margi Shopping Mall Drawings [29]; (A) Margi Shopping Mall plan (B) Margi Shopping Mall section (C) Margi Shopping Mall view

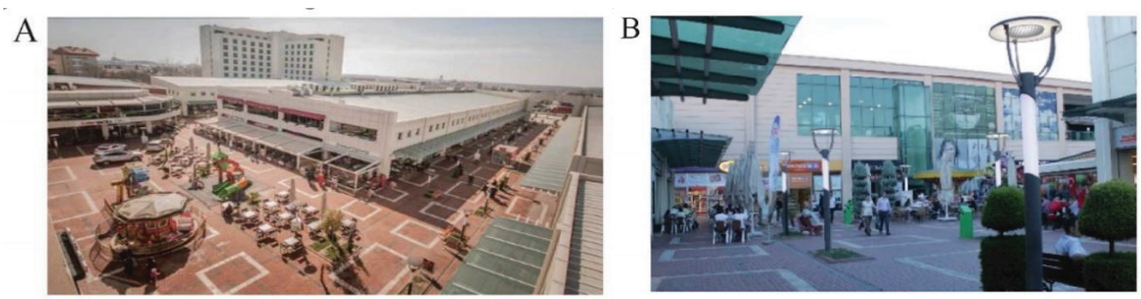

Figure 5. Margi Shopping Mall Buildings; (A) Margi Shopping Mall perspective [30] (B) Margi Shopping Mall perspective [28]

6. COMPARISON OF ALIPASA BAZAAR AND MARGI SHOPPING CENTER IN TERMS OF SOCIAL PRACTICES

The urban development of Edirne has been examined from a socio-spatial perspective by comparing the practices realized in the spaces. The relationship between city, space and society has been evaluated through shopping practices. The feature of being a city center formed by spaces has been revealed by comparing the practices. The main social practices that affect consumption are listed below.

Accessibility and parking: Context integrates space with local features. However, Margi, which is connected to the highways that help the global flow of capital between geographies, has little context with the city, and its accessibility is high by means of highways that allow spatial relations. Margi is positioned in an environment based on the repetition and mechanical articulation of casual relationships. It is located in the area with high purchasing power consumer groups, depending on whether the profitability expectation will be met. Access to this area by automobile has reduced the acquaintance of transportation and the possibility of establishing a mental map. It has become a place to go, not a place to stop. Alipaşa Bazaar, on the other hand, is located within the context of the city in the historical core, in an environment connected to the pedestrian roads that create the possibility of getting acquainted with transportation and establishing a mental map. It is a place mostly frequented in the city flow. However, the dense urban texture has reduced the availability of cars and parking. For this reason, consumers cannot spend much time here.

Having an urban function: Margi has taken its place in the city based on the spatial relations determined by the capital. In other words, it is related to the position of the city in the global area rather than the local context of the city. At the same time, since its scale is large and its spatial organization is introverted, it excludes the city and establishes a world within itself. Alipaşa Bazaar, on the other hand, opens to the streets of the city and participates in the daily life of the city. According to Margi, it is more integrated with the city and has the feature of being a part of the city.

Being able to define the space from outside: Margi is bigger than human scale. It has high ceilings. For this reason, it is easy to define its buildings from outside. Because of its large scale, it is detached from external relations. It has turned into a place that works with its own internal rules without establishing a relationship with the outside. There is no sense of place in this special time and place. Alipaşa Bazaar has taken place within the urban texture and has almost disappeared in this texture. It is difficult to define space from outside. It attracts less attention of customers than Margi.

Safe shopping: Due to the private security systems at Margi, there are no coincidental incidents that have not been set up beforehand. Capital has excluded unwanted events from the space. Instead of events, demonstrations take place in Margi. The show is fictionalized, its purpose, process and result is a specific time-space arrangement. The capital organizes the shows according to its own interests, special days are organized in this space for show purposes and traditional consumption items are sold. These shows can be experienced in all seasonal conditions in Margi. With the transformation of the concept of quality into the concept of quantity, the establishment of the hidden conveyor system and the destruction of the error by computer prevent the occurrence of undesirable situations. The quantization of objects ensures the same quality everywhere and increases the confidence in the place. In Alipaşa, time and space are felt in the daily flow, and negotiation dialogues are experienced between the customer and the seller. However, this natural flow and the absence of a private security system can make customers feel insecure. The fact that the flow of goods is not controlled by computerized systems, and the failure to always find the same quality in products increases the insecurity in the space.

Responding to consumption demands: The activities that make up the network of relationships in Margi have turned into demonstrations. The show is a pre-fictionalized time-space arrangement, with a clear process and result. Here, the capital presents its time-space arrangements in accordance with its own interests as a demonstration to the consumer. For example, during the Ramadan Feast, entertainment is organized in the courtyard of the center and special products are sold for these special days. The purpose of this show is to respond to consumption demand. The concept of incident is excluded in Margi. Coincidental, events that occur in uncertainty that was not previously constructed do not occur in Margi. Each organization is under control and directed towards the purpose of the capital. According to changing consumption demands, architectural elements are also renewed and attraction power is provided to the center. In the Alipaşa Bazaar, activities corresponding to different consumption demands are not organized.

In Alipaşa, nature's time and space are felt, and daily events, including bargaining dialogues, take place in the bazaar. The architectural elements in the bazaar do not change according to the demands.

Being able to appeal to the customer: The forms used in the space arrangements in Margi do not reflect the function, the urban space and social memory are arranged according to the system of codes participating in the system of indicators. The aim here is to attract the customer's attention and direct them to consumption. Because there is a competitive environment here and the stores have to be interesting. At the same time, the abundance of product range and abundance of products give the impression that it meets all kinds of needs of the customer. In Alipaşa, there is no competitive environment, there is no abundance and variety of products that can meet the needs of customers. Spatial arrangements in Alipaşa are not constantly re-made according to the indicators in order to attract attention.

To be able to freely act of consumption: Spatial relations in Margi are established with distant effects. All kinds of experience and memory of the place have been destroyed. The relationship with space is realized through texts. The texts are the user manual of the space. Packaging and shop windows provide information on discounts, installment opportunities, and the quality of the products. This information on consumption objects enables the consumer to turn to him more freely. At the same time, the expression of unlimited spaces describes the products separately and contributes to free consumption. Dining areas, entertainment areas for children, resting places offer different service opportunities to the customer and enable activities other than shopping to expand the concept of consumption. In Alipaşa, on the other hand, only shopping activities take place, services for different activities are not available, packages and showcases providing information for consumption objects cannot function adequately.

Ability to increase consumption: Spatial arrangements have been made to be profitable in Margi, and services have been provided on the basis of infrastructural relations. Margi's introverted structure was established due to commercial concerns, and the customer was aimed to stay in the center for a longer time. The selected plan scheme is the architectural design based on the shop activity distribution, commercial concern and consumption increase, using the findings of user classes. You pass through the stores until you reach the square from the parking lot, then gather in the square and spend a long time in this center. Lighting elements, seating elements and colored panels have been used to increase the consumption factor in the transition between the stores. All these have been done in order to create a new world for the consumer society. Alipaşa Bazaar, on the other hand, was not designed with commercial concerns. The aim here is to make it easier for people to shop. A transition axis was formed by lining up the shops side by side. This transitional space within the urban fabric has also undertaken a different function than consumption.

To be able to describe the products separately: The space reduced by the capital to the infrastructure turns into a service area where relations are rearranged and temporal rhythm is created. Service is the quantitative state of the concept of function. Infrastructural relations accelerate the flow of capital by providing services. In Margi, product groups are determined according to the marketing strategy and rearranged according to changing market conditions. The boundaries of the stores are not felt due to the glass facades and the ceiling is higher than human perception. Everything can be described in this limitless space. Products are exhibited in stores according to the order of indicators, detached from their context. Alipaşa is lower than the ground level and the entrance to the bazaar can be felt by the stairs. The ceilings of the shops are lower than Margi's and the shop sizes are smaller. Its products cannot be exhibited separately in a certain order therefore it cannot attract the attention of the customer sufficiently. The products are stacked on the counters in front of the stores, the unity of the products does not make a certain meaning.

Ability to move around in the store: The fact that Margi is large for human scale has made the outside insignificant. The interior appears to be in the foreground and unlimited. You can easily navigate between the products in the stores. The size of the space causes the parts to become independent and the possibility

of movement between these independent parts emerges. The center creates its own inner rhythm instead of the rhythm of the outside, and is detached from seasonal changes and temporal transformations. Alipaşa is closer to the human scale. The shops are small in size, so the opportunity to display products is also more limited. The products are exhibited on the counters in front of the stores and inside the small shops, but the opportunity to move between them is not sufficient.

Ability to move horizontally and vertically: Margi is large for human scale and has two floors. In addition to the horizontal circulation between the masses, there is also the possibility of vertical circulation between floors. The square of the center can be perceived from every floor. Size and introverted planning have created a publicity that is independent from outside. This closed publicity is experienced from different visual angles with different movement options. Alipaşa Bazaar is a single-storey building. The ceiling height of the shops is less than Margi's. There is no vertical circulation possibility. The public space created is not introverted as it opens to the streets of the city. This fluid space can only be moved at ground level.

Providing an attractive and spectacular space: The spatial size required for the provision of services in Margi has enabled it to create an attractive and spectacular place. Reflective surfaces in the interior reduce the boundaries of the space, and lighting techniques reduce the perception of time change. For this reason, the differences arising from time and place are eliminated and consumption is provided at all hours of the day. Since the space is more attractive and spectacular, the capacity to sell goods and services has increased. The material of the building in Alipaşa is stone and brick, these materials do not have reflective surfaces. Different lighting techniques were not used in the bazaar. For this reason, it is less attractive than Margi. Time and space are felt in the bazaar, and the life in the bazaar flows with the urban life. The products exhibited in stacks on the stalls and in front of the shops in Alipaşa destroy the feature of the interior space, which reflects the historical quality of the space, to be spectacular.

Socialization: A self-sufficient urban public space has been created in Margi where all the needs of people are met. Different functions for social, cultural and entertainment purposes are included that will bring the concept of show to the forefront and thus increase the consumption activity. This situation offers consumers the opportunity to socialize. Although shopping is more individual in Margi, functions such as dining, cinema, playgrounds other than shopping provide the opportunity to socialize. In Alipaşa, customers have the opportunity to socialize by entering into verbal dialogue with the sellers. However, there are no other activities other than shopping, so people spend a short time with their relatives.

Ability to engage in activities other than shopping: Margi has different service units that can respond to the daily activities of the customer. These are functions such as shopping in stores, eating in restaurants, chatting in cafes, watching movies in the cinema, and resting in seating units. Spatial arrangements that fulfill functions are structured in a way that contributes to infrastructural relations, aimed at increasing consumption action. On the other hand, in Alipaşa Bazaar, there are no other services other than shopping. Alipaşa has the feature of being a place to be visited rather than a place to spend time. It includes the function of creating shopping and public spaces rather than services.

Shopping under all seasonal conditions: Margi has an understanding of gathering under a shell instead of a specific facade. This shell isolates the interior space from the outside and breaks the relationship with it. Although there are openings between different masses, the inward shaping of the stores and mechanical ventilation systems enable the shopping activity to be carried out in all seasonal conditions. Hyperreal environments are created with a sense of spacelessness and timelessness. There are no ventilation systems in Alipaşa. The changes of the seasons and temperature differences are felt in the space.

7. CONCLUSION AND EVALUATION

Capitalist space has produced social practices in which the body is on the back burner through habitus. Therefore, daily life has become standard. In the production of capitalist space, quantitative values have

been taken into consideration, and the connection with place and geography has been broken. Space is an intermediary in capitalist relations. Daily life has lost its meaning as social, cultural and geographical values are pushed to the background in the production of the space. In metropolises, the production process has been quantified, space and time have gained an abstract character and consumption have developed in parallel with production. Spatial organizations in the metropolis have supported these features of the metropolis and developed system-oriented.

In order to understand the system-oriented development of space and how the space transforms with the society, it is necessary to examine the practices produced by the system and the reasons for the formation of these practices. Because practices are objective properties of space, they can be easily observed and classified. Consumption practices observed in Edirne are specified in the table below according to the spaces examined (Table 2). According to the results obtained from the table, Margi Shopping Center has contributed to the progress of the city center in the direction of Istanbul today as it succeeds in socializing, being accessible, responding to consumption practices, describing the products separately, providing an attractive and spectacular place, defining the space from the outside, making safe shopping, appealing to the customer, engaging in activities other than shopping, shopping in all seasonal conditions, increasing consumption, being able to act freely and move horizontally and vertically. These economy-based practices that take place in the space have also directed human life to consumption. However, Margi contributes to capital flow as consumption is a basic need and is an extension of the production system. This reality makes it difficult for Alipaşa Bazaar to take a place in global economic and urban development. However, according to Margi, Alipaşa has more ability to have an urban function because it contributes to the flow of the city. (Figure 6-7) Alipaşa has the ability to survive in the future on account of this quality. This situation must be realized with the bazaar being included in the global economy. According to the results of the study, the reuse of Alipaşa should not be done in order to shorten the cycle period of the economic system, but to ensure that the consumption, which is a natural need, is realized according to today's conditions. The functioning of Alipaşa in accordance with its historical identity and architectural structure will strengthen its role in the city and the historical urban core will regain its important structure. (Figure 8-9) As a result of this study, it has been revealed that the interventions that need to be made in the recycling process, the new concepts used in consumption spaces should be addressed in a holistic manner with the traditional spatial features existing in Alipaşa.

Table 2. Social practices observed in Edirne

Social Practices	Alipaşa Bazaar	Margi Mall
Accessibility and parking	-	+
Having an urban function	+	+
Being able to define the space from outside	-	+
Safe shopping	-	+
Responding to consumption demands	-	+
Being able to appeal to the customer	-	+
To be able to freely act of consumption	-	+
Ability to increase consumption	-	+
To be able to describe the products separately	-	+
Ability to move around in the store	-	+
Ability to move horizontally and vertically	-	+
Providing an attractive and spectacular space	-	+
Socialization	+	+
Ability to engage in activities other than shopping	-	+
Shopping in all seasonal conditions	-	+

Figure 6. Presentation of the relationship between Margi Shopping Mall and its environment [31]

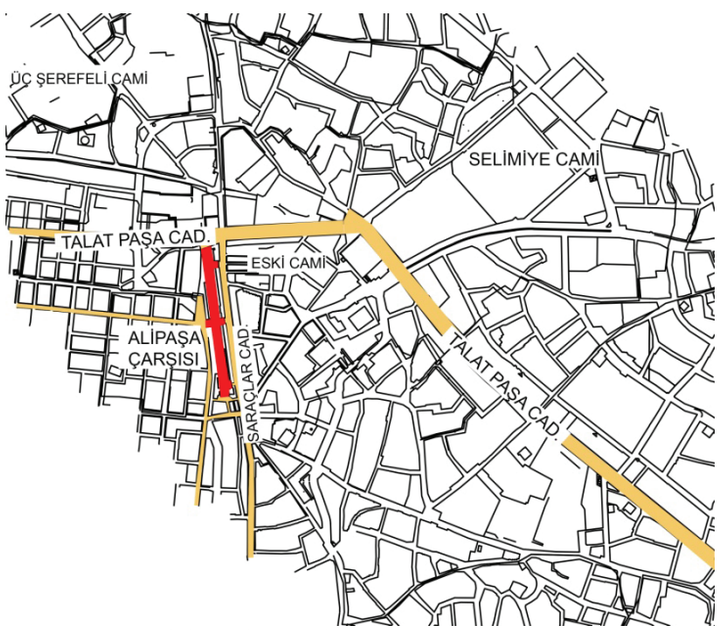

Figure 7. Presentation of the relationship between Alipaşa Bazaar and its environment [31]

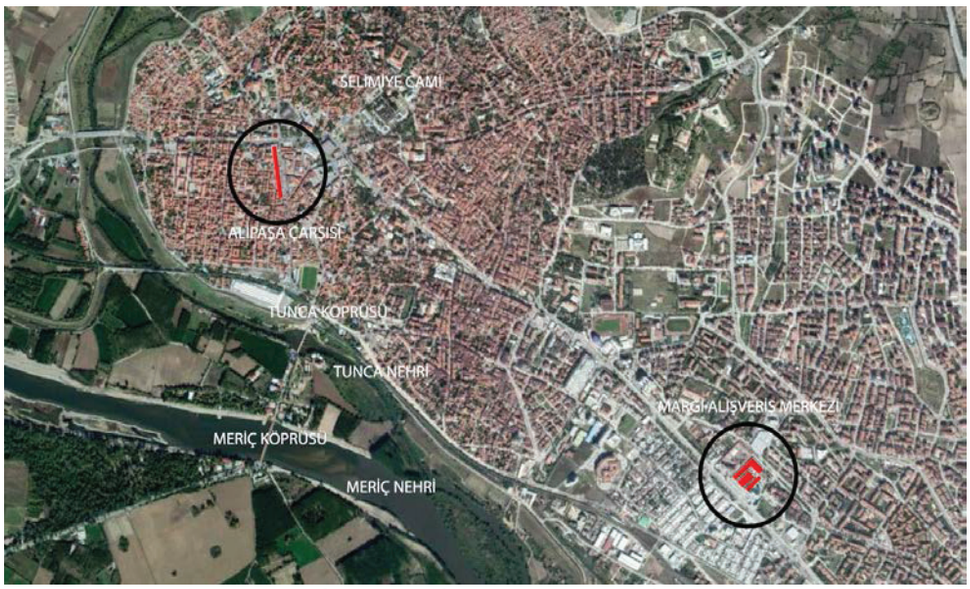

Figure 8. Historical center, Alipaşa Bazaar, and Margi Shopping Mall [26]

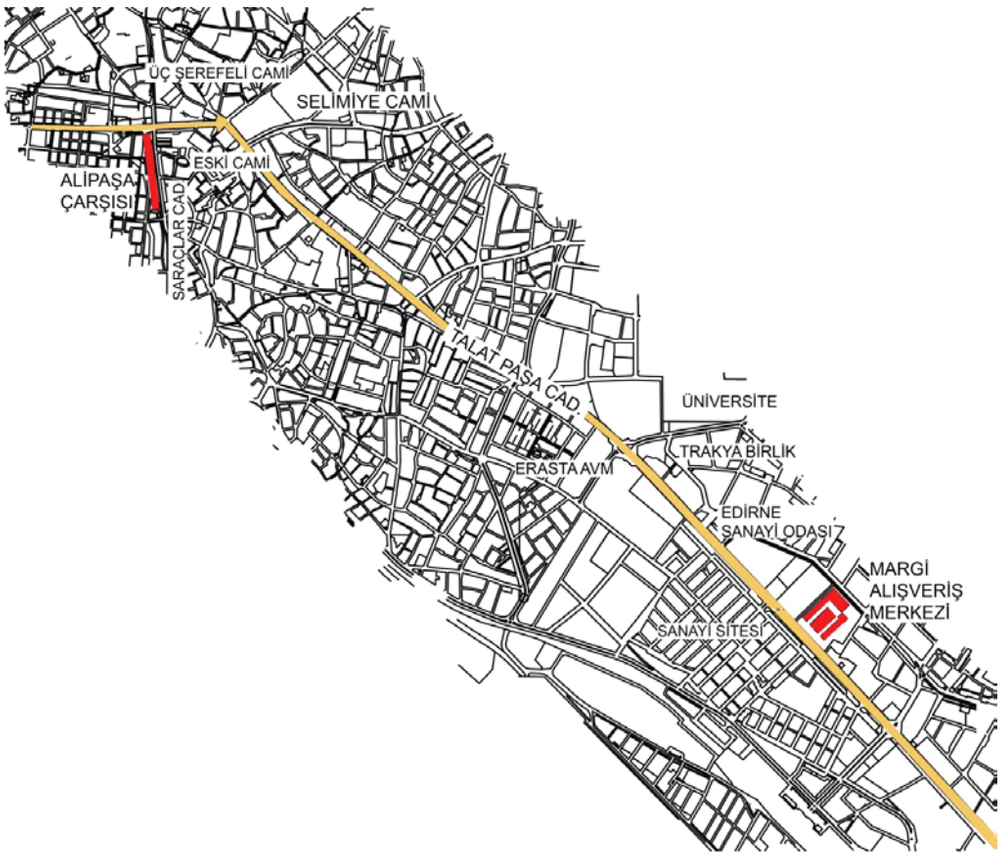

Figure 9. Alipaşa Bazaar and Margi Shopping Mall urban transportation axis [31]

In the study, the practices created by the principles that add circulation value to the consumption spaces were examined and it was reached the view that making the necessary transformations for the implementation of these practices in the spaces outside the process will accelerate the protection of local values. It is not the constant repetition of similar shopping spaces, but the integration of today's facilities

with local values, the handling of traditional architectural features with new concepts will make cities more livable, strengthen the relationship between space and time, and the qualities of the place will be preserved. In the study, it is also emphasized that the lifestyle that comes with modernization requires more complex spatial organizations. The infrastructural formation of these spatial organizations shows the effect of capitalist capital accumulation on urban development. Comparison of spaces in terms of practices should reveal the relations of people, space and society, specify the relationship of spatial organizations with the city, and enable us to examine the infrastructural formation of the space.

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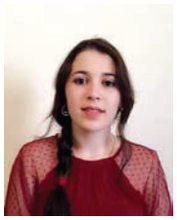
Potential Contribution of Green And Blue Technologies to Reduce Heat Stress In Outdoor Spaces, Case of Guelma City-Algeria



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Received: 11.03.2020
Accepted: 18.05.2020

Abstract: *Green and blue technologies in addition to their aesthetic and structural dimension, it offer the possibility of modifying the urban microclimate by relying on a process of natural regulation. This paper investigates the effect of microclimatic regulation of vegetation and water bodies in outdoor spaces during heat stress, we measured air temperature, relative humidity and wind velocity during the hottest period of 2019. The study simulates four scenarios for the square of martyrs which is situated in Guelma city by using Envi-met model. In scenarios 2 and 3 vegetation and water bodies were removed respectively, it has shown high temperature and low humidity corresponding to heat stress sensation. The scenario of the current outdoor space was ranked second in terms of microclimatic regulation while the scenario of recommended water bodies and vegetation have shown the best microclimatic conditions in heat stress with low temperature and high humidity and cool velocity. The findings show that the combined effect of vegetation and water bodies could lead to an optimal microclimatic regulation, thus it could reduce heat stress in outdoor spaces.*

Keywords: *Vegetation, Water bodies, Heat stress, Microclimatic regulation, Outdoor spaces.*

Yeşil ve Mavi Teknolojilerin Dış Mekânlarda Isı Stresini Azaltmaya Muhtemel Katkısı, Guelma Şehri - Cezayir Örneği

Özet: *Yeşil ve mavi teknolojiler, estetik ve yapısal boyutlarına ek olarak, doğal bir düzenleme sürecine dayanarak kentsel mikro iklimi değiştirme imkânı sunar. Bu makale, ısı stresi sırasında dış mekânlarda bitki örtüsü ve su kütlelerinin mikro iklimsel düzenlemesinin etkisini araştırdı, 2019'un en sıcak döneminde hava sıcaklığını, bağıl nemi ve rüzgâr hızını ölçtük. Kıskançlık modeli. 2. ve 3. senaryolarda vejetasyon ve su kütleleri sırasıyla çıkarıldı, yüksek sıcaklık ve düşük neme karşılık gelen ısı stres hissi gösterdi. Mevcut dış mekân senaryosu, mikroklimatik regülasyon açısından ikinci sırada yer alırken, önerilen su kütleleri ve bitki örtüsü senaryosu, düşük sıcaklık ve yüksek nem ve serin hız ile ısı stresinde en iyi mikroiklim koşullarını göstermiştir. Bulgular, bitki örtüsü ve su kütlelerinin birleşik etkisinin optimal bir mikro iklimsel düzenlemeye yol açabileceğini, dolayısıyla dış mekânlarda ısı stresini azaltabileceğini göstermektedir.*

Anahtar Kelimeler: *Bitki örtüsü, Su kütleleri, Isı stresi, Mikroiklim düzenlemesi, Dış mekânlar.*

1. INTRODUCTION

The adaptation to climate change in urban areas is one of the major concerns of the 21st century, in urban areas, the challenge is to adapt to climate change impacts [1], which all scales of action, from micro to global scale, are solicited, and new modes and strategies of regulation are to be invented [2].

Heat waves and urban heat island (UHI) are the most popular figure of climate change impacts in cities [3, 4]. The UHI effect is a key example, where cities are warmer than their surroundings, caused by releases of heat stored in buildings and roads during the day, but also by anthropogenic sources such as traffic, heating and cooling of buildings. It has been shown that theses releases of heat negatively affect human well-being in summer [5], but little is known about the potential mechanisms that underlie the relationship between higher temperatures and heat stress sensation in outdoor spaces [6]. At the local climate scale, the outdoor adaptation strategy consists of creating urban microclimates that provide a certain degree of climatic comfort to users during hot periods [7].

Green and blue technologies in addition to their symbolic, aesthetic and structural dimension, they offer the possibility of modifying the urban microclimate by relying on a process of natural regulation [8]. The vegetation induces a cooling of the air by shading effects, and by evapotranspiration effect [9]. The magnitude of these effects depends considerably on the type of vegetation concerned and the amount of plant biomass present [10], water in urban areas, i.e. its configuration, lowers the temperature, in short, the existence of water with vegetation helps to mitigate the urban heat islands locally and fighting climate change globally.

2. METHODS AND MATERIALS

2.1. Study area

Guelma is located in north-eastern Algeria, about 65 kilometers from the Mediterranean coast (36° 27' 43 N; 7° 25' 33 E; 840 ft. Elevation), with semi-arid climate (classified as Csa by the Köppen-Geiger system). The square of martyrs is one of the most frequented outdoor spaces in hot season situated in downtown Guelma (figure 1). It is a structuring place from the time of French colonization, mainly composed of low-rise buildings and it covers a total surface area of about 2060 m².

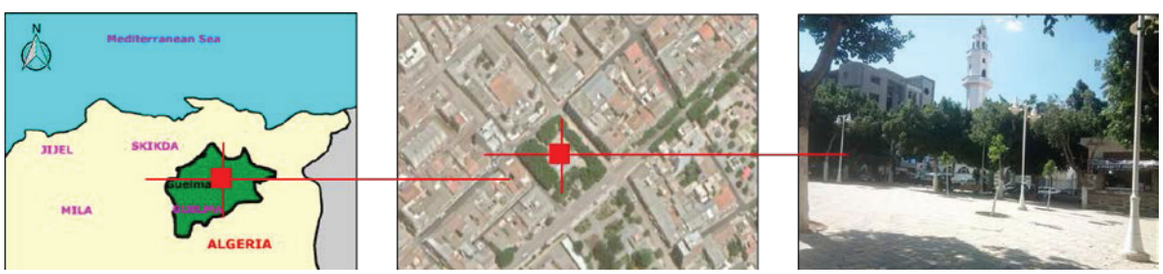


Figure 1. Left: Location of Guelma city, middle: Algeria the square of martyrs location, right: picture of martyrs square. (Source: author 2019).

2.2. Field measurements

A series of on-site measurements were conducted in heat stress period (July 21st, 2019). Three microclimatic parameters were measured Air Temperature, Relative Humidity and Wind Velocity. Using a multifunction hand-held device (Testo 480 – AG 501 1ST, 0563 4800), we obtained record in 3 different locations of the martyrs square (P1: Vegetal point; P2: Wet point; P3: Free point), bi-hourly six times periods from 09:00 to 21:00.

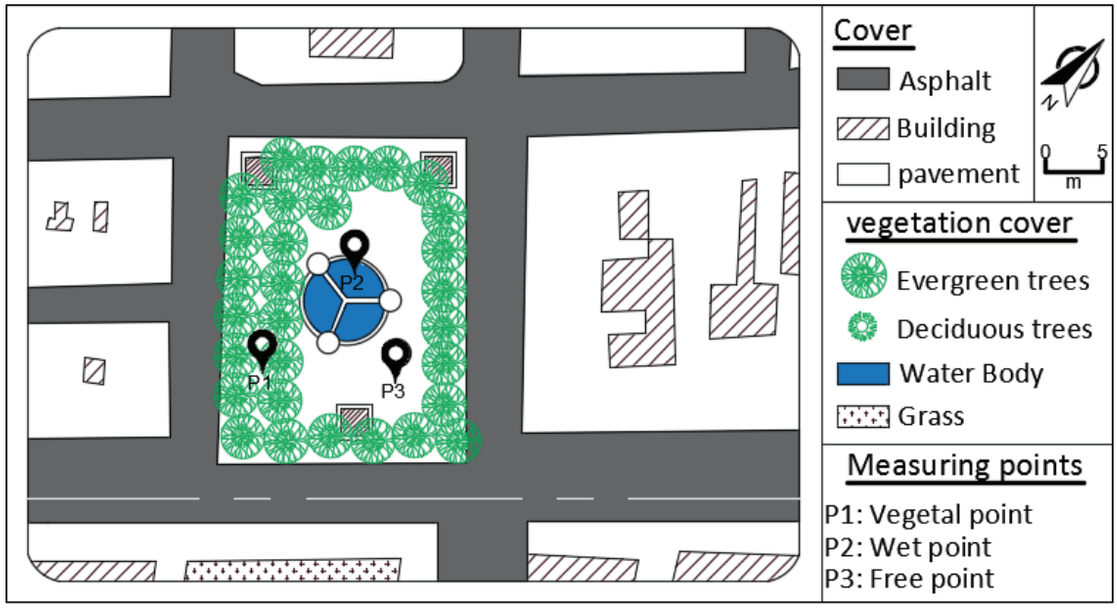
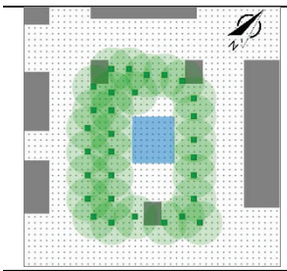
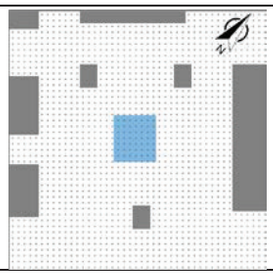
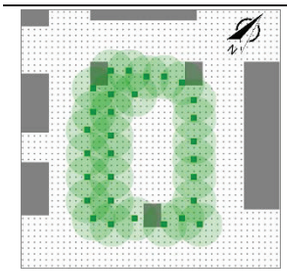
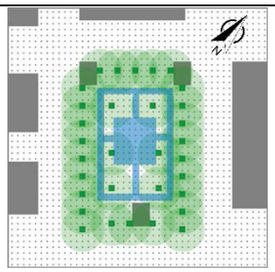


Figure 2. Map of the study square showing the three measuring points.

2.3. Atmospheric simulation

This paper aims to investigate the effect of microclimatic regulation of vegetation and water bodies in outdoor spaces during heat stress. Firstly we compared measured parameters in different locations within the square, secondly, we have simulate 4 (four) scenarios with different configurations of vegetation and water body using the science version (winter19/20) V4.4.4 of Envi-met.

Table 1. Detailed framework of the simulation process of the four scenarios

Specification of the simulation process by Envi-met model	
Simulation date	21.07.2019
Simulation start time	09:00:00 am
Model dimensions	x-Grids: 44 y-Grids: 44 z-Grids: 12
Grid cell	dx= 2 dy= 2 dz= 2
Grid north	-37.00
UCTI index calculation	Biomet process
Results visualization	Leonardo visualization tool
First Scenario: current square	**Second Scenario:** removal of vegetation
 Current square including the existing vegetation cover and the fountain.	 Current outdoor space with removing the existing vegetation cover.
Third Scenario: removal of the water body	**Fourth Scenario:** optimal proposition
 Current outdoor space with removing the existing water body.	 Optimal proposition based on new vegetation and water body configuration.

3. RESULTS

3.1. Comparison of measured parameters in different locations

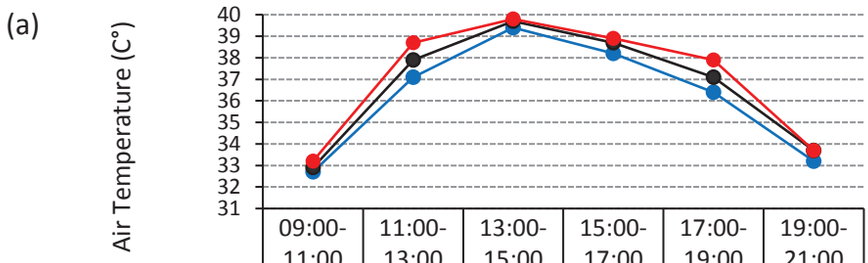
Figure 3, shows the comparison of air temperature, relative humidity and wind velocity in different locations within the square, spinning up six periods from 09:00 to 21:00.

(a) The lowest values of air temperature were observed in location one (P1-vegetal point) with minimum temperature (32.7°) at 09:00, while the highest values were recorded in location three (P3-free point), the mean values were observed in location two (P2-wet point).

(b) The highest values of relative humidity were observed in location one (P1-vegetal point) with maximum of (50.9%) at 09:00, while the lowest values were observed in location three (P3-free point), at the example of air temperature the mean values were recorded in location two (P2-wet point). Noted that from 13:00 to 14:00, the recorded values of air temperature are nearly matched in the three locations (P1, P2 and P3).

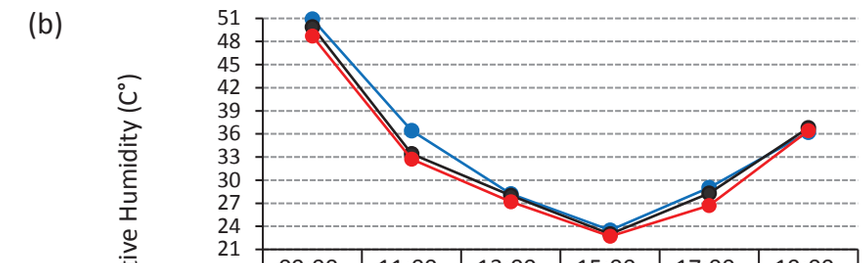
(c) The highest values of wind velocity were registered in location three (P3-free point) with minimum of (0.6 m/s) at 09:00 and maximum of (1.3 m/s) at 19:00. The lowest values were recorded in location one (P1), the mean values were observed in location two (P2-wet point).

(a)



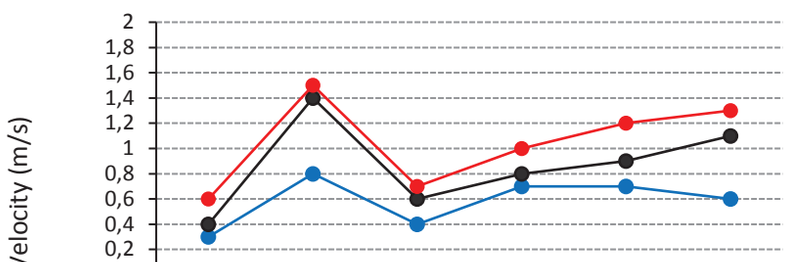
	09:00-11:00	11:00-13:00	13:00-15:00	15:00-17:00	17:00-19:00	19:00-21:00
P1-Vegetal point	32,7	37,1	39,4	38,2	36,4	33,2
P2-Wet point	32,9	37,9	39,7	38,7	37,1	33,7
P3-Mineral point	33,2	38,7	39,8	38,9	37,9	33,7

(b)



	09:00-11:00	11:00-13:00	13:00-15:00	15:00-17:00	17:00-19:00	19:00-21:00
P1-Vegetal point	50,9	36,4	28,2	23,5	29	36,2
P2-Wet point	49,9	33,4	28	23	28,3	36,8
P3-Mineral point	48,7	32,7	27,2	22,7	26,7	36,4

(c)



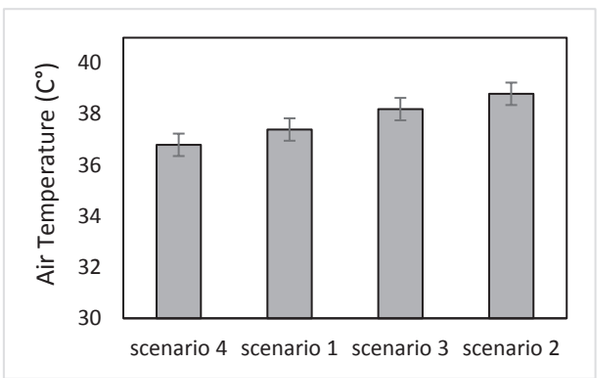
	09:00-11:00	11:00-13:00	13:00-15:00	15:00-17:00	17:00-19:00	19:00-21:00
P1-Vegetal point	0,3	0,8	0,4	0,7	0,7	0,6
P2-Wet point	0,4	1,4	0,6	0,8	0,9	1,1
P3-Mineral point	0,6	1,5	0,7	1	1,2	1,3

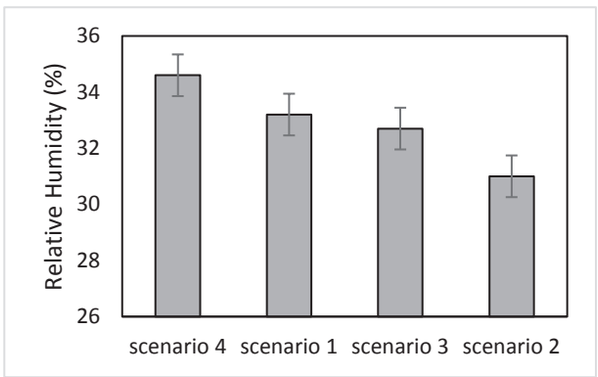
Figure 3. Comparison of measured parameters in different locations within the square of martyrs for the period time (09:00-21:00), (a) Air temperature, (b) Relative humidity and (c) Wind velocity.

3.2. Comparison of microclimatic parameters in different scenarios

Figure 4, shows the results of simulated parameters, air temperature (Tp), relative humidity (RH) and wind velocity (WV) in different scenarios in period time (09:00-21:00).

The highest temperature (38.8° C) was observed in scenario 2 (two) where vegetation cover was completely removed (0% vegetation), while the lowest temperature (36.8° C) was observed in scenario 4 (four) of optimized proposition. It has been observed too that air temperature was low (37.4° C) in scenario 1 (one) with the current vegetation cover and the existing water body. Inversely relative humidity was higher respectively in scenario 4 (new configuration of vegetation and water body), scenario 1 (the current planting design of the square), scenario 3 (removing the water body) and scenario 2 (0 % vegetation). 1.3 m/s was the highest wind velocity observed in scenario 4 (four) and 1 (one) with both natural elements water and vegetation, the second high value 1 m/s was found in scenario 3 (three) where the water body was removed, finally 0.7 m/s in scenario 2 (two) of 0% vegetation.





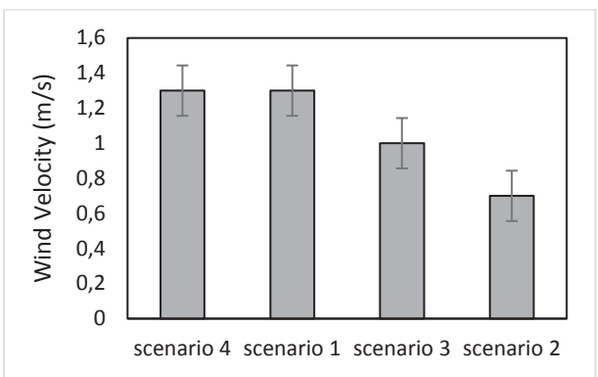


Figure 4. Comparison of simulated parameters, Air temperature, Relative humidity and Wind velocity in the square of martyrs for the period time (09:00-21:00).

3.3. Comparison of UTCI index in different scenarios

We obtained the UTCI index (Universal Thermal and Climatic Index) during the period from 09:00 to 21:00 for the four simulated scenarios; results are presented in Figure 5.

- To begin the lowest values of UTCI index were observed in scenario 4 (four) of the new configuration of water bodies and vegetation, the index was 41.4°> UTCI >32.7°.
- The highest values of the index were obtained in scenario 2 (two) where vegetation cover was removed, the index was 50.1°> UTCI >34.8°.

- Values of the current square (scenario 1) are slightly high compared to the optimized proposition, following the same daily rhythm, increasing from 09:00 to 14:00 where UTCI index was 42° and decreasing from 15:00 to 21:00 so the index was 35.8° at this time.
- In scenario 3 (three) without water body, UTCI values were in between 34.1° and 41.1° for the period from 09:00 to 12:00. The next three hours are the hardest in terms of UTCI, 46.7, 47.7 and 47.8 respectively for 13:00, 14:00 and 15:00.
- The thing to be noticed, the values of UTCI are nearly matched for the four scenarios in the period from 18:00 to 21:00.

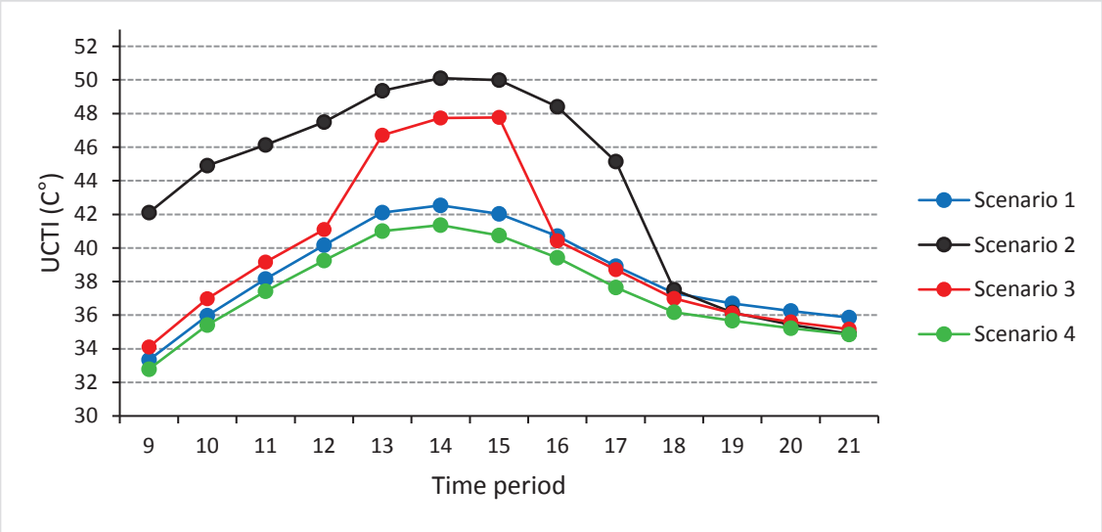


Figure 5. Comparison of different scenarios in terms of UCTI index in the square for the period time (09:00-21:00).

4. DISCUSSION

4.1 The influence of the surrounding on atmospheric conditions

In our investigation, the first step was to conduct a field microclimatic measurement in different locations within the square case of study. We measured Air temperature, Relative humidity and Wind velocity in different locations, P1 a vegetal point located under a tree, P2 a wet point near the water body and P3 a mineral point in a free location.

Measurements under tree have shown the best atmospheric conditions with the lowest values of air temperature and highest values of relative humidity and mean wind velocity values. Regarding the benefits of trees in summertime, these conditions could be interpreted as the way that the large shaded area provides by *Carpinus betulus* tree has blocked the radiation and reduced the local temperature. Moreover, the process of decreasing air temperature increases the relative humidity through transpiration effect of *Carpinus betulus* leaves.

The measurements in location tow, P2 near the fountain have shown good atmospheric conditions, the primary impact of water in urban areas is its thermal capacity to cool down the air temperature through

evaporation and as a surface, it emits less radiation. This could interpret the flowing results, low values of air temperature (min 32.7°, max 39.7°) and high values of humidity (min 23%, max 49.9%).

Compared to the previous locations, the location three has shown hard atmospheric conditions with maximum temperature 39.8° and minimum humidity 22.7%, the direct exposure to solar radiation and the dominant minerality (soil) are the two main factors that cause high air temperature.

For the wind velocity, the lowest values (max 0.8 m/s at 11:00 o'clock) goes to location 1 (one) which under trees, while in location 2 (two) and 3 (three) the maximum holds 1.5 m/s at 11:00 o'clock. Trees have acted as a physical obstacle to block winds in location 1 (one) at the contrary in the other locations where the wind speed was higher.

4.2. The effect of microclimatic regulation of natural elements

After having an over view on atmospheric conditions in different locations within the square, the second step was to conduct a series of atmospheric simulations. In our study, four scenarios with different configurations of natural elements (water and vegetation) were simulated. Scenario 1 (one) simulates the current outdoor space including the existing vegetation cover and the existing water body in order to highlight the impact of natural elements on cooling down the air temperature and to confirm comparison results. Scenarios 2 (two) and 3 (three) simulate removing respectively the vegetation cover and the water body. Scenario 4 (four) proposes a mixed configuration of natural elements.

Scenario 2 (two) and 3 (three) have shown that natural elements play a key role on microclimatic regulation and removing the vegetation cover has negatively influenced the atmospheric conditions with hot temperature 41° and humidity 24.1 % at 15:00, while removing the water body has less influence with 40.3° and 25.4%.

In terms of microclimatic regulation, scenario 4 (four) of the optimal proposition showed the best results. The main idea of this proposition is to minimize the mineral area within the square, using the same type of tree (*Carpinus betulus*), and opting for linear water bodies. The scenario 1 (one) that simulate the current square was ranked second compared to other scenarios, which is interpreted by the wise choice of *Carpinus betulus* as main type of the vegetation cover and the central place of the fountain, thus the combined effect of water and vegetation can significantly contribute to cooler atmospheric conditions in outdoor spaces in summertime.

4.3. The influence of natural elements on reducing heat stress

Green and blue technologies are widely used as strategies of urban cooling during heat stress. In our study, we have demonstrated that natural elements offer the possibility of modifying the urban microclimate by relying on a process of natural regulation. Several indices have been developed by researchers to evaluate the effect of vegetation and water in reducing heat stress, for example, PET (Physiological Equivalent Temperature), UTCI (Universal Thermal and Climatic Index) and PMV (Predicted Mean Vote).

In our study UCTI index was calculated on a seven-point thermal sensation scale. The results in the graph that scenarios are in the following order; scenario four, scenario one; scenario three and scenario tow. The period between 12:00 to 16:00 is the most critical values in scenario of optimal proposition the index was 41.3°> UTCI >39.2°, in scenario one of the current space the index was 42.5°> UTCI >40.1° corresponding

very strong heat stress. In scenario three and tow where natural elements were removed, the index was 50.1°> UTCI >46.7° corresponding extreme heat stress. At this level, it can be concluded that natural elements could reduce the heat stress in outdoor spaces.

5. CONCLUSION

As the main purpose of this study is to investigate the effect of vegetation and water bodies on reducing heat stress in outdoor spaces. The investigation carrying out on Martyrs square in Guelma city was organized in three steps. Firstly, we compared the microclimatic parameters in different locations within the selected square; these are the main findings:

- The vegetation affects thermally the atmospheric conditions through two effects shading and transpiration.
- Physically urban trees act like obstacle to winds in outdoor spaces.
- Water affects the urban microclimate through evaporation effect, which increases the relative humidity (+ 0.8%).
- Water surfaces have a lower emissivity compared to mineral surfaces.
- Mineral soils affect negatively atmospheric conditions in outdoor spaces, by decreasing the relative humidity (-1.6 %) and increasing the air temperature (+2.8° C).

Secondly, we opted for an atmospheric simulation of four scenarios with a different configuration of natural elements including the current square, some of the previous findings are confirmed and new results are found

- Vegetation and water bodies play a key role on microclimatic regulation.
- Vegetation is the most influential natural element in terms of microclimatic regulation, by cooling down the air temperature (-0.6°C).
- The combined effect of water and vegetation can significantly contribute to cooler atmospheric conditions in outdoor spaces in summertime (-0.6°C to -1.4°C).
- Maximize the shaded area in outdoor space can reduce the heat stress in summertime; planting 03 more trees can reduce 0.6 °C.
-

Finally, the comparison results of the universal thermal and climatic index (UTCI) for the four scenarios confirm that the combined effect of water and vegetation can significantly contribute to reducing heat stress in outdoor spaces.

This study is entitled “Potential contribution of Green and Blue Technologies to reduce Heat stress in Outdoor spaces”, the terms “natural elements” or “vegetation and water bodies” where used in the investigation steps, results in scenario 4 (four) and 1 (one) are almost matched expect in the period from 13:00 to 15:00. The comparison of UTCI index for both scenarios highlight the difference between the two terms, vegetation and water bodies are the natural components of urban microclimate, while green and blue technologies represent the methods of improving the urban microclimate that takes into account ration, type and configuration of natural elements in outdoor spaces.

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Is Ornament Crime?
Discussing The Representative Nature of Ornament in Architecture

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Received: 13.03.2020
Accepted: 25.05.2020

Abstract: *Ornament is a conceptual and cultural discussion. But it is generally reduced to being discussed as a formal and superficial construction. It is one of the main tools of representation. It mainly represents nature. However, the change in its source of representation from nature to culture in the early 20th century leads ornament to be redefined, and even refused in architecture. Modern architects accuse it of being a crime not capable of representing modern culture. Post-modern architects embrace ornament as the main tool of representation in the second half of the century. It is called as the return of ornament in architecture. Today, the reinvention of ornament is rather discussed in the architecture of the 21st century. It is discussed by new concepts such as mediatic, phylogenetic, chaotic, eccentric, hypnotic, photogenic, and parametric due to the developments in the digital technology. As such, ornament now represents digital culture. The aim of this paper is to reveal the fact that conceptual and cultural framework of ornament is significantly changed in architecture. It is critically important to understand this change for architects in the 21st century in which ornament is rediscovered both as a tool of design and representation. The changing representative nature of ornament is therefore discussed in the paper. It will constitute a theoretical basis for further discussions on ornament in architecture.*

Keywords: *Architectural design, architectural theory, ornamental architecture, ornament, ornamentation*

Süsleme Suç Mu?
Mimarlıkta Süslemenin Temsili Doğasını Tartışmak

Özet: *Süsleme, kavramsal ve kültürel bir tartışmadır. Ancak mimarlıkta süsleme genellikle biçimsel ve yüzeysel bir inşa ve tartışma olmaya indirgenmiştir. Süsleme, önemli temsil araçlarından biridir. Daha çok doğayı ve doğal oluşumları temsil etmiştir. Ancak erken 20. yüzyılda temsiliyet kaynağının doğadan kültüre doğru değişim göstermiş olması süslemenin yeniden tanımlanmasına, hatta mimarlıkta süslemeye karşı çıkılmasına neden olmuştur. Modern mimarlar, süslemeye modern kültürü temsil etmediği gerekçesiyle karşı çıkmıştır. Buna karşılık, post-modern mimarlar yüzyılın ikinci yarısında süslemeyi başlıca temsiliyet aracı olarak kabul etmiş ve kullanmıştır. Bu, mimarlıkta süslemenin geri dönüşü olarak ele alınmıştır. 21. yüzyılın mimarlığında ise süslemenin yeniden keşfedildiği anlaşılmaktadır. Dijital teknolojinin gelişmesiyle süsleme bugün medyatik, filogenetik, kaotik, eksantrik, hipnotik, fotojenik ve parametrik gibi yeni kavramlarla tanımlanmakta ve tartışılmaktadır. Öyle ki, süsleme artık dijital kültürü temsil etmektedir. Bu makalenin amacı, mimarlıkta süslemenin kavramsal ve kültürel çerçevesinin önemli bir değişim geçirdiğini ortaya koymaktır. Bu değişimi anlamak, süslemenin hem bir tasarım hem de bir temsil aracı olarak yeniden keşfedilmiş olduğu 21. yüzyılda mimarlar için kritik bir önem taşımaktadır. Bu nedenle, makalede süslemenin değişen temsili doğası tartışılmaktadır. Bu tartışma, mimarlık alanında süsleme üzerine yapılacak olan yeni tartışmalar için kuramsal bir altlık oluşturacaktır.*

Anahtar Kelimeler: *Mimari tasarım, mimari kuram, süslemeli mimarlık, süs, süsleme*

1. INTRODUCTION

Ornament is not only a formal and superficial construction, but also a conceptual and cultural discussion in architecture. It is one of the main tools of architectural representation. The representative nature of ornament is conceptually and culturally discussed in this paper. But the aim of this discussion is not to define the concept of ornament; it is rather to discuss it through the mainstream architectural theories to reveal its conceptual and cultural framework. One of them is the theory of Loos who accuses ornament of being a crime [1]. It is actually a theoretical discussion, which constitutes a basis for modern architects to imagine and design a non-ornamental architecture in the 20th century. However, we should start from the early history of ornament to understand its change and current state in architecture.

The concept of ornament comes from the Latin concept of *ornamentum* in the early 13th century which means *apparatus, equipment, trappings; embellishment, decoration, trinket* [2]. So, it is not a new concept and a new practice. It is practiced in Mesopotamia, ancient Egypt and throughout antiquity, and among the so-called primitive cultures. It refers to the traditional practice of decoration displayed on the surfaces of furniture, interior, and exterior of buildings [3]. Nevertheless, there is a distinction between ornamentation and decoration. While decoration is defined as something added on the surface of the building, ornamentation is defined as something internal not superficial [4]. As such, ornament is not an applied decoration. It is rather intrinsic to the shape and mathematics of the surface [5].

There are so many definitions of ornament. But it is still an ambiguous concept. Its definition is constantly changed in such a way that it is not the ornament in history anymore. It is because of the fact that the definition of culture is also changed. As Gleiter discusses, the question of ornament resurfaces in the times of radical cultural changes such as in the first half of the 20th century with the transition from production by hand to production by machine, and in the second half of the century with the transition to the structural and post-structural processes of post-modernism. He considers *modernism* and *post-modernism* as the turning points of ornament in architecture [6]. There is another turning point today that can be called as *digitalism*. Digital culture is now the dominant culture. Hence, ornament has a new conceptual and cultural framework in architecture. This framework is revealed in the paper by diagramming the new concepts used to define and discuss ornament in the 21st century [See Figure 1]. It is a conceptual and cultural discussion, which reveals the new representative nature of ornament actually.

Ornament and its representative nature are principally put on the agenda of architecture with the theory of Semper in the 19th century. The principle of dressing (*prinzip der bekleidung*) in his theory promotes to use ornament as the primary component of architecture. Semper even suggests that architecture is a practice of ornament [7]. Ornament is again on the agenda of architecture even when it is refused by modern architects in the early 20th century. However, it is a primary practice in the pre-modern architectures such as Gothic, Renaissance and Baroque architecture. Its golden age is the 19th century in which Art Nouveau enhances ornament by organic, highly stylized flowing curvilinear forms, especially floral and other plant-inspired motifs [3]. Ornament in the pre-modern architectures generally represents nature. Its cultural dimension is a challenging discussion in architecture. On the other hand, it is suggested that artists imitate nature whereas architects imitate culture [8]. Ornament is used as the main tool of imitation and representation. The changes in the definition of culture lead ornament to be redefined in architecture. As it is mentioned before, it is even refused in modern architecture due to the fact that it does not represent modern culture.

Ornament is seen as adulteration of purity and simplicity of form in the modern architecture of the early 20th century. Sullivan, regarded as the father of modernism, paradoxically considers ornament as a requirement for a fully developed architecture [3]. But Loos suggests that ornament is not capable of developing. It is a waste of labour, time, and money. It is unhealthy. He therefore accuses ornament of being a crime. It is a crime when

it is applied as a tattoo on the body of a building, furniture, dress or shoe. Loos emphasizes that there is a relation between criminals having tattoos and people applying ornaments. According to him, ornament is only for criminals or primitive people. Ornamentation is the natural result of primitiveness and backwardness. He writes "Since ornament is no longer organically linked with our culture, it is also no longer the expression of our culture." [1].
Ornamentation is generally considered as a cultural degeneration in the modern society. It is thought that the evolution of culture and social structure is based on the rejection of ornament. Therefore, modern architects develop anti-ornamental discussions in modern architecture. "Less is more." is one of them developed by Mies. It is an explicit rejection of ornamentation. However, Rykwert discusses that modern architects design their buildings as simple and pure ornaments by forming them as machines, planes, ships or factory chimneys so as to emphasize technological developments [8]. Furthermore, it is discussed that modernism and minimalism are the new ornamentations in architecture. And there is not a non-ornamental architecture at all [9]. This reminds Semper's theory based on the discussion that architecture begins with ornamentation. For him, there is not any building without ornament [7].

Post-modern architects of the 20th century mostly think as Semper. "Less is a bore." developed by Venturi is the manifestation of the post-modern thought on ornament and ornamental architecture. But ornamentation is mainly practiced as decoration in post-modern architecture. It is characterized by signs, symbols and meanings generally borrowed from history. But it is not mainly history characterizing ornamental architecture recently. It is *materiality*. Moussavi and Kubo discuss it as *functionality*. They discuss that functional ornament enables material to transmit its effect. Ornament is therefore inseparable from the object. It has no intention to decorate, and there is no hidden meaning in it. It is regarded as an *effective* but an *empty sign* in recent architecture, unlike it is in post-modern architecture [10]. This paper discusses that the representative nature of ornament is changed in such a way that ornament does not represent modern or post-modern culture today. It rather represents digital culture. It is the dominant culture of the 21st century, which changes the ways of defining, designing and discussing ornament in architecture radically.

2. ORNAMENT AND ITS REPRESENTATIVE NATURE

Ornament is one of the main tools of representation in architecture. It mainly represents nature until the 20th century (Figure 1). But its representative nature is significantly changed in the 20th century from nature to culture. It does not mean that nature-inspired ornaments are not used in architecture. It rather means that ornament is mainly used to represent culture. It is nevertheless rejected in modern architecture due to the fact that ornament is not capable of representing modern culture. In the early 20th century, Loos, as the supporter of a non-ornamental architecture, suggests that ornament is not for modern people [1]. However, ornament still represents culture by industrial materials and forms being used in modern architecture (Figure 2). It reveals the fact that it is generally used as a tool of cultural representation. Ornament is a tool of representation and symbolization as well. It particularly symbolizes cultural characteristics in the second half of the 20th century. It is defined as post-modern ornamentalism. Post-modern architects use signs and symbols intrinsic to the historical culture (Figure 3). But culture is globalized and global culture emerges towards the end of the century [8]. As such, symbolical, historical and cultural dimensions of ornament become challenging in architecture recently. The representative nature of ornament also becomes challenging in the 21st century.

Figure 1. Ornamental buildings of Gothic, Renaissance and Baroque architectures
Natural motifs, patterns, textures, and nature-inspired statues
From left to right: Chartres Cathedral, Eure-et-Loir, France, 1194 - (mostly completed) 1220 [11]
Basilica of Saint Peter, Rome, Italy, 1506 - 1615 [12]
Santa Maria della Pace, Rome, Italy, 1656 - 1667 [13]

Figure 2. "Non-ornamental" buildings of Modern architecture
Industrial materials, forms and machine aesthetics
Left: Model for a modern glass skyscraper, Mies van der Rohe, 1922 [14]
Right: Seagram Building, Mies van der Rohe, Philip Johnson, New York, USA, 1958 [15]

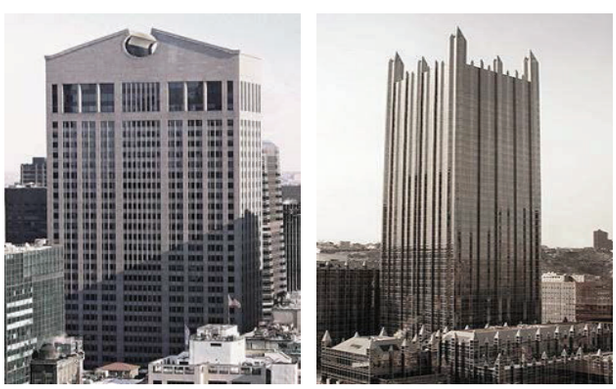

Figure 3. Back to the Pre-modern ornamental aesthetics in Post-modern architecture
Cultural and historical signs, symbols and icons
Left: Sony Building, Phillip Johnson, John Burgee, New York, USA, 1981 - 1984
Right: PPG Place, Phillip Johnson, John Burgee, Pittsburgh, USA, 1981 - 1984 [16]

2.1. The Changing / Challenging Representative Nature of Ornament in the 21st Century

The representative nature of ornament changes mainly due to the changes in culture, society, and technology. It is the natural result of the multi-cultural and increasingly cosmopolitan society of the 21st century [10]. Ornament does not represent today's culture symbolically. It is not *symbolic*; it is rather *photographic* due to the digital technology. The remarkable developments in the digital technology, specifically in the information and communication technology enable *photographic* and *photogenic* ornaments to be designed in contemporary architecture. Even the *contemporaneity* and *innovativity* of an architectural design are now discussed via its ornamental structure.

CAD (Computer Aided Design), CAM (Computer Aided Manufacturing) and CNC (Computer Numerical Control) technologies bring a new dimension to the concept of *innovation* in architecture. Buildings designed as highly *sophisticated ornaments* by using these technologies are generally defined as *innovational* and *experimental* designs. Digital technologies promote *experimentality* as well as *innovativity* in the design process. Contemporary architects are therefore enthusiastic about designing buildings as digital ornaments (Figure 4). They put excessive emphasis on the design of ornament just as Semper does in his architecture. It is called as *Digital Semper* in contemporary architecture [17]. Thus, ornament is again put on the agenda of architecture in the 21st century. It is discussed as the return of ornament or reinvention of ornament. It is also discussed that ornamenting becomes a *pattern-making* process in architecture recently. *Information* is even a kind of *pattern*. Levit discusses that ornament returns as an *information-based pattern* [9]. And Picon discusses that ornament is closer to a pattern than to a sculpted decoration. According to him, ornamenting is *patterning* [18]. Digital technologies enable architects to play with textures, colours and patterns in highly decorative ways (Figure 5). Therefore, it is rather considered as the reinvention of ornament [19].

Figure 4. Foundation Louis Vuitton, Frank Gehry, Paris, France, 2014 [20]

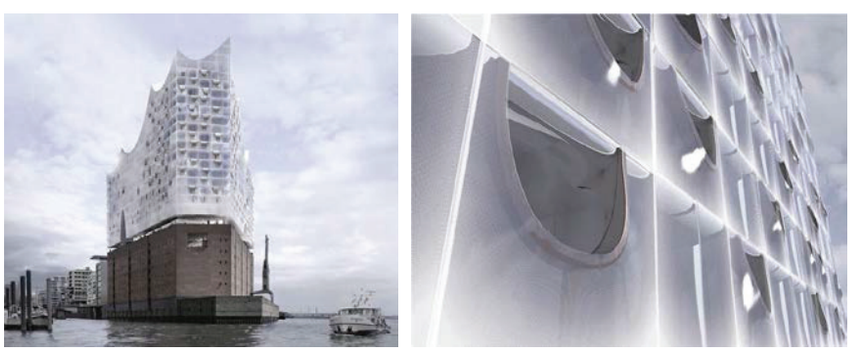

Figure 5. Hamburg Elbphilharmonie, Jacques Herzog, Pierre de Meuron, Germany, 2019 [21]

However, Gleiter suggests that ornament is different from pure embellishment or mere pattern and diagram [6]. But ornament is mostly *diagrammatic* in architecture. Diagrams are effective in exploring an unmediated process to visualize digital technology as a new cultural force [10]. It is neither *Modernism* nor *Post-modernism*; it is rather *Digitalism* defining the new conceptual and cultural context of ornament in architecture. Balık and Allmer discuss that ornament represents today's *image-driven* culture. It contributes to *image-making* as well. Ornament enables new images and new concepts to emerge in architecture [22]. It has a representative nature particularly related to culture. But this nature is changed mainly due to the digital technology. Digital technology leads *dynamic* ornaments to be able to designed in architecture. Ornament is therefore defined as dynamic ornament, coded ornament, ornamatics or digital Nouveau [23].

Ornament is defined and discussed by the concepts of *mediatic, phylogenetic, chaotic, eccentric, photogenic,* and *parametric* as the concept of *dynamic* in this paper. It becomes *mediatic* in a widely used network of social media. Media leads ornaments and ornamental architectures to be instantly shared with the world. They gain an instant popularity and become popular and reproducible designs. These designs have a genetic structure created physically by computers turning ornament into a *phylogenetic* component. *Phylogenetic* ornaments (or, components) lead buildings to be designed computationally as well as physically, genetically and structurally. Computer technologies enable ornaments and ornamental buildings to be designed in a *chaotic* design process in which many *parametric* design tools such as bending, stretching, folding, and curving are used. Ornament, as the design product, is *chaotic* as the design process. It is *parametric* as well. Computational parameters generally enable *eccentric* ornaments to be designed in architecture. These ornaments have *eccentric* forms. Their *eccentricity* is not only due to their form and formality. It is also due to their conceptuality and contextuality. They are formed in a new context called as virtual reality. These ornamental forms gain a *photogenic* and *photographic* entity, and so they become *mediatic* in the architecture of the 21st century.

Surface is a significant concept in the ornamental architecture of this century due to the fact that ornament is generally defined and designed to create *surface effect*. This effect is mostly created by the methods of printing and patterning (Figure 6, 7). They lead surface to be designed as *skin* or *screen*. Surface designed as being skin or screen creates a new ornamental image in architecture. This is an *illusionary* image designed digitally. It refers to the fact that digital technology promotes *surface effects* by turning them into *illusions* recently.

Figure 6. Printing the surface: Eberswalde Library, Jacques Herzog, Pierre de Meuron, Germany, 1999 [24]

Figure 7. Patterning the surface: 100 11th Avenue, Jean Nouvel, New York, USA, 2009 [25]

Kipnis discusses the *illusionary effect* of the surface as *cosmetic*. The concept of cosmetic is rather used to refer to the perceptional illusions about gravity, transparency or permeability of the building. It is neither decoration nor ornamentation. According to Kipnis, ornaments attach as discreet entities to the building like jewellery. However, cosmetics are indiscreet; they have no relation with the building. They relate always and only to skin. Deeply, intricately material, cosmetics nevertheless exceed materiality as they transubstantiate *skin* into *image*. Ornaments look like entities; but cosmetics look like fields, aura or air. The *cosmetic effect* is more *atmospheric* than *aesthetic* [26].

Herzog elaborates on *effect* in architecture. It is the *illusionary effect* of *skin*, not *surface*. He discusses that *skin* is created by the unity between ornament and structure. When ornament and structure unite, there is no need to explain or apologize for the decorative details. Because it is a structure, it is a space. Herzog makes a distinction between ornament and decoration. He emphasizes that ornament is not something added on, but becomes one with the production of form. Ornament is part of an autogenesis of form, something very different from decoration. The use of ornamentation allows him to avoid looking for form as such; form, whether geometrical or organic, just comes about, via the ornament [27].

As Herzog, Lynn discusses that ornament and structure are not different categories. He promotes to use structural ornament in architecture [5]. Picon also discusses that the function of structure seems to be strikingly similar to the function of ornament [19]. It is actually not a new discussion in architecture. Semper critically discusses the traditional distinction between ornament and structure in his theory of dressing or cladding. Benjamin suggests that Semper's theory is far more radical. He frees architecture from the opposition between ornament and structure [28].

Moussavi and Kubo discuss ornament in terms of its structural, functional, and material effects [10]. For Levit, it is a reductive discussion. It reduces ornament to a functional tool. Ornament is symbolic above all. Function provides inadequate motivational bases to give rise to one form versus another. *Material effect* or (as Moussavi and Kubo call it) *materiality* reproduces a characteristic theory of the picturesque, which belongs to the history [9]. However, ornament appears strongly indebted to an inquiry regarding *materiality* and human senses. *Materiality* provides *subjectivity*. Unlike matter, it can never be considered as entirely objective. *Materiality* corresponds to a certain category of experience. It corresponds to a range of experiences that give us the impression of being in genuine contact with the physical world. *Materiality* possesses a relational character. It implies an encounter between subject and material world. Designed in a computational environment, contemporary ornament is inseparable from an inquiry into our rapidly changing definition of *materiality*. It appeals strongly to the senses. It presents a new *visual reality,* and so *virtuality* and *complexity*. It promotes a *hypnotic effect* actually. As Picon suggests, this leads to a destabilization of the traditional distinction between subject and object. Another distinction between ornament and decor fades as well. Decor begins to function in

an immersive way. It even begins to function as a structural component just as ornament [19]. It is due to the developing technology that has the potential and capacity to transform the design process of decoration and ornamentation into a *digital craft* (Figure 8). It is a radical transformation, which enables the new ornament to be discussed in architecture in the time of digital revolution.

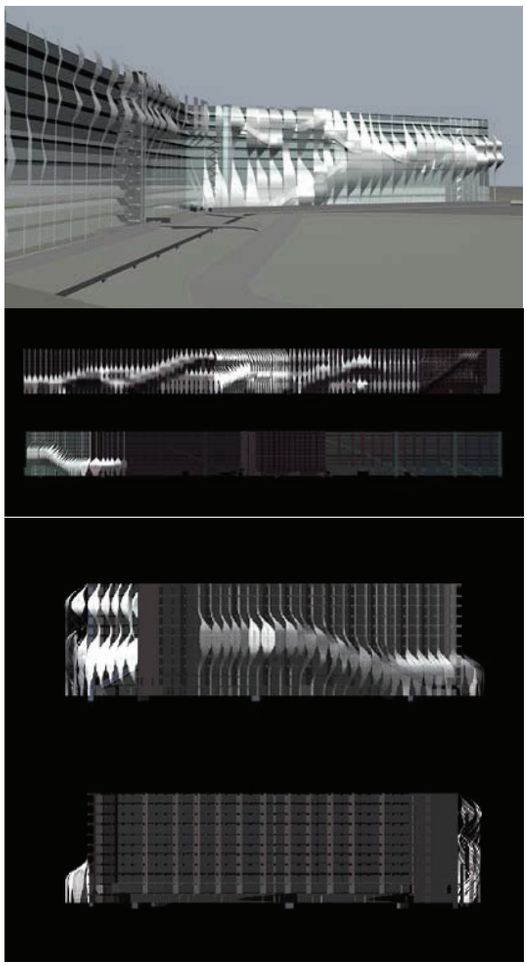

Figure 8. Digital crafting (or, ornamenting) in architecture
Transformation Kleiburg, Greg Lynn, Netherlands, 2001 [29]

2.2. The New Ornament in the Architecture of the New Century

Ornament has a new conceptual and cultural framework in the architecture of the new century. This framework reveals the changing representative nature of ornament in the 21st century. It also reveals the fact that ornament is defined and discussed as being *mediatic, phylogenetic, chaotic, eccentric, photogenic*, and *parametric* in recent architecture. These are the concepts related with other concepts such as *superficiality*, *performativity*, *self-representiality*, and *cosmetic*, *hypnotic* and *illusionary*. The theoretical framework of ornament is changed due to these concepts used to define and design the new ornamental architecture. It is *superficiality*, which defines ornamental architecture recently. It is because of the fact that ornament is rather considered as a superficial construction. It mostly refers to construct a digital surface in the architecture of the 21st century. This surface is *performative*, which means that it performs according to the dynamics of the virtual reality. It is the reality created by digital technology, which promotes *self-representiality* in ornamental architecture. Ornament now represents itself and its digital design process. Digital technologies lead ornament to be defined

by the concept of *cosmetic* as well. This definition emphasizes that ornament becomes a *superficial* construction more than ever. It is *surface* (or, *skin*), which is characterized by the cosmetic applications in architecture. They turn *surface* and *skin* into a *screen* by the method of *image-making*. Images, as the new forms of ornaments, lead screen to be *hynotic*. They are eye-catching screens for watching, informing, illusioning, and even hypnotizing. These are the concepts defining the new ornament in the architecture of the new century (Diagram 1).

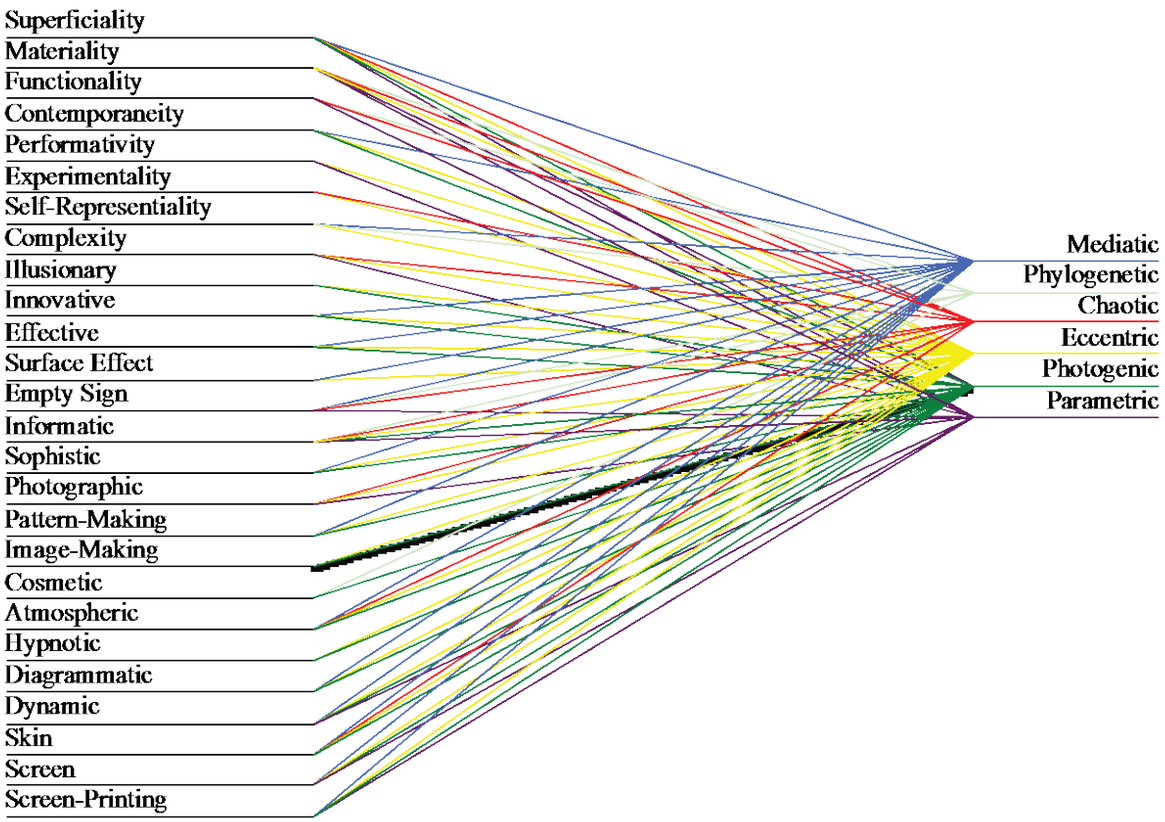

Diagram 1. The conceptual and cultural framework of ornament in the architecture of the 21st century

However, there are many other concepts used to define and discuss ornament in architecture. But a limited number of them are discussed in the paper by diagramming the conceptual and cultural framework of ornament in this century. These are the most frequently used concepts discovered by the author while making an interdisciplinary research on ornament. They are related to each other, again by the author, based on their conceptual and cultural relations and affiliations. They can be related in many other ways during the process of diagramming. In any case, it reveals the fact that ornament has a new conceptual and cultural framework recently, since it is representing digital culture and its reality.

3. IN LIEU OF CONCLUSION

Ornament becomes a significant discussion in architecture more than ever. As such, architects realize the potentials of ornament both as a tool of design and representation. These are not only superficial and formal

but also material, spatial, structural and functional potentials to create *a new architecture*. *It refers to the fact that ornament has the potential of developing architecture materially, spatially, structurally and functionally as well as superficially and formally.* However, it is generally discussed as a formal and/or superficial entity. It is actually a reductive discussion. It reduces ornament to be defined only through surface, façade, skin or screen. It also reduces ornamentation to a traditional decoration. But ornamenting is beyond decorating the surface of the building; it is about designing the building. Developments in the digital technologies enable effective ornaments to be designed in architecture. They are not only designed to create *surface effects*. Ornaments are effective and performative designs to be able to create *new spatial experiences* as well. It means to design ornament as the spatial, structural and functional component of the building. Furthermore, it means designing the building as the ornament.

It is emphasized through the paper that the ways of designing, defining and discussing ornament are radically changed due to the changes in culture and technology. Digital technology even leads culture to become digital in the 21st century. Digital culture becomes the dominant culture. It dominates architecture. Besides, it paves the way for ornament to represent the new realities and dynamics of the digital culture. The representative nature of ornament is therefore changed. Its conceptual and cultural framework is also changed. New concepts are used to define and discuss the digitally designed ornament in architecture such as *parametric, photogenic, hypnotic, dynamic,* and so on.

It is therefore concluded that ornament and ornamental architecture can no longer be discussed within the context of *Modernism* or *Post-modernism*. It can rather be discussed within the context of *Digitalism*. Ornament is redefined due to the digital technologies. It is not the ornament of the last century; it is now designed in a virtual reality. It is the virtual environment created by the computer technology. This environment not only leads new forms, but also new concepts to be defined in ornamental architecture recently. These concepts refer to the changes in culture and society. They also refer to the changing representative nature of ornament in the architecture of the 21st century. They even reveal the fact that ornament becomes self-representational in this century. It begins to represent its own digital design process rather than culture or nature.

This leads some critical questions to be asked in architecture such as “What is the new in ornament?”, “Is it really new?”, “Does its changing representative nature make it new?”. These questions will be helpful to make a further discussion on ornament in architecture. They will also help to change our perspective on ornament generally restricted it to a mere superficial structure.

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Sustainability-Sustainable Development and Life Quality

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Received: 17.03.2020

Accepted: 27.05.2020

Abstract: *The city and its environment are important because it is the place where the greatest proportion of people live on earth. The quality of life, which is one of the goals of sustainable development, is a concept that aims to provide economic and social welfare in a secure and comfortable urban environment. The studies being carried out today at international level pressure governments to develop urban policies and to carry out at urban level. However, method studies are required in order to classify and analyze the urban quality relatively. The methods to be used for description, interpretation and development of the quality of urban life stand as subjects of this article.*

Keywords: *Sustainability, quality of life, urban development*

Sürdürülebilirlik – Sürdürülebilir Gelişme ve Yaşam Kalitesi

Özet: *Kent ve çevresi yeryüzündeki insanların büyük oranının yaşam alanıdır. Sürdürülebilir gelişmenin hedeflerinden biri olan yaşam kalitesi, güvenli ve rahat bir kent çevresi ile ekonomik ve sosyal refahı sağlamayı hedefleyen bir kavramdır. Günümüzde uluslararası seviyede yapılan çalışmalar, hükümetlerin yaşam kalitesine yönelik kentsel politikalar geliştirmelerine ve kentsel ölçekte uygulamalara yol açmaktadır. Ancak kentsel kalitenin göreceli olarak sıralanması ve çözümlenmesinde yöntem çalışmalarına gereksinim duyulmaktadır. Kentsel yaşam kalitesinin tanımlanması, değerlendirilmesi ve geliştirilmesinde izlenen yollar bu makalenin konusudur.*

Anahtar Kelimeler: *Sürdürülebilirlik, yaşam kalitesi, kentsel gelişim*

1. INTRODUCTION

Sustainability is the talent of a society, an ecosystem or a stable system that carries on its function continuously and without being spoiled or destroyed because of extreme consuming [1]. Sustainability is the programme that aims to change the economical development process by protecting the ecosystem and society systems which makes life worth living and possible and also to create a life quality for all people [2]. In the context of this programme; a balance of economical, social and ecological development processes is required which differ from each other.

The word "ecology" is formed by E. Haeckel with the combination of the words "oikos" which means the place to live, homeland and "logia" which means science or statement in Greek (Figure 1). Ecology is a branch of science that examines the natural environment of organisms and the relation between the organisms and their environment [3].

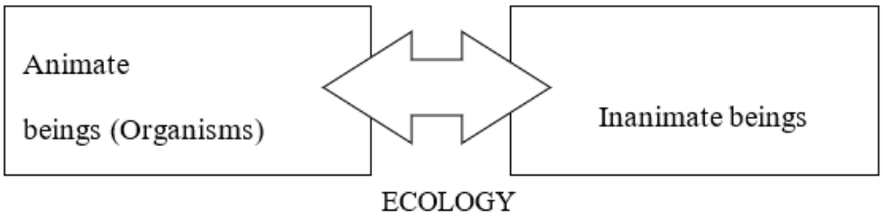

Figure 1. Ecology and Ecosystem [3].

Environment is the overall aggregate of physical, chemical, biological and social factors which might affect human being and other organisms directly or indirectly and instantly or within time (Figure 2). Human being is part of environment in terms of examination either in natural or unnatural surrounding. Thus, environment is interpreted as more comprehensive than ecological system. From this point of view, the following items need to be emphasized [3].

- All organisms including human being
- All physical, chemical, biological and social factors which affect or might affect activities of organisms
- Inanimate beings

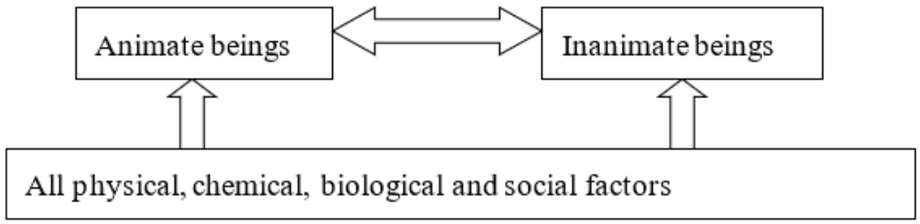

Figure 2. Environmental components [3].

The entire planning operations system which is a way of enabling the continuity of sustainability could be named as "space science". The relation between the effects which forms and impacts the space, revealing the cause and effect relation and analyzing of it constitutes the scope of space science (Figure 3).

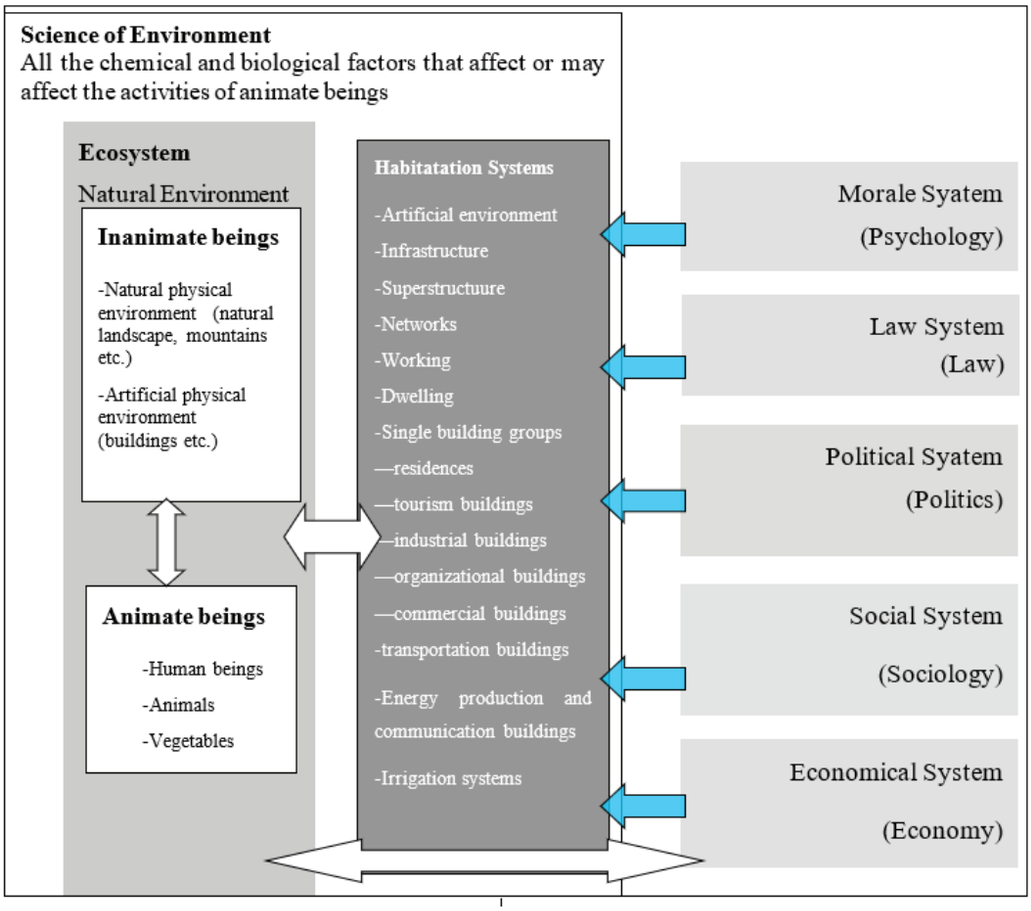

Figure 3. Components of sustainability and affecting systems [4].

2. SUSTAINABLE DEVELOPMENT

Increasing population, unsteady growth and consumption cause irrevocable impacts on earth. The earth is having difficulties with providing the needs of current population rather than the next generations' needs in terms of global view. Areas of rain forests decrease. Biological diversity dies away because of hunting/shooting and consumption. Moreover, consumption practices leave negative effects on environment and climate. Since the population growth continues especially in undeveloped and developing regions; more than one billion people try to survive with an income of less than one dollar per day, more than 800 million people get insufficient food and 2.5 billion people can not reach proper health service.

Sustainable development means providing the needs and expectations of current generation without compromising the needs and expectations of next generation.

Briefly, planning of sustainable development is a system which;

Can provide the needs of current generation in equality and participation principles.
Does not block the needs of next generations
Providing a life quality compatible with the capacity of the ecosystem
Is interpreted in terms of international, national, regional and local aspects

Conserves itself in terms of social, economical and environmental factors

Almost every study states similar definitions on sustainability. Environmental protection, social welfare and economical development are the key aims that are reflected within the notion of sustainability. Sometimes, sustainability is limited with various criteria depending on the point of view. Different criteria might be stated due to different aims. Indicators might change depending on the scale assessed.

Globalization- Sustainability Development Paradox and Solution Approaches

Economical growth, extreme consumption of natural sources, social sidelining in the world increase with the effect of globalization and stand as negative pressure on sustainable development. In this context, cities become the dynamic areas where many global interactions come true and where international level decisions are carried out at city scale. Progressively globalization of economy and increase of international labour division converted many cities the hidden control and administration points of production and consumption.

Absence of economical activity and unemployment caused by growing population

Employment issue becomes top problematic topic since the technological development is replaced with human effort. Quick movement of capital affects economical systems of countries and hence economical systems of cities directly. Since production processes are started to be carried out where effort costs very little, employment issue of developed countries started to increase. Hence this situation triggers fast and unhealthy built-up areas where effort costs very little. At the same time, environmental pollution problems increase where production activities get intense. This process leads to consumption of natural sources fast.

Growth-poverty dilemma

Growth-poverty dilemma is the most significant problem of cities which is required to be solved. Besides the continuing studies on this issue, international associations and consultants support the economical&financial success model or developer's intervention model.

Social sidelining

Another significant problem of cities is social sidelining. Destruction of city structure occurs because of globalization, economical reconstruction and competition/reforms in developed countries. Creating and sharing unfair wealth by social sidelining which causes problems is an obstacle for urban development (class, geographical, inter-generational). Environmental deterioration and social sidelining can be observed intensely even in many wealthy European cities which are known as steady in terms of city culture and city balance. This sort of areas are mostly the outskirts of the city which are far from the downtown and have high population. It is stated that poverty, bad sheltering conditions, ignorance, crime, high unemployment, less variability, less education and difficulty of reaching to information are the extensive features of the area.

Difficulty at service activities in terms of globalized economical development

The basic service demands of the poor get over against the globalized economical gist in many big cities of underdeveloped countries causes problems for economical growth.

Devastation of natural environment

Economical growth causes environmental problems (environmental pollution, consumption of natural reserves etc. The development in which natural sources are used once and wastes are left over is not the sort of sustainable development. This sort of development destroys the living environment of human being and other organisms inevitably by consuming the natural reserves.

In Search of Solutions

Supplying the needs of the inhabitants of the city and economical activities of the city with the limited sources in city scale stands as an important problem. Thus, this leaves a limited space to move around both for the city officers and inhabitants in terms of city development. In order to work off the mentioned problems, urban development strategies are prepared and thus getting benefit of the opportunities of globalization by the city officers stands as a point of origin for the solution. For a sustainable economical development, importance of dynamic and synergistic effects 2) impulsive power of competition instead of preventive effect, a flexible economic situation of the city that answers to different and irregular demands, creation of enterprise and flexibility are the emphasized issues. Besides, the urban development strategies become the subjects of criticism in terms of sustainability. The mentioned criticism and related solutions are summarized as below.

Characteristic of urban development strategies as dual political arena

While the cities transform to competitive arenas, some sort of political enterprises are undertaken in order to encourage global economic competition [5]. The foreseen urban development strategies create dual political arena in terms of both economical growth and development. One of those arenas leads to global capital practice and on the other hand, new mechanisms are described to provide sustainability across the capital power. Primarily issues of the second arena involve democracy, local economic development/ balanced growth, re-sharing, recycled source use and similar issues. Progress of multiple supported processes by all diverse factors in the city is aimed in order to debug the insufficiency of infrastructure for urban development and in order to determine strategies for economical activities (*Figure 4, 5)*.

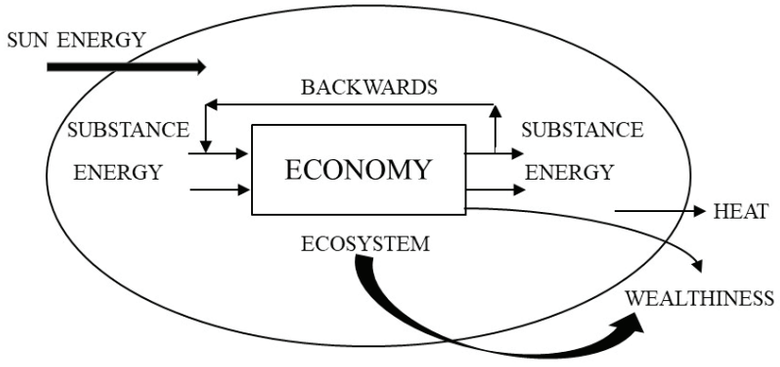

Figure 4. Relation of ecosystem, economy and ecology with each other [4].

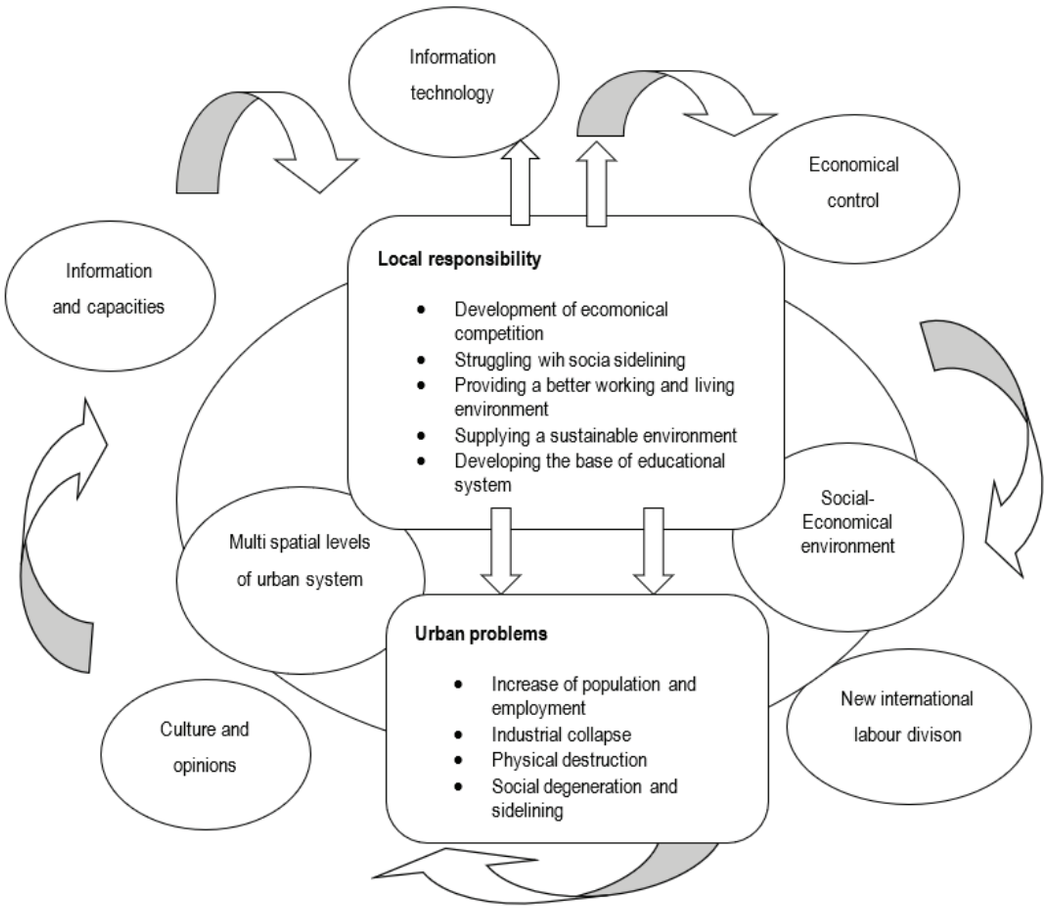

Figure 5. The foreseen urban development strategies create [4].

Appeal of global competition for city officers in many aspects
One of the supporting associations of global capital is the World Bank. The World Bank assumed city administration offices as a traditional customer from the Bank's point of view.

Since the literature and terminology on urban competition are US based, some problems are observed on practice of the issues for other cities even though sometimes for some West European cities. The reason is interpreted as strong, local autonomy and self-governing municipality structure in US. Many cities are couraged and supported for political autonomy and localization by international finance associations and governments which provide economical support.

Failure of democratic change-participation culture
The theorists used to be pessimist in 1990s about the economical growth and sustainability in underdeveloped countries. From their point of view, replacement of only very small central authority with the locals over the last decade and/or lack of bigger civilian cooperation and failure of the democratic change in streets are because of the ignorance of local reality.

Lack of organizational culture

The urban development strategies might be both opportunity and serious threat for urban development. Since the opportunity hunting process is not followed by the politics, sustainability stands as a threat issue in underdeveloped and developing countries. Negative effects are experienced as a result of lack of national strategy, capital based tendencies and limited aspects. Since there are differences between developed and underdeveloped countries in terms of democratic culture and organizational infrastructure on planning; the planning studies of underdeveloped and developing countries unfortunately can not go further than abstract implementations of versatile solution models of western arguments.

Having success in sustainability even though the globalization, following the princ, ples of the sustainability, determining the practice axes, providing the pre-conditions and consistency between all those are required (Figure 6) [6]. Social, geographical, cultural values at national and international level, getting organized, equality between generations, creating social strategies and enabling unity balance are the basic principles. Environment, economy, social equality, social strategies, unity balance and legal systems stand as practice axes and working on those issues is required.

Handling minimizing the above mentioned problems as an aim, participated process on decisions, clear, understandable and observable approaches during the process and strengthening the information base really matter.

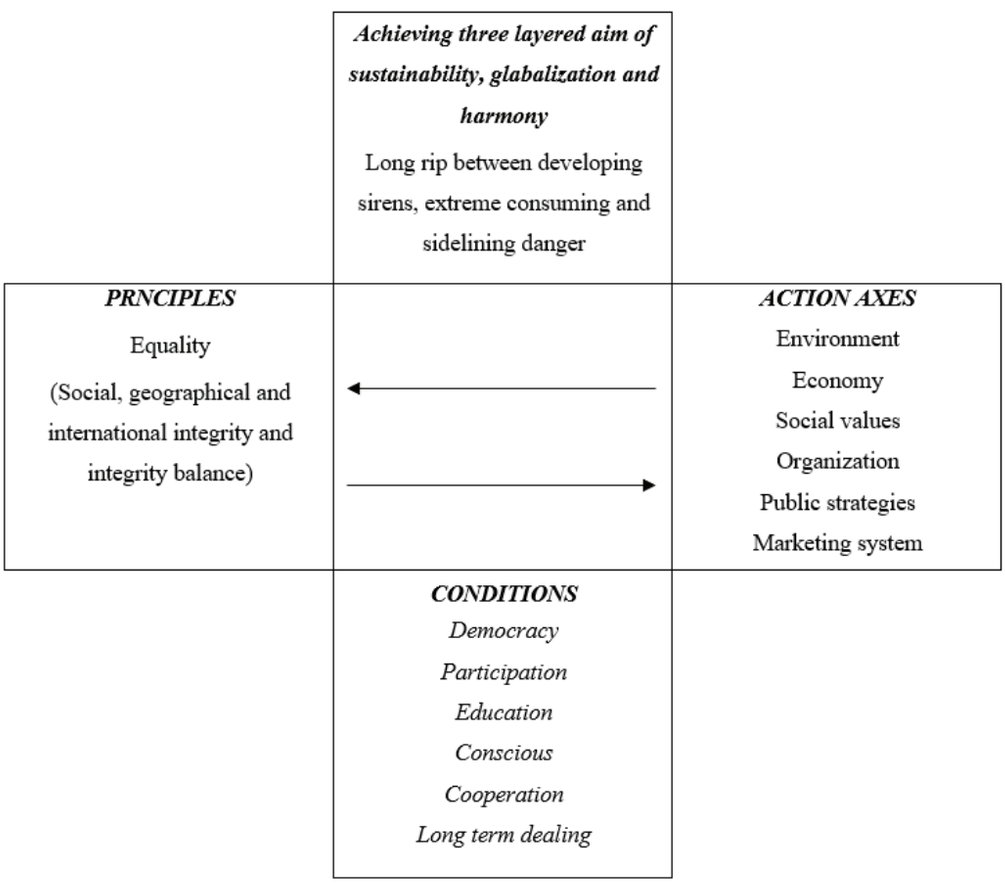

Figure 6. Achieving three layered aim of sustainability, globalization and harmony; principles; conditions and action axes [6].

2.1. International Approaches for Sustainable Development

Because of some reasons like destructive globalization, threats of extreme consumption and pollution over habitats of organisms and feeling of this, increase of inequality and instability the significance of the mentioned issues have been risen at international level. In terms of sustainability, seven important workshops on the subject which started with Habitat 1 in 1972 and continued with the Johannesburg Summit Meeting.

This sort of international cooperations have benefits from several points of view.

1. Commitment of countries for sustainability at international level
2. Support of those commitments for both central and local officers' sustainable development strategies
3. With the help of those cooperations and programmes, more effective sustainable development practices are experienced having support of national and international associations. Capacity of city administratives and network relations get expanded.
4. The first international workshop on the subject is called HABITAT I United Nations Human and Environment Conference which was held in 1972. The headlines of the discussed issıues of the last meeting in Jahannesburg (2002) are as follows.

    - A good local administration in order to create sustainable societies.
    - Connection between urban and rural areas for sustainable development.
    - Governments' role on developing cooperationed activities for sustainable development.
    - Working together with national governments, international associations and non-governmental organizations.
    - Creating opportunities at local level in order to support and courage various activities.
    - Strengthening the authorities of local officer in order to both provide sustainable development and direct the city effectively.

General frame about urban approaches for sustainable development is determined by European Urban Charter. The charter is formed in 1992 based on urban strategies of European Council. The charter has parallel approach with the European Council's on basic rights and freedom. Besides, it is directly related with core features of urban development and life quality. In this context, human rights in cities were highlighted and moreover organization of respect to human rights, spread of the respect and indispensability of each individual without any priority in terms of age, nationality, religion, social/economical/political status, mental/physical disability was emphasized.

This approach provides the following to the society besides other rights:

- Livable, beautiful, with reasonable cost, having environmental conditions, well located, bright and big enough houses.
- Preventive health cautions like enough green areas, sun shine, silence, healthy vegetation and nice opportunities.
- Connections between various functions of city life.
- Cultural opportunities, sportive and recreative facilities, social development, free movement, an harmonic balance between all passengers (public transport, private cars, pedestrians and cyclists).

In addition, this approach supports providing the rights of necessary social facilities, cautions against

poverty, necessary equipments for the disabled, security, welfare, work and education opportunities, having/ conserving cultural and historical heritage [7].

2.2. National Approaches for Sustainable Development

National approach in order to provide sustainability has significance in terms of creating strategies as well as signing international agreements and forming legal regulations.

In may countries, life quality studies are designed in order to collect information on national strategies [8]. The studies aim to determine the life quality at national and additionally to guide local officers, to create strategies at national and international level and to observe results of strategies. The borders of the mentioned studies, which generally start as a social indicator and are limited at national level, get wider at present as life indicators and get richer with various information from local and national sources.

The most familiar indicators are the Sweden Researches and Electronic Information System which is based on ULF System and German Social Indicator System which is known as DISI 2.0. Both systems were developed in 1970s for systematic observation. Getting started from 1999, Canada has been developing life quality reporting system by FMC with the information enabled from government and municipality resources.

The aim is to analyze, observe and report life quality of the municipalities in Canada. Four different tendencies in terms of creating a healthy society in US have been observed in a period of 30 years. The first one has been growth and development. The money is assumed as the key to human happiness and the indicator is the gross national product. The second tendency was revealed in 1960s which was about taking into consideration many issues on having high quality life and interpreting the relation between those issues. The system theories that state the idea "social and environmental systems are animate beings and they are interacted with each other in a complicated way" are the core of sustainable development concept.

As a summarization, all around development that indicates the urban level and planning that has strategic issues are pointed at national based studies at present. This sort of allround development goals involve the issues which might help urban studies which are as following [9]:

- Making urban recreation areas as liveable and attractive points.
- Making the commercial areas dynamic and appalling centers. Transforming the commercial areas living both day and night, increasing circulation throughout the area involving the weekends, making the opportunities reachable and easy to afford.
- Designing the areas close to each other to decrease the necessity of traveling.
- Providing activities for protecting and controlling the natural environment.
- Creating qualified spaces and buildings by conserving historical and cultural heritage.
- Developing neighbour relations and the quality of relations.
- Stimulating mix-used areas and providing affordable residences.
- Determining new residence areas due to development plans and designing development programmes that have high level of living conditions.
- Transforming the existing residential areas.

2.3. Regional Approaches for Sustainable Development

One of the important points about providing the sustainability is the regional level at which the national decisions lead to space scale. This scale enables to communicate with the space and social issues. At this

level, main frame of regional sustainability development is described and strategies are determined. The Planning and Compulsory Purchase Act (2004) in England require the cooperation of regional planning associations and local administrative officers to enable the sustainable development. The mentioned regulation describes the frame of strategy design period in terms of sustainable regional and urban development. It also stands as a basic reference for sustainable regional and urban approaches.

Office of theDeputy Prime Minister of Scotland (ODPM) states seven principals under the headline of Sustainable Societies and New National Sustainable Development Strategies for 12th Century. Those are as follows:

- Consumption of sources should be decreased.
- Local environmental fortunes should be protected and strengthened.
- A qualified planning is required.
- Inhabitants should have a high life quality.
- Social participation and equality should be increased.
- Participation to administration should be enabled in a wide range.
- The society should be able to achieve affording the living costs without any governmental support.

2.4 Urban Approaches for Sustainable Development

International, national and regional approaches describe the main frame of sustainable urban approaches. Life quality indicators are specified more deeply at urban level in order to point out the problems, to create and follow strategies. Social indicators and life quality researches have been in use recently at social and urban levels and in this context, the urban indicators get diversified which are used in planning studies. Indicator groups more than 200 which point out the economical, environmental and social wealthiness of the society in long term were developed in US. Some projects refer to the life quality while the others refer to healthy societies and sustainability. For instance, “The National League Cities Project” in US aims to create the well-being index in terms of liveable cities. “The Winnipeg Life Quality Project” in Canada offers a measurement system for life quality. “The Big Cities Life Quality Project” which started in 1999 in New Zealand aims to set social well-being indicators involving the economical and environmental indicators. Family researches in almost 20 big cities of Germany are being directed that focus on life quality. A life quality measurement system in England was also set which can be used in each scale due to the strong connections between national and local levels.

Table 1. Priority areas at different levels on sustainability [10]

THREE MAIN STUDY AREAS	**INTERNATIONAL** 8 millennium goals	**INTERNATIONAL AND NATIONAL LEVEL** Primarily argued goal	**REGIONAL LEVEL** Primarily argued goals	**URBAN LEVEL** European urban condition, primary goals
ENVIRONMENT	• Providing environmental sustainability	• Climate change and energy • Protection of natural sources and environmental strengthening • Effective environmental protection • Usage of natural sources sparingly	• Protecting and strengthening physical and natural environment, using the sources and energy effectively	• Renovation of physical urban environment • Improvement of existing building stock
ECONOMY	• Developing global cooperation for development	• Sustainable production and consumption • Taking control over economical growth and unemployment	• Sustainable, innovative and effective economy that provides high level employment	• Economical development
SOCIETY	• Stopping poverty and starvation • Achieving universal education • Providing gender equality and supporting women • Decreasing children deaths • Developing mother health • Dealing with diseases like HIV, AIDS, malaria and others.	• Sustainable society • Social approaches which deal with the needs of everyone	• Social participation, sustainable communities and a fair society which supports personal wealthiness • Developing a sustainability approach and following that approach which can be presented as a goal by all individuals	• Encouraging public participation • Supplying social and cultural opportunities within quarters

When all the studies and systems from international level till urban level within the scope of sustainable development concept are scanned, it is clear that they are not independent from each other. In addition, it is observed that the life quality indicators get more detailed towards the local scale due to the main headlines in terms of description of sustainability (Table 1).

3. LIFE QUALITY DESCRIPTIONS

Innovative thoughts and included issues of life quality researches were discussed in the US at the very beginning and were spread in Europe. Afterwards, other international associations started to be interested in life quality researches as well. OECD (Organisation for Economic Cooperation and Development) started the social indicators programme in 1970. Meanwhile, Richard Stone was awarded Nobel Prize with his study called "social and demographic statistic" and this project became a guide for the United Nations Social and Economic Commission [10]. Currently, social cost of economical growth and increase of poverty are the main agenda issues of social and political discussions.

The definition of life quality used to correspond to the ability to live in 1980s. In this context, the life quality of the society is determined according to the experiences of the inhabitants who live in a particular area.

For instance, the quality of air and water, existence of traffic, spare time opportunity and subjective opinions of the inhabitants are mentioned experiences.

Rapoport borders the life quality with the physical issues as air, water pollution, consumption of the resources, environmental and industrial pollution, consequences of population increase and sound which have effects on humans [11]. Türkoğlu also interprets the 'life quality' topic in terms of physical factors and states the variables of life quality as follows in the study of interpretation of dwelling and environment: age of building, scale of dwelling, type of dwelling, physical condition of the building, average density throughout the neighbourhood, distance to the downtown.

Life quality interpretation issue becomes complicated when it needs to be specified how to examine and what to examine. For instance, when it is about the quality of a building, the issue becomes a personal issue in terms of aesthetical and material quality features. On the other hand, the hygiene factor of the quarter is a general issue. Hence a comprehensive life quality assessment including personal and general indicators is required.

Oğuz states that life quality is the total of natural, human, physical factors and lifestyle and classifies the variables as follows: local variables, physical variables, psychological variables, socio-cultural variables.

Variables of another classification are as follows: physical/apatial variables, social variables, economical variables, environmental variables [1]. Local variables are as follows: distance to recreation areas and services, accessibility to various environmental opportunities, micro climate, topography and landscape sight.

The physical variables are as follows: size, existence or lack of some elements, reasonable density, reasonable sharing, success at providing the area organization, harmony of environmental features, continuity, performance, quietness and clearness of air. The psychological variables are as follows: harmony of the percepted density, complexity and comprehension at perception, starvation, unstressed environment and sufficient communication with other people (Table 2).

Table 2. Classification of social factors by DEE [14]

Education/Science	**Historical Values**	**Cultural Values**	**Psychological Mood**
• Archaeology • Ecology • Geology • Hydrology	• Architecture and style • Events • People • Religions and culture • Western	• The Indian • Other ethnic groups • Religious groups	• Life standards • Upsetting conditions • Unemployment and employment opportunities • Loneliness • Residence • Mystery
	neighbours		• Social interaction • Being in nature

Socio-cultural variables are as follows: family characteristics, reasonable homogeneity, homogeneity at small scaled areas, proper classification of the areas, providing timing organization, providing privacy, status, reasonability at social interactivity, convenience at interpreting the environment, description of the percepted area, reasonability of education system, business and health and minority of crime rate.

Apart from all above, Tobelem-Zanin points out the problem of infinity of "life quality concept" when its description is interpreted in a wide range (1995). The mentioned concept involves personal interests and social desires as well, competition as a result of contemporary society and transportation problems. Life quality might be effected depending on the difference between the environmental conditions and total personal desires. Life quality description is related with the lack and insufficiency of people and society by interpreting positive quantitive features.

Lane defines life quality as a period which involves subjective and objective elements rather than a situation. According to this approach, basic and active role of personal quality-personal experiences and capacities- is emphasized as the core element of life quality. While the subjective elements of high life quality are well-being perception and (learning) personal development, the objective element is interpreted as life quality condition which represents getting benefit of the opportunities in life.

Social harmony and sustainability are the two characteristics of a good society which emphasizes relations between people rather than personal characteristics. The social harmony concept is a subject of the discussions not only at academic level but also at national and international levels. Social harmony connects two features of social state. The first feature is about decrease of inequalities, divisions, differences and breakages. Social sidelining concept is related to the mentioned situations in society. The second feature involves strengthening the social relations, connections and responsibilities. This feature is defined as social comprehension and social capital terms [8]. Johansson states that in case of citizen participation for answers to the questions 'What is life quality? What should it be? What is it going to be?' the life quality identifications would service for democratic periods in the best way.

Since the people reflect their life styles and knowledge to the environment they live, the city quality reflects the life quality at the same time. In this context, the World Health Organization recommends including the following criterias for assessment of life quality: usage of the space, protection of historical, cultural and natural values, accessibility to services, planning, building design, urban design [12].

European Foundation for the Improvement of Living and Working Conditions describes life quality as being fine for each person [2003]. Being fine does not mean just having good conditions but also controlling the sources of all habitat, reactions of society and feelings about their lifes. According to Fadda, life quality concept generally points out the issue of making life better [2003]. In this context, all elements of life conditions, needs and demands of society have significance rather than personal life standards.

Cobb points out the theory of the source of good life to measure life quality. There are various theories about the source of good life and good society and different welfare and life quality concepts are specified. Each variable points out a different side of life quality and differs from each other. Thus, different variables and different sides are emphasized. Selected indicators for experimental measurements depend on generally highlighted concepts. In other words, the difference between objective and subjective indicators is determined according to conceptual frame. While the objective indicators are the statistics that represent

social, economical, spatial reality which is not related with personal assessments, the subjective indicators are about the assessment of personal perceptions and social conditions.

Use of objective indicators starts with the judgement of positive and negative life conditions in terms of comparison of the rules and real life conditions considering the aim, goal and value issues. Three key points have significance on social and political compromise: welfare issues, positive and negative conditions, tendency direction of the society. There is an agreement about descending of unemployment rate and crime, ascending of income level and education level for development and progress in terms of use of the indicators. However, there are some indicators which are more discussable such as pension age, inequality of incomes, social development, commercial development, sharing, effective, clear economical growth.

Use of subjective indicators depends on welfare which can be best noticed and jugded by people. This leads to deep discussions on measurement principles of welfare. Especially the Scandinavian welfare searchers criticize "objective life quality". What they are interested in is the assessment of people's desire and satisfaction grade by their own. From this point of view, examining the issues that make people happy measures how they get adapted to the existing conditions.

According to the most familiar Scandavian researcher on welfare, R. Erikson, the ideas and preferences of people are not shaped with research questionaries and opinions but with the activities within the democratic political periods.

In this chapter, under the headline Urban Approaches for Sustainable Development, European Social Quality Indicator, England, Canada Winnipeg, New Zealand New Indiana, US projects' life quality indicators are examined and compared according to their classifications.

Northeast Indiana Life Quality Draft in the US is assessed which was published in 2003 as an example for indicator groups (more than 200) and which reveals long term economical, environmental and social welfare. This example project is summarized as a representation of the US approach. The aims of the project are as follows: 1) Providing support for development of public strategies at state, regional and local scale 2) Providing help at formulating the investments 3) Providing help to business people about social strategies 4) Encouraging the non-profit organizations to take responsibilities 5) Providing base for discussions on future and focusing the local scale 6) Enabling citizens and other people who concern, understand the local area better 7) Promoting the life lasting education systems and supporting them. Three main principles are considered during the study. The first one is the sustainability concept and focusing on children and families; the second one is sustainability as a guide on developing the social based indicators; the third one is sustainability as an assessment of development period of society, environment and economy for the benefit of current and next generations.

The categories that were assessed in the study are classified in 11 headlines. Those are as follows:

1) Social diversity
2) Successful societies
3) Social opportunities
4) Balance between the society and the environment
5) Educated society
6) Healthy society
7) Open and living relations between neighbours in society
8) Accessibility of society
9) Secure society
10) Society that can value living within art and celebrity

11) Society that can take care of citizens and shape relations.

The mentioned categories are measured depending on the headline sequence by demographical features, economical data, income and indicators that reflect the two polars of wealthiness, environmental indicators, education indicators, data on health, residence, transportation, public security indicators, data on cultural and recreational activity and civil points of life [13]. Those indicators are seen on Annex 2.3.

The life quality indicator study of Winnipeg Canada states that life quality is fed by the wide perspective of sustainable development concept however adds that there exists a difference between the two concepts. Sustainable development in general and indirectly points out the significance of equality, on the other hand, life quality is not connected to equality. Winnipeg takes the environmental report of the State dated to 1997 which includes the categories human power, human created capital, social and natural capital, multi-frame of the World Bank, natural sources, society issues and personal well-being about forming the frame of life quality and about measuring the society welfare. Life quality indicators of Winnipeg are defined according to the following fice headlines: economy of the city, urban environment, social presence, social leadership and pride, personal well-being [14].

4. CONCLUSION AND ASSESSMENT

Depending on the discussions already mentioned, it is understood that sustainability of life quality is a concept which includes a wide range of issues like environmental, economical, social components besides personal life styles and organizational service presentation. This concept has benefits like noticing and interpreting of the real conditions of society, creating strategies and comparing, observing in many areas. The components of life quality are indicators that are constituted according to the classifications. Those indicators are diverted as international, national and regional and local depending on the assessed scale. However, indicators are not independent from each other and there is a struggle on standardization of the indicators towards worldwide form the local by separating the accurate information. The common indicators are as follows: social indicators, sustainable city and region indicators, regeneration indicators, measurement indicators of performance of local services.

While sujective indicators are in use to measure the satisfaction of families in some countries, social indicators are referred mostly throughout the EU countries. Moreover, there are some examples of forming social, economical and spatial indicators for urban sustainability at city scale in order to compare and observe the cities and create strategies. On the other hand, the literature sources point out that the distance between human perception and existing/ideal conditions could be measured in terms of handling the objective and subjective indicators together.

Some sort of intervention areas are created with the regulations related to urban transformation in Turkey. However it is hard to reach a solid indicator and research about the reason of chosen areas and the criteria. There exists neither a comprehensive approach nor a wide perspective. For this reason, solid assessment results are required in the country more than ever. Both national requirements and update of international studies on life quality have been the motivating powers of this essay. Considering the solutions for the problems in terms of the mentioned headlines above is going to lead to a new approach in the future.

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Urban Conservation As Sustainable Development: The Work Of B.V. Doshi At Ahmedabad

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Received: 20.03.2020

Accepted: 25.05.2020

Abstract: *Urban conservation and sustainable development have been researched in isolation so far despite the mutual interdependence of both. This often leads to extreme arguments of whether a historic city should be frizzed as a memory or be allowed to adapt to the modern developments. Some contemporary interventions in historic cities done by architects without a specialization in conservation fail to understand and incorporate city's setting in their designs, however there are cases in which the background, sensitivity and skills of the architect allow to produce exemplar interventions to reflect on. This paper explores one case and tries to extract the key aspects that could guide other architects working in similar contexts. The work of B.V. Doshi in Ahmedabad is researched. The approach and methodology of the architect is analyzed and discussed on the basis of his educational background, the approach to the intervention and understanding the walled city of Ahmedabad in India.*

Keywords: *Urban conservation, Sustainable development, Sensitivity and Contemporary Interventions.*

Sürdürülebilir Kalkınma Olarak Kentsel Koruma: B.V. Doshi'nin Ahmedabad'daki Çalışması

Özet: *Kentsel koruma ve sürdürülebilir kalkınma, her ikisinin de karşılıklı bağımlılığına rağmen, şimdiye kadar ayrı ayrı araştırıldı. Bu etkileşim, çoğu zaman, tarihi bir şehrin muhafaza edilmesi mi yoksa modern gelişmelere uyum sağlamasına izin verilip verilmeyeceği konusunda tartışmalara yol açar. Koruma konusunda uzmanlaşmadan mimarlar tarafından tarihi şehirlere yapılan bazı çağdaş müdahaleler, kentin ortamını anlamıyor ve tasarımlarına dahil etmekte başarısız oluyor, ancak mimarın arka planı, duyarlılığı ve becerilerinin üzerinde derinlemesine düşünmek için örnek müdahaleler üretmesine izin verdiği durumlarda var olabilir. Bu makale bir alan çalışmasını içerir ve benzer bağlamlarda çalışan diğer mimarlara rehberlik edebilecek temel yönleri çıkarmaya çalışmıştır. Ahmedabad'daki B.V. Doshi'nin örneklem alanı çalışılmıştır. Mimarın yaklaşımı ve metodolojisi, eğitim geçmişi, müdahaleye yaklaşım ve Hindistan'daki duvarlarla çevrili Ahmedabad kentini anlama temelinde analiz edilmiş ve tartışılmıştır.*

Anahtar Kelimeler: *Kentsel koruma, Sürdürülebilir gelişme, Duyarlılık ve Modern Müdahaleler*

1. INTRODUCTION

The curriculum of architecture is focused more on new designs in an urban environment rather than in the conservation and intervention on existing buildings. Ironically, most of the graduated architects tend to work in a historic setting. Due to the lack of knowledge in this area of expertise many architects take arbitrary decisions with a poor background resulting in inappropriate interventions within historic cities. The main aim of this paper is to encourage urban planners to intervene in historic cities, but in a sensitive way. It will explore some interventions in a cultural context but carried out by a skilled architect sensitive to the importance of

history and heritage. The project taken into consideration would be seen as a successful and a desiring model where urban design and conservation are recognized as sustainable development. This project also provides evidence of world heritage assessment, which is revised yearly.
Aldo Rossi's book "Architecture of Cities" (1982) has tried to establish a process that would encourage a city to evolve than to be preserved, where the monuments are preserved with the use of other elements of development. He proposes with the help of an example of Alhambra in Granada, that instead of considering city as a "museum city", only a part of it should be preserved, and the rest of the city could be open to urbanism. Similarly, this paper with help of a case study from India, this paper explores how Urban Conservation can be seen as Sustainable Development.

2. METHODOLOGY

This paper focuses on the work of B.V. Doshi (2008) in Ahmedabad. Aldo Rossi's book "Architecture of Cities" has been a great reference to provide context for research. In order to better understand the city, a dissertation written by students of the Centre for Environmental Planning and Technology (CEPT), Ahmedabad, has been of great assistance to understand the city of Ahmedabad.

The reason for selecting the walled city of Ahmedabad was since it is one of the most historic cities in the country and was also declared an UNESCO World Heritage City in 2017, making it an appropriate example where sustainable development was achieved without compromising the historic and cultural value of the city.

3.AHMEDABAD: CHARACTER AND SIGNIFICANCE

3.1. Ahmedabad, India

The city of Ahmedabad, founded in the 11th century was established as a small military settlement, i.e. a walled city, at that time known as *Karanvati*. As rulers changed, the city kept on changing its name. Finally, the city got its name Ahmedabad after the ruler Sultan Ahmed Khan in 1141 AD. This city unlike many other cities of India was not founded by the British and it always remained true to itself. With time it adapted to the new industrial age, and also successfully carried the skill of traditional and social organization. There are not many cities in India which has been able to carry the continuity of the past and present at the same time.

The city, being under the persistence of political dominion of the Mughals, Marathas and the British; it has their footprints left behind. With development the city adapted new techniques, materials, architectural idioms and exceptional cultural significance. Therefore, this city sees construction and architecture from the Hindu-Islamic architecture from the twelfth century and also modern architecture from late twentieth century such as; Louis I Kahn and Le Corbusier.

With new adaptions and advancement of technologies, the basic organizing principles in terms of urban development, architecture and building typology has stayed tireless till the twentieth century and is also reflected in its environmental and socio-cultural context, making the city an important attribute for its authenticity [1].

3.1.1. Character of City

The city has developed at two levels, i.e. at macro and micro levels. At macro level, is the development of the walled city and at micro level, there are 'pols' houses; the well-known neighbourhood houses of Ahmedabad. Ahmad Kahn during his reign first built the city wall with twelve gates, one hundred and thirty nine towers, nine corners and more than six thousand battlements. It was under Begda's reign, where Persian garden scheme was introduced in Gujarat. The other gates were built during the sixteenth century. The fort wall of the city, being four to five meters high and two meters wide; built in terracotta bricks, lime mortar and plaster, gave a particular semi-circular form to the city. The gates were links for the commercial hub of the town and markets to residential areas [2].

3.1.2. Development of the walled city

The Sultan, Ahmad Kahn, began with the construction of the *Bhadra* Fort (citadel), *Teen Darwaza (*three gates*)*, the Jami Masjid and the Ceremonial Avenue, which connected these main sites of the walled city. It was in the seventeenth century roads and transport networks were built. The area around the citadel was considered ideal for defence and accessibility. Since the Muslim community was dominant at that time, the city was developed in according to the traditions of Islamic City Planning. City's main commercial hub; *Manek Chowk* was situated near the citadel along with the tombs of Kings and Queens, making it the busiest area of the city. Along the royal complex of the *Bhadra* Fort, there were many residential areas known as "*puras*" (pols). These "*puras*" were residential, self-sustained blocks, which during the eighteenth century became micro neighbourhood houses. It consisted of people from the same community. Each of these "*puras*" formed a settlement resembling a mound or "*Tekra*" at the city level [3].

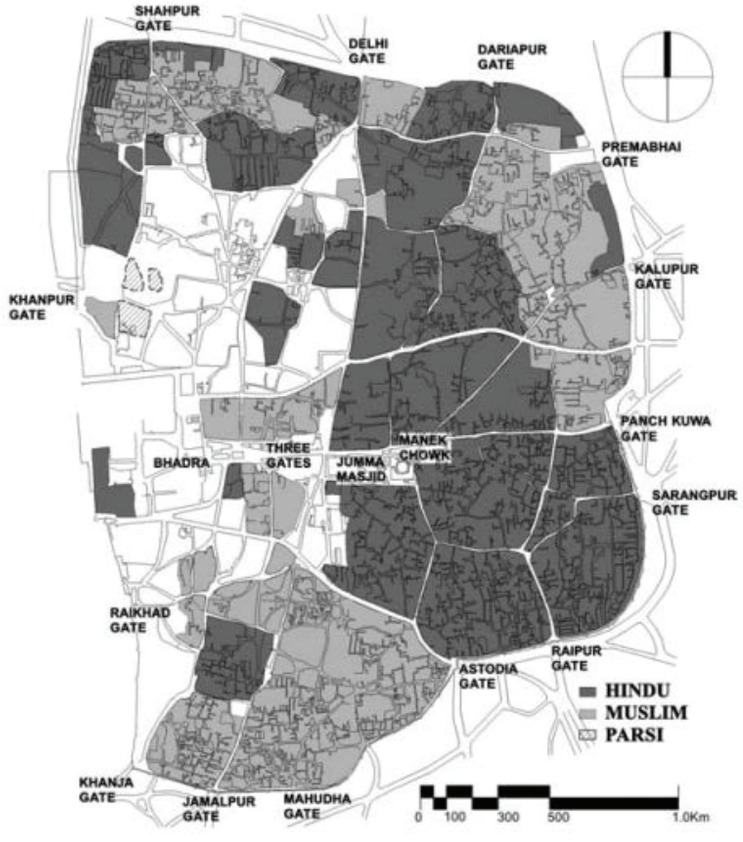

Figure 1. Plan of the historic walled city of Ahmedabad, showing the settlements of various religions

Figure 2. The Bhadra Citadel

These pols of Ahmedabad are unique for their architecture and design. They have a defined entrance through main gateway followed primary and secondary streets leading to cluster of houses. Each pol had a temple or a mosque, creating a sense of belonging. By 1872 the city had three hundred and sixty five pols, with people staying as per their castes, reflecting the social structure of the city. During the British Raj, there were a series of events that took place in the nineteenth century. In 1857, there was the emergence of the Municipal commission. The city being the prime location of trade and finance, the population kept on increasing. It was then, the city was introduced with railways and the city demanded more residential areas. In order to encourage spreading settlements and connecting the city centre to the railways, the Municipality made new roads and widened the existing roads, demolishing some pols. There were many projects which took place under the British rule, without understanding the society and their customs.

The functions of the present Municipal Corporation are similar, as framed by the British then. As a result, the city has continued to grow and today has turned into a metropolis.

The uneven growth of the city is also reflected in the spatial character of the city, and divided the city in old and new city. The elites who lived within the walled city have moved out, making the walled city occupied by the middle income families and migrants, as a result creating development pressure and resulting in loss of residential areas (pol houses). Hence, the city needs to develop a strategy for the walled city so as to continue the fabric of the city [3].

This Walled City was the first city in India to be listed as UNESCO's World Heritage Cities, 2017. UNESCO lauded the historic city's sultanate architecture, especially "*the Bhadra citadel, the walls and gates of the Fort city and numerous mosques and tombs as well as important Hindu and Jain temples of later periods. Its traditional houses and streets, finished with intricate bird feeders and community wells, celebrate the fusion of Indo-Islamic architecture and art.*" [4].

3.2. Architecture Of The Walled City

3.2.1. Sultanate architecture style of gujrat

The walled city of Ahmedabad has a unique architecture character K.V.Soundara Rajan, a scholar of Archaeological Survey of India (ASI) stated that Sultanate Architecture of Gujarat, typically Gujarat originated from this city. He mentioned that construction of this city was under the supervision of Muslims, but the craftsmen were Hindus. Therefore these buildings and monuments are of ambitious scale and composition, showcasing power, patronage and vigour of the Ahmad Shahi rulers. These Islamic structures which were built by the Hindus craftsmen bear subtle undertones of Hindu architecture principles. Rajan also mentions that these were consciously adapted by Hindu craftsmen on demand of their Muslim supervisors [2].

In 1573 A.D. the Sultanate was taken under control by the Mughals. With this, the Sultanate Architecture of Ahmedabad degenerated. In this second half of fifteenth century the Sultanate gave some best examples, these include the *Rani Sipri* mosque, known for its artistic flowering and *Muhafiz's Mosque* known for its composition, perspective and filigree work giving it a complete new dimension.

Figure 2. Elements of Hindu Architecture at Jami Masjid

Figure 3. Intricate jali work at Sidi Sayed Mosque

3.2.2. Pol houses of Ahmedabad

The pol houses of Ahmedabad were the heart of the city. These are known for their neighbourhood planning and intricate wooden carving on facades. These are longitudinal residential units, each with courtyards arranged along a narrow street with a cul-de-sac at the end. Most of these "*pols*" have "*chowks*" , i.e. a community space, a place of worship, i.e. a temple or mosque and bird feeder known as a '*chabutaro*'. When a number of these "*pols*" come together they form a "*pur*", i.e. a larger settlement, which is defined with boundaries of a "*bazaar*" making them self-sufficient on a larger scale as well as on smaller scale.

The traditional facades of these houses had elaborate wooden carvings, symbolizing the cultural beliefs of the owners. The wooden constructed pols had central courtyards, underground rain water harvesting cisterns, known as "*tankas*", and projecting features on the exterior, in order to maintain the interior temperatures during summers in this hot and dry climate. The traditional construction technique, i.e. use of partial timber framing and timber laced brick masonry on lower floors and light weight timber posts and joists on the upper floors, have been earthquake resistant even till today.

These pol houses saw excellent craftsmanship and cultural expression, catering to the different individual needs of the residents to the hot and dry climate of the region, creating an exceptional example in an urban system.

Figure 4 and 5: Typical facades of pol houses

4. UNESCO'S WORLD HERITAGE CITY

UNESCO defines cultural heritage as "legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations". It is this universal application by UNESCO to heritage that makes cites like Ahmedabad more unique. These cities not only have a recognized identity but also funding for its preservation and protection. Once a city is declared a World Heritage City, it boosts the tourism, which indirectly helps the economy of that country [5].

The cities which contribute to architectural and historical aspects, they are declared as UNESCO World Heritage Cities. For a city to be listed as a World Heritage City, needs to be of "outstanding universal value" and meet at least one of the criteria mentioned in the Operational Guidelines for the Implementation of the World Heritage Convention. It was until 2004 where for a city or site to be listed as World Heritage had to fulfill six cultural and four natural criteria. The criteria mentioned by UNESCO, are the main working tool for selecting World Heritage, which is revised annually by the Committee. It is because of this evolution of criteria and guidelines that today there more than eight hundred world heritage cities [5].

4.1. OUV for Historic City of Ahmedabad

The criteria for selecting these nominated cities changed after 2004, and among these criteria's Ahmedabad satisfied criteria (ii) and (v) mentioned under Operational Guidelines for the Implementation of the World Heritage Convention.

Criteria (ii) referred to the important interchangeable human values, which over a span of time developed in terms of architecture, monumental arts, town planning and landscape. And, criteria (v) referred to an outstanding example of human settlement and land use [5].

The Historic City of Ahmadabad or the old Ahmadabad as commonly known was nominated as a World Heritage City by UNESCO in the year 2017. As UNESCO writes; "*The historic walled city of Ahmadabad represents a unique synthesis of Islamic culture of its founder and the indigenous traditions of Hindu and Jain culture, pervading through all aspects of urban life. The rich building traditions of local craftsmen and artisans profoundly influenced the early buildings of Islam in the region giving birth to highly acclaimed Gujarat Sultanate idiom of Architecture unparalleled in its beauty as well as structural prowess as exhibited by the famous shaking minarets of some of the mosques. The traditional Islamic city planning combined with the local traditional of community associations resulted in the unique community based residential settlements 'pol' with its most refined and homogenous expression in the historic city of Ahmadabad. The traditional pol houses of Ahmedabad, while being structurally and climatically adapted to the context are also significant as the expression of the culture of the inhabitants exhibited in the exquisitely carved wooden facades, which are some of the finest examples of the wooden craftsmanship in the world*" [6].

After declaration of a World Heritage City, it is UNESCOs part responsibility to protect these cities. For the same UNESCO framed Charters and Recommendations for these cities, so as to help them to maintain their status. These Charters and Recommendations encouraged appropriate development in these listed cities.

But since every city has a different character, it was difficult for the authorities to review these cities under the same perspective. After which City Councils were given the responsibility to maintain character of their cities. For the same they framed of Legislations and Regulations at national level.

Therefore, after the Ahmedabad was declared as WHS, it is now also the responsibility of the Indian Government and the Ahmedabad Municipal Corporation's (AMC) to maintain the city's Outstanding Universal Value, so as to maintain city's nomination as a WHS. For which they need to establish management plans, make sure that their city is safeguarding the World Heritage [5].

UNESCO also has the power to declare any site or city under threat, if the national government fails to protect their listed World Heritage City. For example, the city of Liverpool is declared to be in threat due to the urban development happening around the docks.

5. WORKS OF B.V. DOSHI

Balkrishanan Doshi, also known as B.V. Doshi, is called a living legend in contemporary architecture history. In the late nineteenth century, he worked under Le Corbusier for four years in Paris. It was under Corbusier where Doshi was inspired with his works and style of architecture of that time. When Corbusier was appointed in Chandigarh and Ahmedabad, Doshi also came to India to supervise Corbusier's projects. With his experience under Corbusier, he merged principles of modern architecture and local Indian traditional resources and implemented them in his works. In many interviews he mentions that, "*Le Corbusier was like a guru to me, he taught me to observe and react to climate, to tradition, to function, to structure, to economy and to the landscape* " and same approach is seen in his own work. He believes that one should have a deep understanding of the past and after which it is possible to design for the present. This was the only way where India would have a sustainable future. In 1955 Doshi established his own firm, "*Vastu Shilpa*" which meant environment friendly. The name refers to the Shastra, i.e. Hindu metaphysical. The same is seen in his designs; a blend of environmental cosmology, proportions and directional alignments [7].

His designs comprise of typical features, such as the semi vaulted ceiling, skylights with diffused light entering the building, sandwiched vaults, envelope design, subterranean spaces for building's passive heating systems and landscape well designed with water channels and cascades. The exterior walls of his buildings' are generally cladded using local materials, i.e. stone or mosaic and sometimes have used exposed concrete. An example of the same is his office building, "*Sangat*".

This typical style of Doshi is seen in most of his buildings. Another most discussed project of his is IIM Bangalore. IIM, Ahmedabad was designed by Louis Kahn, which was supervised by him. There were a lot of speculations on him for taking a similar approach. In an interview where he was questioned regarding the same he answered saying that, "*my lighting is different from that of Corbusier and Louis Kahn. Contrast IIM Bangalore with that of Kahn at Ahmedabad IIM Bangalore is more walking through a garden*". The reason for this different approach was the inspiration that he took from the old palace, Fatehpur Sikri of sixteenth century. He adopted similar principles from this palace, such as the interlocking courts, pavilions, terraced gardens and connections within the palace. The construction of IIM, Banglore was simple, standardized and he used modern materials like exposed concrete.

5.1. Revitalization of the *Bhadra* Precinct

The *Bhadra* Fort area is one of the historic sites within the walled city of Ahmedabad. The city was designed on a central axis, starting from the Sabarmati River to the main town. It connected important buildings of that time such as mosques, temples, gardens and other important buildings. This central axis was known as the Central Avenue of the walled city. Originally there was a plaza or an outer courtyard, outside the *Bhadra* Fort, known as the *Maidan-e-Shahi*, meaning a Royal Square, now known as the *Bhadra* Precinct. This plaza had a platform at the center. The function of the same was to use it as the seat of the sovereign with ambassadors sitting under the fragrant trees and fountains surrounding them.

The Ahmedabad Municipal Corporation (City Council) under the JNNURM (Jawaharlal Nehru National Urban Renewal Mission) decided to get this plaza back to its original grandeur and make this area portraying as a true city centre of the historic city. With the help of this project AMC tried to address the issues faced by countries, due to the rapid developing economies, as also seen in India. Their main concern was to revitalize the city centres of these old cities, and also to encourage development by providing economical profitable areas to the citizens of the walled city, instead of conserving individual buildings. It wouldn't be wrong to say that the City Council made use of the old "City Beautification Moment" of the late twentieth century [8].

5.1.1. Scenario of the *Bhadra* Plaza before Revitalization

Originally the outline of the plaza was traced using archives of the city. The study showed the encroachment of this plaza over time. As the city grew, this area suffered a lot of issues related to traffic congestion and unutilized open spaces, encroachment by hawkers and homeless people. The other problems included no proper pedestrian demarcation, haphazard parking, dense built fabric and unorganized informal activities added to congestion issues of the plaza.

5.1.2. Proposal by BV Doshi

The brief provided by the AMC to the design team, i.e. *Vastu Shilpa* Consultants and CEPT University, the Redevelopment of the *Bhadra* Precinct was to make this historic core a walkable precinct, by developing the pedestrian, existing parks and conserve the surrounding heritage monuments making it suitable for the cultural and religious background of the society [9].

Doshi according to the brief, proposed the plaza to be a pedestrian precinct. The design aimed at beautifying the precinct and demarcating the public, private and other informal activities which took place in the past, but now to be used in the modern context.

As mentioned earlier, the city was developed on a central axis that was connected from River Sabarmati to the main market. Doshi proposed a pedestrian walkway from the gate of the Fort to Teen Darwaza, connecting River Sabarmati through a pedestrian bridge. The revival of this central axis connected the Manek Chowk, (which was an open area surrounded by small shops, and hosted leisure activities) to the River.

This proposal left an impact of an old walled City, and also enhanced the World Heritage City status. With help of ASI, Doshi is trying to restore the facades of the buildings, whose elevations were facing in the plaza. For the same he has provided guidelines to the residents for elevation treatments. Along with this the proposal also included the conservation and redevelopment of the main attractions of the plaza i.e. *Bhadra* Fort by the ASI and *Lal Darwaza* Bus terminus.

Doshi also planned at micro level, i.e. he addressed the issues related of street vendors and other elements such as signage, lighting, landscape and street furniture. He proposed to relocate the street vendors, and allocated different areas for these vendors depending on their vending patterns, location, movement, types and typology of their stalls and their sizes, in order to protect the livelihood of these weaker citizens. To differentiate these new stall locations, he designed portal columns and aligned them to separate market space and walkways. These vertically designed elements added to the ambiance of plaza and provided lighting to stalls.

Even though the project was complex with multiple parameters which ranged from the brief provided by AMC to public policies, all were well addressed in his design. His design encouraged the informal and formal activities of that area. He designed open areas to encourage many cultural events to be celebrated. He was also able to maintain the quality and character of this public space, rather sees the old *Bhadra* Plaza to facilitate the modern. This project in 2012 received first prize in the category of Conserving and Heritage at HUDCO (Housing and Urban Development Corporation), 2012 Award for Practising and Improving the Living Environment [8, 12 & 13].

6. DISCUSSIONS AND ANALYSIS

6.1. Approach and Methodology of the Architect

B.V. Doshi treated this historic setting as a medium of sustainable development rather than preserving it. The same is discussed further here under the following heads.

6.1.1. Influence of Twentieth century Architecture

Balkrishanan Doshi was influenced, and many of their contemporaries, by Le Corbusier. He was a senior architect in Corbusier's office and supervised his work in Chandigarh and Ahmedabad. Le Corbusier was a French architect and an urbanist. Like other modern architects, he had adopted industrial design. He too among others architects of this period was convinced that architecture played a social role in the society.

This was also an era where many changes took place on the social and political front. Due to this he too perceived architecture as a crucial instrument, and raised questions for the contemporary society. He used to believe that architecture could prevent revolution. This can be seen in his book "*Architecture and Revolution*" which he wrote in 1922, where he writes that "*a building is the root cause for social unrest today; architecture or revolution.*" (Le Corbusier, Towards a New Architecture, Frederick Etchells (trans.), London: Butterworth Architecture, 1989, p. 269. '*Architecture ou Révolution*" was to be the original title of Vers Une Architecture) In spite of his modernist approaches, some of his sketches, he took inspiration from some historic cities in his work and tried to achieve the same character in his projects. For example the Phillips Pavilion in Brussels was inspired from the vaults, and he applied the same principles of construction for his project. Same was the case for Palace of Assembly in Chandigarh. From his sketches we can see that during his visit in India, he took inspiration from old forts and palaces for his designs at Chandigarh.

This similar influence of modern architecture was seen in Doshi's work, as it is discussed above. He too favoured the spirit of time over the spirit of place. He aimed to create architecture of this period, which would be marked as a mile stone in the history of architecture.

His architectural design was based on three main principles; function was the main source for their design, new technologies gave rise to industrial design and lastly they tried to understand the decorations of these buildings, like themes, forms and motifs. This may be a reason that Doshi used a modern intervention and not adapt the Hindu-Islamic style of Ahmedabad in this project.

6.1.2. Designing for locals

Doshi did not get involved with the locals at a personal level, but he did take into consideration the behavior of end-users. He tried to weave the lifestyle, culture, activities and habitat all together. He also gave attention to minor points of human behavior and their response to space. For example, the benches he designed in the plaza are inclined on both sides, with no flat surface. This because he realized that the prescient being an open area, it would be occupied by many homeless people for sleeping. He designed street furniture taking care that it wasn't misused. The project also involved rehabilitation of many street vendors. Doshi incorporated their movement and priorities of their market sale and allocated them space accordingly.

6.1.3. Theory of conservation

Even though Doshi did not have a conservation background, he was appointed to do a project in this historic area. And may be therefore, one could not see any application of conservation theories in Doshi's work, but it cannot be denied that he well understood the city and designed responding to its climate and settings.

Doshi had to revitalize a plaza to solve issues like traffic congestion and mismanagement of the space. The plaza being in a historic setting, Doshi asked the ASI, to; clad the facades of residential houses which are facing the plaza. Here Doshi doesn't seem to have taken conservation approach like to identify the stone used or matching the identified stone that is to be used for cladding.

Doshi talks about revitalizing a water fountain that was present during the reign of Ahmad Shah. For the same, evidence in archives was unidentified. Doshi in his attempt of developing the Bhadra Plaza does not give any importance to the conservation of the Bhadra fort. But, for a conservation architect, conservation of the Bhadra fort would be the first proposal in his project. Instead Doshi involves ASI to maintain the fort.

Again, he mentions about the conservation and adapting the Hindu-Islamic styles in his design, but implication of the same is not seen. Yet, his complete modern approach blends with the historic fabric of the walled city.

6.1.4 Aldo Rossi's Approach for Historic Cities

Aldo Rossi (1931-97) explained the importance of historic cities and proposed theories to protect their historic character. He mentioned that any historic city should not be treated as a "skeleton" or be "mummified" to a particular era, but should encourage progress and development [10].

For Rossi (1982) these cities have lost their function and are preserved only to keep the memory lane alive. He mentions these cities were designed during that period to accommodate future functions, and therefore urbanism is needed in these cities which would not damage the city's character, if done responsibly. He considers a city as a theatre of human arts, where every part of the city grows with time, integrating the past with present. He explains the need for a city to be conserved than to be preserved.

He feels that these cities are always in dilemma because they have two main functions to maintain; i.e. evidence of time and acquire a status with modern culture and modern life. In other words they have to incorporate the past, present and the future. Also, these cities have now been a part of timeline of an era, have become icons of global cultural tourism, and have been promoting cultural experiences for millions of people [11].

This similar approach was seen in Doshi's design too, he too understood the importance of the historic setting but, also used a sustainable approach in his design and not frizzing the precinct to an era.

6.2. Discussion about project

If one notices closely, Doshi not only conserved the tangible but also the intangible aspect of the precinct. The *Bhadra* precinct which was once used by king's subjects and his public was once again opened to the public. In his design, he brought the central axis of the old walled city that had been lost because of encroachment. He attempted in bringing back this strong connection back to being. He understood the small-scale heritage buildings surrounding the plaza and did not propose anything that was dynamic or bold to hamper the ambiance of that space, without understanding the theories of urban conservation, but by just respecting the historic environment.

Doshi's approach in this project, was to do what he knows and can react to, he not been having an education background in urban conservation did not hamper the historic fabric and involved the professions who had the expertise to do so.

7. CONCLUSION AND RECOMMENDATIONS

The paper emphasizes the need to find a balance between urban conservation and sustainable development. The work of B.V. Doshi in these respective historic settings is a model for architects and urban designers to design in such settings with lack of knowledge in architectural or urban conservation. This model of work explains the readers to get inspired from their historic setting and then to interpret this understanding through their modern approach. B.V. Doshi's work in Ahmedabad was able to synchronize a path that encouraged sustainable development while conserving the built heritage.

This paper also finds it important to include at least one module of architectural or urban conservation in the architecture degree curriculum. Here, aspiring architects or planners could gain knowledge of theories of conservation, making them conscious while designing in historic settings.

ACKNOWLEDGMENT

I would like to express my sincere thanks to Dr. Cristina Gonzalez-Longo, Director of M. Sc. Architectural Design for Conservation of Built Heritage at University of Glasgow for her helpful critics and guidance coordination during the study on this research. This research was a part of research dissertation at University of Strathclyde, Glasgow.

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