30th Urban Design and Implementations Symposium
5th International Urban Design and Implementations Congress

Future of Urban Design + Urban Design of Future

Proceedings

MİMAR SİNAN GÜZEL SANATLAR ÜNİVERSİTESİ
Department of City and Regional Planning | Urban Design Branch

30th Urban Design and Implementations Symposium
5th International Urban Design and Implementations Congress

Future of Urban Design + Urban Design of Future

PROCEEDINGS

IN MEMORY OF THOSE WE LOST IN THE EARTHQUAKE FEBRUARY 2023

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Mimar Sinan Fine Arts University
Meclis-i Mebusan Caddesi No:24
34427 Fındıklı / İstanbul
Ph. +90 212 252 16 00
urbandesignsymposium@msgsu.edu.t

30th Urban Design and Implementations Symposium
5th International Urban Design and Implementations Congress

Future of Urban Design + Urban Design of Future

Mimar Sinan Fine Arts University
(MSGSÜ / MSFAU),
City and Regional Planning Department,
Urban Design Branch.

https://msgsu.edu.tr/akademik/mimarlik-fakultesi/bolumler/sehir-ve-bolge-planlama/

urbandesignsymposium@msgsu.edu.tr

İstanbul Metropolitan Municipality,
İstanbul Planning Agency (IPA).

https://ipa.istanbul/en/

info@ipa.istanbul

Mimar Sinan Fine Arts University,
Research and Implementation Center for
Urban Design (KENTTAM).

https://msgsu.edu.tr/arastirma/uygulama-ve-arastirma-merkezleri/merkezler/kentsel-tasarim-uygulama-ve-arastirma-merkezi/

kenttam@msgsu.edu.tr

Contributors of Special Session
International Perspectives on Urban Design

IPA Public Design Office
Ajuntament de Barcelona
Beijing Municipal Institute of City Planning and Design
Superpool
Play İstanbul (Oyun Istanbul)

Contributor of Special Session
Future of Urban Design Student Workshop

Metropolitan / Urban Studies Student Club (MEKİK)

The symposium was held online between 25-27 May 2022. Special Sessions 1 and 2 were held as a hybrid meeting at IPA Florya facilities. All sessions were broadcast live.
Meeting recordings can be accessed from the MSFAU, City and Regional Planning Department, Youtube Channel.

https://www.youtube.com/playlist?list=PLQFP4oYg-4EII5ZS98AzUX9Aj_sHMdZLv

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Ezgi Ayan
Nevra Çorapsız
Deniz Kaya
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alphabetical order by surname

FOREWORD

This introductory text was written right after a catastrophic disaster that occurred when the book in your hand was almost ready for print. One of the biggest earthquake disasters in the world history took place in the south of Turkey on February 6, 2023. At least 40 thousand people died in two consecutive earthquakes that affected many urban and rural settlements in 10 provinces. According to the initial work carried out in the field, it was determined that approximately 60 thousand buildings were heavily damaged and to be demolished. Some cities that had symbolized the human civilization of more than a millennium were level with the ground. This disaster once again presented how important and indispensable professions planning and urban design are in terms of avoiding disasters, meeting the needs encountered during disasters and of course building / re-building the cities after the disasters. It was re-stated that the correct determination of the development areas of the cities could significantly decrease the losses, and this was only possible with the "right planning" practices. Similarly, it was emphasized once again that the turmoil experienced during and after the disaster could be prevented with the "right urban design" and that right urban design facilitating emergency interventions would allow the wounds to be healed quicker.

Considering the climate crisis and the related claims that disasters will occur more frequently and more effectively, I can argue that the Urban Design of the Future will be greatly affected by disasters and that Urban Design will be developed in a way that includes the evaluations of pre, during and post disaster processes. Although this symposium/congress, organized by MSGSÜ Faculty of Architecture, City and Regional Planning Department did not focus on disasters specifically, it aimed to develop explanations about the future of urban design by discussing the crises, threats, opportunities, and potentials including those disasters. In this framework, urban design was opened for discussion by bringing its problem-solving, opportunity-creating and potential-activating aspects to the fore and by determining the social, cultural, economic, and political processes together with disasters and climate crisis, which are expected to affect it. In this context, I am very happy that a very rich discussion was made possible with approximately 40 presentations in 10 separate sessions.

I would like to underline that the 30th (5th international congress) of the Urban Design and Implementations Symposium was organized this year. In addition to being the only continuous event in Turkey in the field of Urban Design, it has also been the most important part of our department's long-term tradition of organizing periodic events, starting with the World Urbanism Colloquiums, and continuing with Urban Conservation and Practices Symposiums, Rural Area Planning Symposiums and Wednesday Seminars. I would like to thank to the participants of this year's Symposium for being a part of this meeting; to our University, Faculty and Urban Design Research and Implementation Center; to our student club MEKİK; and to the Istanbul Planning Agency of the İstanbul Greater Municipality for their invaluable contributions; the esteemed members of the Scientific Committee for their scientific evaluations and finally and mostly to the colleagues in the Organizing Committee who were the cornerstones of this organization.

Prof. Dr. Murat Cemal Yalçıntan

Head of the City & Regional Planning Department, MSGSÜ / 2020 - 2022
February 17, 2023

Future of Urban Design + Urban Design of Future

INTRODUCTION

We are glad that Urban Design and Implementation Symposium has reached its 30th anniversary in 2022. In this respect, it has been held as an international congress. It was the 5th international organization in the symposium's history.

Cities are facing a global crisis all over the world that has several aspects: Climate change that threaten balance of the nature, increasing socio-economic inequalities that jeopardize social cohesion, untransparent decision making that turn down the citizens' voice. All have crucial impacts on cities and urban life. More than the half of the World's population is living in urbanized areas which bring global urban problems into the forefront. Scientists have been repeatedly warning politicians, decision makers and citizens all over World about these near future global problems for decades. Urban design is one of the crucial professions which has to do with to stop and reverse the worsening impacts of the global problems. Hereby, we decided the theme of the symposium as "The Future of Urban Design + Urban Design of Future". We believe that urban design as a field of spatial science can contribute to overcome the challenging future of cities, and to do so it should reinvent itself according to the problems that cities are faced. Urban design is an evolving field of science since it has born. Once it was seen as an artistic phase of urban planning with the contribution of urban planning, architecture, and landscape architecture, seventy years ago, now it is widely accepted as a part of urban planning process that includes interdisciplinary approaches, collective and participatory decision making, and implementation of public policies.

30th Urban Design and Implementation Symposium attracted a great attention not only in Turkey but also in Europe. Researchers and scholars presented their valuable works in sub-sessions, Istanbul Planning Agency coordinated a special session that gather city based international cases, and students as members of the Metropolitan / Urban Studies Student Club (MEKİK) organized a workshop. In cooperation with Istanbul Planning Agency of Istanbul Metropolitan Municipality, Mimar Sinan Fine Arts University Urban Design Research and Application Center, and MEKİK, we hope the symposium reached a great success.

Prof. Dr. Ebru Firidin Özgür

Head of Urban Design Branch
City and Regional Planning Department, MSGSÜ
January 2023

ACKNOWLEDGEMENTS

The Urban Design and Implementations Symposium has an important place in the formation of the memory of Urban Design in Turkey. In addition, this long-term experience gives us a great responsibility to preserve and maintain the symposiums as a heritage. Therefore, we acknowledge the book of proceedings as the most important means of transferring the knowledge and experience we have gained in this process to future generations, rather than just being an ongoing academic publication.

Although it seems relatively easier today to ensure the continuity of the symposium after the challenging task undertaken by the founding generation that played a pioneering role, the rapidly changing local urban agenda and global crises continue to surprise us and change our lives almost every day. These unfavourable conditions also affect the symposium process. Nevertheless, we are developing our gains from the crisis of the previous conditions and producing solutions to reach new hybrid forms of recording of urban design memory. New technologic platforms, virtual user and peer group meetings, meetings in-person if it is possible, livestreams, pre-recorded and played presentations, chat rooms, live polls… we are changing and adapting.

To maintain such a practice in this rapid change and adaptation process, it is necessary to have young, dynamic, creative, solution-oriented and fast working teams within a knowledge structure built on solid foundations. For this reason, we would like to thank all the heads of Mimar Sinan Fine Arts University City and Regional Planning Department, starting with *Mehmet Çubuk* who built these solid foundations, and all the members of the organizing committee who ensured the continuity of the Symposium for 30 years. In particular, we would like to thank all the moderators who contributed to this meeting and helped to create a rich discussion environment and our young colleagues behind the scenes *İdil Akyol Koçhan, Ahmetcan Alpan, Barış Göğüş, Saadet Tuğçe Tezer*, who devoted their time and effort to the best operation of the symposium. We would like to extend our respect and thanks to Ajuntament de Barcelona, Beijing Municipal Institute of City Planning and Design, Superpool, Istanbul Play (Oyun Istanbul) for enriching the international character of the symposium by bringing different urban design practices to the symposium this year, and to Gökçer Okumuş and the entire Public Design Office for organising and contributing this special session. Finally, we would like to thank the Metropolitan / Urban Studies Student Club for the workshop organised by the students on their own initiative. We are pleased to welcome all our participating students, to whom we will pass the flag to carry the symposium into the future with their creative and promising works.

Assist. Prof. Dr. Melih Birik

Editor
City and Regional Planning Department, MSGSÜ
November 2022

Opening Speech

A GLANCE TO THE SYMPOSIUM ON ITS 30TH ANNIVERSARY AND ITS FUTURE PERSPECTIVE

Emeritus Prof. Dr. Mehmet Çubuk

A BRIEF LOOK BACK

I would like to start my presentation going back in time and take a brief look at the Symposium activities from the beginning to the present day.

In 1975, within the "Urbanism Movement" that we started at The Istanbul State Academy of Fine Arts (ISAFA/ İDGSA) and on the path from the Urbanism Course to the Chair of Urbanism and City and Regional Planning Department; the Urban Design Specialization Programme was initiated to provide a double major formation for architecture students. I can say that this is actually the first step on education of urbanism at the Academy. According to the 1981 Council of Higher Education law (YÖK), when the century-old Academy was transformed into Mimar Sinan University in 1982, this specialization programme was transformed into Urban Design Master's and PhD programmes within the newly established Institute of Natural Science and Technology. During the establishment of the City and Regional Planning Department, the Urban Design Branch was included within the Urbanism Section.

The "Symposium on Urban Design and Implementations" platform, which is being held for the 30th time today, was established in 1989 as an external activity to follow and discuss the developments in the field of urban design science and at the same time to create a Turkish written resource for students and those who are interested. For this purpose, to ensure continuity of the urban design knowledge, Symposium presentations and discussion results are regularly published despite limited resources. As far as I observe, for the last years, the presentations and discussions have been shared as open access e-book. Thus, I can say that an important written source on urban design has been created as an accumulation of 30 years.

I would like to emphasize here that in this long period of time, “an intellectual environment" has been formed with the support of the participants who constantly contribute to the meetings with their presentations and who are devoted to the meetings. I can state that these long-term activities and the influence of the

environment have contributed to the recognition of urban design in Turkiye and paved the way for its legitimization.

It has been a tradition of the Urban Design Department to organize symposium as conferences. Following the routine annual meetings of the colloquiums and symposiums held open to the public, the symposium meetings on Urban Design and Implementations were held as the 1st congress in 1999, in accordance with the congress order every five or ten years.

SPECIAL FEATURES ADDED TO THE SYMPOSIUM

Due to some requirements in under changing conditions that emerged in the organization of the symposium, supportive initiatives have also been added to the event in the past periods. I should mention that one of these initiatives was the establishment of an "International Advisory Committee" (Steering Committee) in 1999, consisting of 20 experts from Turkey and 25 experts from different countries.

Another initiative was the establishment of KENTASDER, the "Association for Supporting Urban Design Education and Research", in order to overcome the financial difficulties encountered in carrying out the symposiums as an outreach activity due to the fact that no participation fee is charged for involvement in the symposiums, and for other facilities.

On the other hand, in the presence of the increasing impact and interest, the Symposium activities were spread over a week and organised for the first time in 2001 in the format of "International Meeting Week" with the slogan "Appointment-Istanbul-1". At the same time, a workshop was added to this organization and an "International Workshop" on the theme "The Meaning of Change in the Bosphorus" was held on the boat travelling along the Bosphorus. The symposium, which has become an international platform with the latest developments, was organized in 2002 under the slogan “Randevu-Istanbul-2” and as the “International Urban Design Summit”.

I think it would not be wrong to say that these long-term meetings, local and international participations have evolved the Department of City and Regional Planning into a mutual meeting center in the field of Urban Design within the Mimar Sinan Fine Arts University.

THE FUTURE OF THE CITY AND URBAN DESIGN

As for the topic to be discussed at the congress today; I should state at the very beginning that the topic has been chosen with accuracy and careful research, in accordance with today's conditions. In the thematic titles of the congress, the phenomenon of "Future" stands out. "Future" is literally defined as "the time that has not yet come, the time to be lived, which is expected to be realized". In other words, the role and function of urban design in "the time to be realized" will be examined in the perspective of change, developments and innovations.

However, it would be correct to investigate this examination as the future of urban design in a chain interaction with the future of the World and the future of the city in the "Great Rapid Change" that is experienced today and creates a crisis.

FUTURE AND CHANGES IN THE WORLD AND THE FUTURE OF CITIES

From the first social life until today's consumer society, humankind has created the order of life on the earth without worrying about tomorrow, and while doing this, it has changed the settings of harmony with its natural environment. It has started to consume nature related to energy and minerals unconsciously. It has polluted water and air as basic substances. The ozone layer has been damaged, greenhouse gas emissions, climate change, and warming of the air have emerged. In short, the development of society has been and is still taking place within this great and rapid change.

However, in the presence of these changes, we have not yet reached a sufficient level to take urgent measures. Increasing temperature, deterioration of soil quality, change of ecosystems, impoverishment and gradual decrease of food and water resources affect urban living conditions and environment and present serious threats. Therefore, today, the phenomenon of the future with fear or anxiety has become the most concerned issue for people.

In his book "Future Shock" published in 1970, futurist and popular scientist Alvin Toffler, in his visionary approach, evaluated the development of society in a very rapid change and explained that a tremendous structural change was undergone in a revolution from industrial society to super-industrial society and that this overwhelmed people. As a forward-looking recommendation in the occurrence of these developments, he stated that young generations should be prepared to seek out and develop future issues and thus be prepared to withstand future shocks. Therefore, in my opinion, the “Near Future Crisis in Cities” expressed in the Congress announcement can be considered as the reflection of Toffler's “Tremendous Structural Change” at the present time.

In his book, Toffler explains that most social problems are symptoms of future shocks, and that an image is being created of a new civilization spreading across our planet, where information and technologies are developing rapidly, rules and habits are changing. Behind this image, there is standing the idea of the high speed of change in the world, which is the main subject of his three books evaluating the results of research spanning twenty years.

In the following years, in his books The Third Wave and Power Shift (1980) and New Shocks, New Powers (1990), he furthered his analyses of this high-speed change.

Isaac Asimov, another popular scientist, and futurist, in his book on the future, "A Choice of Catastrophes: Catastrophes Threatening Our World" (1979), categorized the possibilities that threaten human existence and bring disaster into five groups. Although it is not known which of these dangers will be emerged, he wrote that the catastrophes that may occur in the near future may be the ones that humankind has the most opportunity to prevent.

The fact is that the biggest factor in the earth's undergoing great change and becoming unable to sustain its existence is this high rate of speed in change. Therefore, it has become inevitable to take measures to reduce the speed and impact of this change and to ensure sustainability. Rapid urban development is one of the important problems created by the high rate of speed in change experienced on a global scale, and therefore the issue of "Urban Organization" has gained priority in countries. In this case, it has become a necessity to improve the quality of urban life, to reduce gas emissions and to use land, nature and landscape in a rational and protected manner, as well as all natural resources. For this purpose, in addition to the development of legal regulations and tools, it has become more than a necessity to make sustainable urban action plans and to create new participatory actions in the context of political, social, scientific ecological sustainable development.

Accordingly, in the presence of global changes and developing technologies, new perspectives, new organization approaches/methods and tools are being developed for the change of cities and urban life. In the face of these problems and threats that have descended on cities, new settlement models, concepts and new strategies as well as scenarios have started to be produced in terms of the security needs and living conditions of societies. Experiments such as Green and Sustainable Cities, Smart Cities, Flexible Cities, Ecological Cities are examples of these approaches.

The urban population, which has reached 55 per cent of the world population today, is expected to reach 68 per cent in 2050. In the perspective of this development, the need for new design and implementation tools in living environment is increasing. The issue was also included in the agenda of the United Nations and was discussed and reported in the Environmental Migration Portal (Environmental Migration Portal https://www.migrationdataportal.org/ - UN Migration). In this framework, it is stated that there is a need for a new urbanism and urban planning approach and tools that reduce, solve and prevent the impact of problems related to the future of cities against climate migration, climate change, disaster risks, environmental change and degradation, urban migration. These studies also put forward political, economic-social-cultural recommendations.

However, in order for a city to maintain its vitality, first and foremost, inadequacies must be overcome to go beyond the current situation, provisions and sanctions.

URBAN DESIGN OF THE FUTURE

In 2016, at the UN HABITAT III Summit held in the capital of Ecuador, Quito the "The New Urban Agenda" was included in the programme to achieve goals for the year 2030. During the summit, 17 targets were set to guide the implementation of sustainability in the future and hence a "road map" for sustainability in cities was formed. While issues related to urban actions (management, planning and finance) have come to the fore in the sustainable urban development discussions, a re-evaluation of the planning of the 21st century has emerged as a necessity for planning/designing and integrating sustainability. Therefore, resilient and sustainable new conceptual tools are required for the city of the future as a living organism instead of outdated, inadequate and expired concepts. Beginning with the change in the view of the problems of urban

organization in urban development in mid 1950s and the questioning against the loss of identity of cities, urban design emerged as a new perspective on cities with a technical and artistic approach constitutes one of these tools. This tool developed over time and gave hope to urbanism in the 1980s. In the 2000s, it has gained meaning as a process that produces and strengthens urbanity.

Today, urban design contributes to planning in an experimental and rational approach with its complementary aspect. It offers technical possibilities for the formulation of public policy in the context of urbanism as well as in the context of urbanity. The discipline of urban design has also gained an attitude that responds to fully sustainable development goals in terms of improving the living environment.

At this point, I should also mention that another characteristic of urban design is that its contribution to the discovery of potential opportunities based on intuitive and artistic vision. Urban design is also seen as a tool that provides a social, environmental, as well as economic balance between the aspirations of the public and the self-interested ambitions of investors.

In summary, at the point it has reached today and from the perspective of the features it has gained, urban design plays an indispensable role in building the best world to live in for the society and in creating sustainable cities that offer a comprehensible living environment by challenging the future and enriching the existing qualities. However, urban design is not alone in the creation of these living environments. The increasing role of urban design should be evaluated within a process in which interrelated solutions are developed by the activities of urban planning, urban design and architecture.

Therefore, research in the fields of philosophy, urbanism, sociology, economics and technical fields are becoming more and more prominent with guiding principles through high quality planning and design for the future of cities. In this framework, it is possible to mention some experimental and pioneering studies. For example, Finnish architect and social theorist Marco Casagrande has been carrying out studies and implementations developed with an environmentalist perspective and urban design methodology that contribute to sustainable urban development with smart-social-economic environmental approaches, considering the major structural change experienced today and the urban life of the future. Similarly, research on the city of the future are carried out with comprehensive projects known as "Arcology", which emerged as a mixture of architecture and ecology disciplines, and projects that constitute a trial example are put forward. The city of Mosdar, planned by the Foster+Partners group in Abu-Dhabi can be shown as one of the best examples of this approach. The Mosdar City, which is designed and implemented within the framework of sustainability principles that support urban development plans, where 75% electricity and 80% water savings are achieved, zero waste and zero carbon results are obtained with only solar energy, draws attention as an ecological settlement and an example of Arcology.

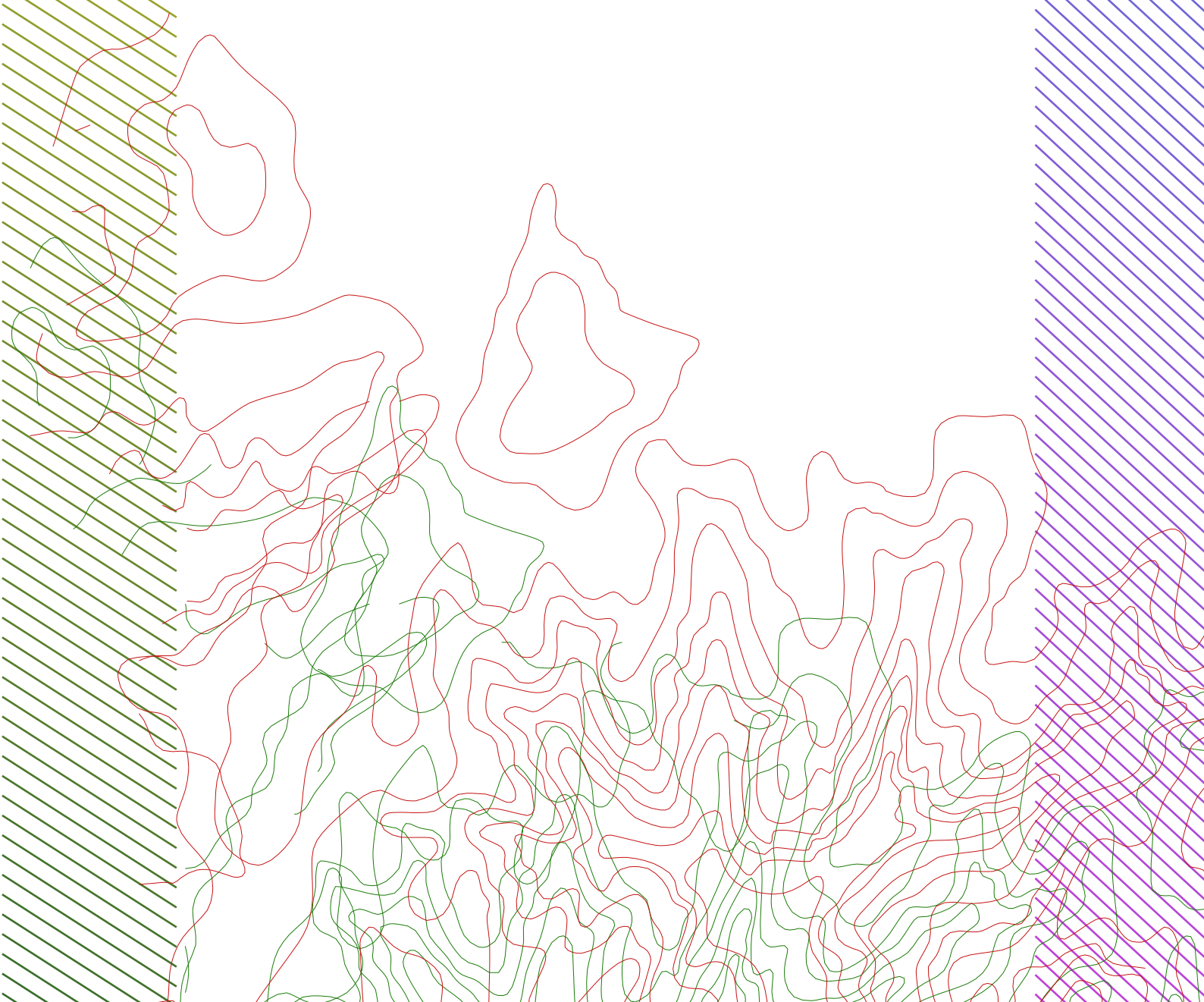
When these and some other similar examples are taken into consideration, the essential role of urban design is better understood, and "sustainable design consciousness" steps forward in the search for the future of the city with reliable, strong guiding rules through high quality design. With this awareness, values in planning and design, which have a share of responsibility in environmental, economic, social and cultural impacts, are

theorized in a social scientific framework, leading to the formation of a theory within the scope of a more comprehensive value-based definition.

In concluding words, since the main theme of discussion is the future of urban design and urban design of the future, I would like to state that urban design as an action will continue to play the role of conquering the city in the future through methods that facilitate urban life, make the living environment attractive, provide inviting qualities and evaluate the urban identity.

Session I

Social In/equality, Gender and Migration



RE-CONSIDERING THE PLAY VALUE OF PLAY SPACES: AN INTEGRATED EVALUATION APPROACH TOWARDS A PLAYFUL ISTANBUL

Dzheylan Karaulan

Istanbul Metropolitan Municipality
dkaraulan@gmail.com

Buşra Özben

Istanbul Metropolitan Municipality
Bmetin95@gmail.com

Başak İncekara

Istanbul Metropolitan Municipality
incekarabasak@gmail.com

ABSTRACT

Urban environments, often characterized with unsustainable development and rising social inequalities, call for urgent actions and innovative urban policies for a better, equal, sustainable, and resilient future. Nevertheless, unattractive play spaces supplemented with sedentary lifestyle, lead to an enormous decrease in daily habits related to physical activity and play. Insufficient availability and quality of play spaces contributes to serious issues related to the equal distribution of play and recreation services and confines the proper development of children in dense urban areas such as Istanbul. The aim of the study is to provide an innovative evaluation approach for playgrounds based on defined criteria. The evaluation of playgrounds, drafted upon five criteria, selected in accordance with an overview on concepts and official documents related to playfulness, leads to the formation of an evaluation form used for the evaluation of 598 playgrounds in Istanbul. The study showcases a detailed numerical data of playgrounds through digital tools; performs an evaluation of the quality and play value of play spaces and determines the play value of play spaces through a scoring range; puts a valuable work to produce arguments that support short and medium-term projections in the development and design framework to increase the play experience in play and recreation areas; and implements a paradigm shift by demonstrating how the evaluation form could be useful towards creating a holistic play culture, and drafting strategic documents for the city of Istanbul.

Keywords: evaluation form; playground; play value; playability; quality criteria

1. INTRODUCTION

Play spaces, generally perceived as standardized and uniform areas involving a limited number of activities, are often neglected in the urban planning and design processes. However, with increasing population density

and excessive built environment in today's cities, the need for open public spaces has been emerging strikingly, putting particular focus on the demand for play and recreation opportunities for both children and adults. Playing outdoors is fundamental in terms of supporting children's healthy development and learning skills. Yet, due to the lack of approach in understanding the child-environment relationship through play (İyikul Kotan, 2019), the design of outdoor spaces cannot meet the needs and preferences of the child in interaction with the urban setting. Thus, revealing the need to address play and recreation areas through a strategic approach.

Children's playgrounds are designated spaces only for children, which have an important role in the developmental stage of the child and allow the child to perform "play" activities (Tandoğan, 2011). Gür and Zorlu (2002) defined children's playgrounds as "open spaces that are organized according to children's play types, bordered from the surrounding environment, traditionally equipped with fixed equipment, and used freely by children under the supervision of adults.".

Public playgrounds are places where children communicate with the outside world through play. Studies related to psychological approaches show that play and playgrounds greatly affect the physical, psycho-pedagogical and social evolution of the child, implying the necessity to consider development characteristics and needs of children in the design. In this regard, cities should respond adequately on the availability and the quality of play spaces, emphasizing on the play value they comprise. Insufficiency of play and recreation infrastructure complied with over-standardized design that limit children's creativity and indulge uniformalities in play, result in inequality and disadvantages in the right to play in metropolitans like Istanbul.

According to the 2021 population data of TUIK, the total number of children aged 0-14 in Istanbul is 3.316.446. In detail; 1.036.970 between the ages of 0-4, 1.164.990 between the ages of 5-9 and 1.114.486 between the ages of 10-14 live in Istanbul (Türkiye İstatistik Kurumu (TÜİK), 2022). However, there is a lack in comprehensive studies regarding children's playgrounds in Istanbul.

The scope of this study is to direct an evaluation approach for children's playgrounds in districts with different socio-economic status and different sizes of urban open spaces in Istanbul by determining their qualitative and quantitative differences or similarities, and considering the factors affecting the physical, psycho-pedagogical and social development of children. The research comprises a pilot study to create a database that will support design, management policies and through defined design principles. Evaluation of children's playgrounds through innovative methods emphasizes their importance in provision of public space services, provides a database on the availability and quality, and puts light on directing new projections for playground design.

In this regard, children's playgrounds play value is evaluated through five defined quality criteria: (1) multifunctionality/creativity; (2) accessibility; (3) sustainability; (4) inclusiveness; (5) safety. The proposed evaluation approach delivers outputs related to the quality and play value playgrounds comprise, and links to subjects related to urban social justice, revealing whether children living in different parts of the same city have equal access to play provision, and whether these provided areas make an equal and necessary contribution to their physical, psycho-pedagogical and social development.

2. PLAY AND COMMUNITY

Play, as a primitive tool for social interaction, leaves traces on public spaces in Ancient Greece and Roman Empire urban systems (Frost, 2009). Principal play theories formed in philosophy, pedagogy and anthropology, later coining in psychology and sociology (İstanbul Büyükşehir Belediyesi, 2021).

Play, teaching the 'rules' of community life, empowers children to discover the symbols of their background and establish strong bonds within the society (Else, 2009). Play is a method to reveal situations and roles that reflect children's socio-culture, juxtapose an imaginative world with existing social norms, and teach cooperation and engagement with others in socially appropriate behavior. Play is fundamental in the formation of moral values of individuals in early ages, developing a sense of fairness and behavioral patterns (Rakoczy, 2008).

Play also reflects life perspectives of societies, transferring the values by inheriting the games of the society. Highlighting traditional games by making them more visible in a society, could contribute to preserving the culture in an entertaining and informative way for the new generations (İstanbul Büyükşehir Belediyesi, 2021). Traditional games and sports in playful forms comprise entertainment purposes that are accepted by the public and have become widespread through generations (Karahüseyinoğlu, 2007). In this regard, Turkish culture is deeply rooted in play and recreation activities, comprising nearly 200 traditional games and sports. These, delivering a series of concrete or abstract messages about what is good and bad, have a fundamental role in the formation of the moral structure of the society (Sümbüllü and Altınışık, 2016).

Play enables the child to develop socially and culturally: "While playing, the child is an equal member of the play community as well as takes place as an individual in family and society. The child achieves self-realization, satisfaction and fun. On the other hand, play has an aspect that prepares the child for adult life and makes him active. It is also an activity necessary for the life of every child." (Esen, 2008, p.358). Play teaches love, respect, friendship, sharing, solidarity, cooperation, goodness, evil, righteousness, injustice, honesty, obeying the rules, etc., and have a major role in the formation of resilient society and more sustainable cities.

3. BENEFITS OF PLAY

Play is fundamental for the development of a child in addition to basic needs such as nutrition, shelter, access to health and education (International Play Association (IPA), 2014). The right to play is approved within the international legal framework of the United Nations Convention on the Right of the Child, stating that: "States Parties recognize the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts." (United Nations, 1989)

Playing supports brain development by creating new neural connections (Goldstein, 2012), emphasizing free play as the most effective stimulus in mental progression. Regular play increases emotional awareness, social skills and ability to adapt to unexpected situations (Parker and Al-Maiyah, 2022; Chaudhury et al., 2019).

Play enables the child to use innate high intellectual capacity. With its simplest function, it forms the basis of the child's problem solving, and catalyzes language and creativity skills. During play, the child learns to actively relate to other individuals, to take control over the body and to think abstractly. Children learn by experiencing the act of learning itself through play. The achievement provided is not a specific knowledge, but a flexible general mindset in which abstract thinking and physical action can be used together. The absence of the stimuli provided by playing and the limited opportunity of exploring the environment cause gaps in the neural connections and pathways necessary for the advanced learning ability of children (Sutton-Smith, 1997). Play settles the feelings of equality and fairness in the child. In this context, a healthy and social play environment forms the basis in the understanding of justice (Azar, 2002).

Although it has been determined that play is much more effective in developing brains, it is known that it has the capacity to learn and establish new neural connections in adult brains as well. In this regard, play points out as an important activity for adults as well.

Studies prove that a direct link between play and the feeling of happiness do exist (Burdette and Whitaker, 2005). Play reduces stress, prevents depression and aggressive behaviors, and eliminates sleep problems (Burdette and Whitaker, 2005). Play, as a stress-relief, is one of the most commonly used methods by children and families, as well as therapists in curing psychological ailments (Brezinka and Hovestadt, 2007).

Children have the opportunity to explore their environment and gain abilities such as creativity, skill acquisition, innovation and flexibility that support healthy growth and development thanks to the play. However, the decrease in the availability and quality of play and recreation services, leads children living in today's cities, depriving them of their freedom to use the outdoor spaces despite their right to play, due to restrictions, prohibitions and concerns (İyikul Kotan, 2019). Green areas and attractive play spaces that invite play and recreation have a major role in improving the health of children and citizens.

Play results in various health benefits, such as coping with depression and obesity, and reducing ADHD (Goldstein, 2012). Nevertheless, it has been observed that the increase in the frequency of ADHD coincides with the decrease in recreation and playground areas in urban environments (Goldstein, 2012). Nevertheless, studies suggest that the main reason for the emergence and high cases of ADHD derives from the lack of self-formed and self-produced play (Scott and Panksepp, 2003). In this regard, playing outdoors on a daily basis is fundamental for the proper development of children. Recent approaches in the education system highlight the importance of play, integrating it into the physical planning of school facilities (Vitale, 2011).

Physical activity provides significant benefits for a child's physical and mental health, however most children living in cities do not achieve the daily recommended amount of movement. Research shows that reduced physical activity in children is identified as a major social health issue in contemporary urban environments. Results highlight the potential of active play to make unique contributions to children's development that cannot be derived from other forms of physical activity. At this point, children’s active play depends on the level of excitement and fun related to the playing activity, level of boredom, and the desire to act independently of adults' control, rules and structural patterns (Brockman et al., 2011).

4. QUALITY CRITERIA FOR PLAYGROUND DESIGN

> *"When we design a playground in the best way, we create a world where people rediscover the indispensable within themselves and the city rediscovers the child. We should not ask the child to discover the city without wanting the city to discover the child."*
>
> *Aldo van Eyck*

Play spaces, as consciously designed urban environments, provide children with the opportunity to enhance their imagination and inner world, and evolve as healthy, happy and productive citizens. In this sense, play spaces are classified as designated, where play is the primary function; and undesignated, where play derives as a natural function based on the physical characteristics of the place (Table 1).

Table 1. Designated and undesignated play spaces in the city (Karsten, L. and Felder, N., 2015).

Designated Play Area	**Undesignated Play Area**
Playground	Streets
Park	Parking lots/Garages
Sports field	Corridors/Alleyways
School yard	Communal courtyard
	Greenspaces

Referring, determination of quality criteria for the design of playgrounds is derived from evaluations and comments of the UN Committee on the Rights of the Child on the right to play (UN Human Rights Council, 2014); analysis of international documents on urban policies focused on maximizing the playfulness of urban environments (Greater London Authority, 2019; Ajuntament de Barcelona, 2019); and overview on research on recent issues related to the play value and uses of public and play spaces in Istanbul (Aksoy, 2011; Bayraktaroğlu and Büke, 2015). The term 'play value' describes the value that an environment, object or piece of equipment conducts to the experience of play of children (Woolley and Lowe, 2013). The study interprets the term in an innovative aspect, addressing that the play value they possess, playgrounds should offer different options that support the healthy development of children, create opportunities for diverse physical activity and expounds their surrounding environment, by creating a desire and inviting children to play. The study defines quality criteria that aim to form the basis of the playground evaluation approach, i.e. an evaluation form used in the case analysis of playgrounds: (1) multifunctionality/creativity; (2) accessibility; (3) sustainability; (4) inclusiveness; (5) safety.

Multifunctionality/Creativity

Playful landscapes, comprising high play value, offer challenges and encourage exploring, enhance decision-making, taking responsibility and risk, and enhance individuals' skills (İstanbul Büyükşehir Belediyesi, 2021). Play spaces should support imagination and creativity in children by allowing for versatile, free and spontaneous play, encompassing different forms of symbolic, free physical activity and experimental play (İstanbul Büyükşehir Belediyesi, 2021). Studies show that risky play offers a wide range of benefits on health, including play time, social interaction and creativity (Brussoni, 2015). In this regard, integrating experimental, loose parts in the play equipment and playground design offers opportunity for adventurous, risky play that enhances exploration and creativity, and allows children to direct their environments and play (Flannigan and Dietze, 2017; Obee et al., 2021; Armitage, 2021; Kashin, 2016). These could be associated with activities that encourage children to test their abilities, such as climbing, swinging, and balancing (Flannigan and Dietze, 2017; Obee et al., 2021; Kashin 2016).

Play spaces that offer a variety of playing activities stimulate children and encourage their physical development. However, defining main playful activities and stimuli equipment, as primary activities a play space should offer is a first step in the diversification of play spaces. Climbing, swinging and sliding could be classified as basic activities for the determination of a design criteria of a play space, which should aspire to a broader spectrum of playful varieties in the design (Ajuntament de Barcelona, 2019; İstanbul Büyükşehir Belediyesi, 2021).

The increasing demand on play and recreation spaces in dense urban centers makes them valuable assets that should enrich the recreation experience with different textures, materials, colors, high aesthetic value, convenient for gathering and playing. Spaces that encompass open-ended, unstructured materials, and form a multifunctional play environment, have been linked to positive behaviors (Spencer et.al., 2021). Nevertheless, the design of playgrounds should deliver a holistic approach that integrates the play also in the surrounding environment and invites social and intra-generational interaction (İstanbul Büyükşehir Belediyesi, 2021).

Accessibility

Accessibility of public spaces is among the principal criteria of universal design, and a fundamental requirement in supporting equal utilization of play spaces. These are specifically designated to allow children and individuals of all abilities to play and enjoy mutual activities (European Standards, 2019). The utilization and accessibility of playgrounds is among the indicators that provide quantitative measures on the quality of life in urban areas, as well (İstanbul Büyükşehir Belediyesi, 2021).

In this regard, accessible play spaces consider accessibility at a wide range of developmental phases and abilities/needs of various users, ensuring accessibility to and within play areas, including considerations related to physical disabilities; limited endurance and balance; impaired vision; limited use of arms, hands, feet (European Standards, 2019)., including specific requirements related to: selection of materials to avoid

scraping and sharp sounds; selection of materials to avoid shiny surfaces; and selection of appropriate use of color and texture of surfacing materials to support users of all abilities (Rick Hansen Foundation, 2020). Surfacing materials used in playgrounds are evaluated in the table below (Table 2).

Table 2. Evaluation of surface materials used in the design of playgrounds. (European Standards, 2018).

Surface	Equipment Compatibility	Shock Absorber	Accessibility	Implementation	Resistance	Maintenance	Cost
Cement/asphalt	-	-	High	Easy	High	Easy	Low
Soil	Low height	Very low	Low	Easy	Low	Medium	Low
Grass	1 m height	Good (wet weather)	Low	Easy	Low	Hard	Low
Sand	Statics	Very good	Low	Easy	Good	Hard	Low
Wood Chips	Statics	Very good	Low	Easy	Medium	Hard	Low
Sawdust	Statics	Very good	Low	Easy	High	Hard	Low
Rubber	All	Very good	Good	Medium	Good	Easy	High
EPDM	All	Very good	High	Hard	Good	Easy	High
Multi layered	All	Medium	Medium	Medium	Medium	Medium	Medium

Sustainability

Playgrounds designed in standardized manner result in manufactured structures with highly specific functions, leading to highly structured recreation and play services that lack attractiveness, thus encouraging sedentary lifestyle in today's society (DPR & UDFCD, 2017). In a sense, contact with nature and biodiversity, especially in early ages, is fundamental for the healthy development of the immune system, cognitive and physical development (Van Herzele, 2012). Playing and learning in nature encourages vitality and imagination (Beery and Jørgensen, 2016). Lack of engagement with the natural world results in neglect to nature and development of biophobic behaviors in adulthood (Cengiz and Boz Demir, 2019). In fact, children need access to nature in the same amount they need adequate sleep and good nutrition (DPR & UDFCD, 2017).

Playgrounds, often characterized with prefabricated materials, as plastic, steel, rubber, and synthetic surfacing, shifting away from nature results in decreased maintenance and capital costs, apprehension over risks and safety, and enhanced perception that contact with dirt and nature is dangerous for the health (DPR & UDFCD, 2017). However, recent attempts aim to provide a paradigm shift that prioritizes engagement of children in natural environments and highlights the potentials nature play provides in the sense of community health and reduced maintenance costs (İstanbul Büyükşehir Belediyesi, 2021).

Studies show that cognitive engagement, resulting from full sensory play in natural environments may reduce incidents of catastrophic injuries in the future, as it is directly linked to a child's ability to assess and take risks during play in nature (Brussoni et al., 2015). In broad terms, nature play includes engagement of gross motor, fine motor, proprioceptive, and vestibular movement along with sensory rich dramatic, creative, and cognitive engagement achieved predominantly through the sustainable integration and use of natural landscape features, landforms, natural materials, and plants that reflect the local landscape (Chawla, 2015). Specific design requirements related to sustainable play that promotes contact with nature are as follows: opportunities for all types of play; opportunities for play with loose parts and seasonal natural materials; opportunities for multi-sensory experiences; appropriate and stimulating activities for all ages and abilities; integration of weather conditions in the opportunities for play like rain and snow; use of natural materials in the design of playgrounds; integration of the surrounding landscapes in the design; encouraging flora and fauna interaction (DPR & UDFCD, 2017).

Inclusiveness

Play and recreation spaces should be designed in an inclusive manner to serve different users of all ages, including children, adolescents, adults and the elderly. Inclusiveness is a term that encompasses all segments of society, considers various cultural aspects, as well as physical advantages and disadvantages (Fernelius, 2017).

Inclusive design takes into account all the differences in people and aims to produce design solutions that prevent exclusion. Inclusive approach considers differences as an opportunity, rather than an obstacle, to provide better design solutions and enhance public services. Inclusive playground design encompasses entertainment opportunities and recreational activities for all. “Play for all” aims to go beyond basic access needs by providing children with a welcoming play experience and a space to entertain. The principle of the play spaces for all pervades several criteria to encourage children of all ages and abilities to play, challenge and have fun together, and evaluates by taking into consideration the opportunity for: sensory play; intergenerational play; high accessibility; mental development; social interaction; and participatory practices (HAGS, 2019).

Safety

Provision of safety to urban public spaces requires proper use of design elements, urban furniture and equipment that allows play and recreation activities in accordance with national and international safety standards. Regulations related to standardization in urban design are important for controlling risks and threats that restrict physical activity (European Standards, 2008). Local authorities are responsible for optimizing urban areas, thus promoting the free and safe use of open public spaces (İstanbul Büyükşehir Belediyesi, 2021).

Children learn to manage risk through play. Play areas should be as safe as necessary, not as safe as possible. Good and stimulating play areas need not be expensive (financially) but they do require a little more time in the planning stage, and a logical and systematic approach for a successful maintenance. In this regard, The European Standards for Playground Equipment: EN 1176 and EN 1177, originally published in 1998 and drew heavily on the British Standard BS 5696 and the German Standard DIN 7926, put a risk framework on requirements and specification related to playground design.

Playground design concerning safety puts attention on: selection of age appropriate play equipment; protection from sun and weather conditions; selection of absorbing surfacing materials; providing supervision for toddlers; avoiding sharp-edged equipment; and proper fencing.

5. DRAFTING AN INTEGRATED PLAYGROUND EVALUATION APPROACH FOR ISTANBUL

There are some checklists for play areas aid to planning and evaluating playgrounds as well as analyzing the current state of playgrounds such as “Playground Rating System” developed by Frost in 2001 and “Oyun Alanı Değerlendirme Formu” developed by İyikul Kotan in 2019. Within the scope of the study, the checklist examples were examined, and a new evaluation form was created considering the criteria determined and the characteristics of playgrounds in Istanbul (Annex A). The playground evaluation form provided the evaluation and scoring of the playgrounds in line with these criteria, with questions gathered under 5 main headings: accessibility, sustainability, inclusiveness, safety and play value. In the scoring made, points were given to all questions as accessibility 25%, sustainability 15%, inclusiveness 20%, security 20% and play value 20%, and all playgrounds were evaluated by collecting the points. The detailed evaluation on the play spaces contribute to one of the main building blocks for drafting a holistic vision towards a “Playful Istanbul'‘ and takes part in the first-ever Istanbul Play Master Plan launched by the Istanbul Metropolitan Municipality (IMM) Department of Parks, Gardens and Green Areas in 2021. The field studies were conducted in the period 19.08.2020-11.12.2020 with the participation of a total of five IMM personnel divided into two groups. The field study included filling of the playground evaluation form in Google Forms and visual documentation of the current state of all playgrounds under the responsibility of IMM.

Playgrounds with high play value and play-friendly districts were determined by taking into account the final scores of evaluated playgrounds. Within the scope of the study, a total of 598 children's playgrounds in 348 parks under the responsibility of IMM on the European and Anatolian sides were evaluated. The obtained data enabled the creation of a detailed numerical data pool of all playgrounds under the responsibility of IMM.

All districts have been evaluated by taking into account the average scores of the playgrounds they contain, and districts with the most play-friendly playgrounds have been defined (Figure 1). Accordingly, Beşiktaş, Arnavutköy and Sultanbeyli districts stand out as the districts that contain a greatest number of play-friendly playgrounds; Büyükçekmece, Adalar and Ataşehir districts were the districts with the lowest scoring. The playgrounds rated with the highest scores are Çırpıcı Park, Bakırköy (4) and Çamlık Park, Sultangazi (5). The

lowest rated parks were Nurtepe Gezi Park, Güzeltepe Park and Çiftalan Village Park in Eyüpsultan. The following map shows the distribution of playgrounds with the highest and lowest play value.

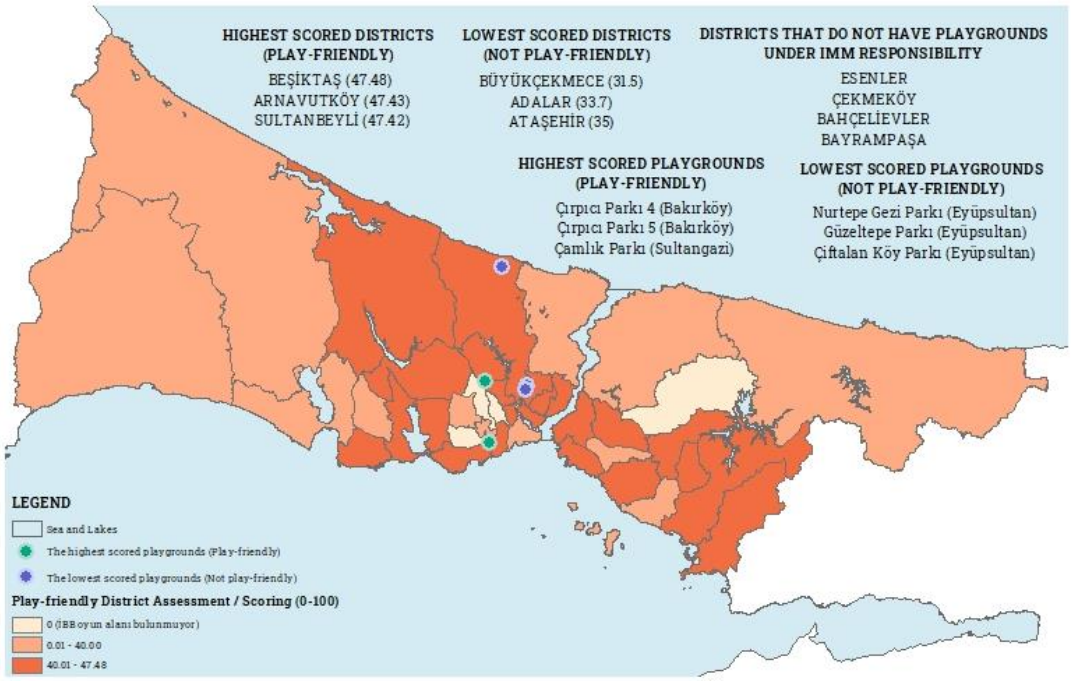


Figure 1. Evaluation of play-friendly playgrounds under the responsibility of IMM (Produced by IMM Department of Parks, Gardens and Green Areas according to the results of the field study conducted within the scope of the Istanbul Play Master Plan.)

The results of the studies, including detailed analysis, field survey and observations, can be synthesized under the defined five criteria.

5.1. MULTIFUNCTIONALITY/CREATIVITY

Evaluations on the playgrounds indicate main play activities (sliding, swinging, etc.) and playground equipment mostly refer to similar design characteristics, which results in over-standardization of play spaces. This situation both restricts the use of playgrounds to a certain age group and causes the playgrounds to become monotonous and boring over time. In order to plan future actions, the playgrounds have been evaluated upon a play value index that constitutes 20% of the total score. In this context, the diversity of structure, color and material; physical activities; opportunity for sports and picnic; creative play; areas for events; areas for cycling, scooter etc. and opportunity for renting, have been considered within the scope of the evaluation.

According to the results, playgrounds with the highest play value scores are located in Şişli, Sancaktepe and Beşiktaş; the playgrounds with the lowest scores are in Büyükçekmece, Gaziosmanpaşa and Adalar. 16 playgrounds score the highest 14 points out of 20, and lowest score Playground No. 2 (Üsküdar) in Buyup

Çamlıca Grove with 4.5 points, Turkish Garden (Zeytinburnu) with 5 points and other 7 playgrounds with only 5.5 points. The following map shows the distribution of playgrounds according to play value scores (Figure 2).

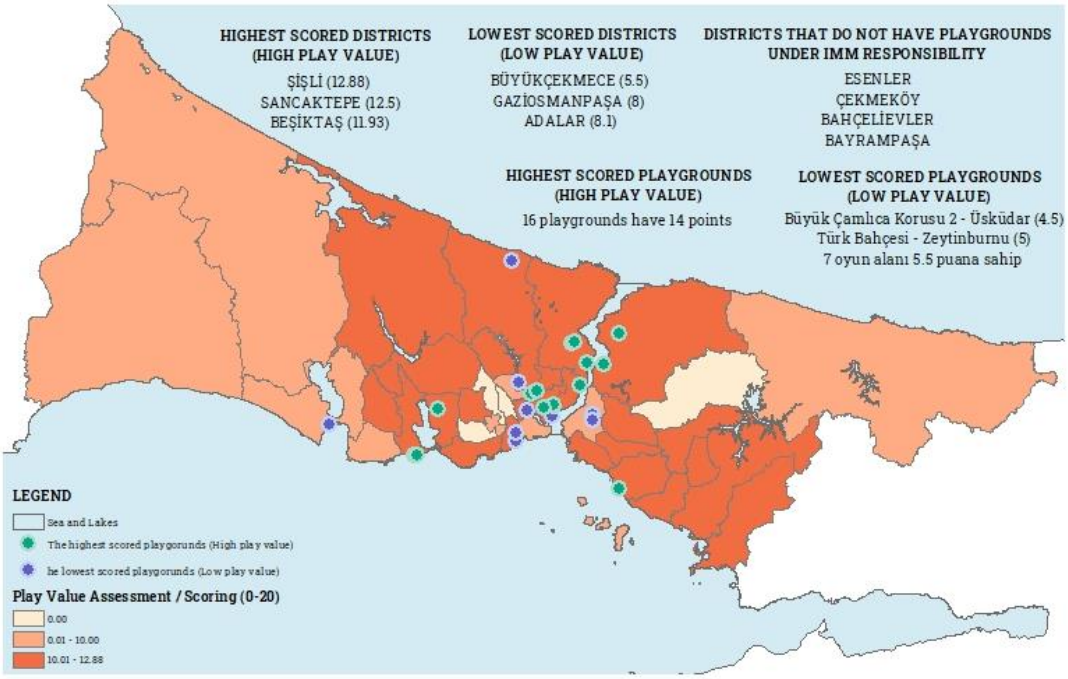


Figure 2. Multifunctionality/creativity of playgrounds under the responsibility of IMM (Produced by IMM Department of Parks, Gardens and Green Areas according to the results of the field study conducted within the scope of the Istanbul Play Master Plan.)

Results related to the multifunctionality/creativity of playgrounds are given below:

- 81.27% of playgrounds provide diversity in structure, color and material. 18.73% of playground equipment does not show any variation.
- Diversity of activities was evaluated upon 3 Basic Play Activities: Sliding, Swinging and Climbing. Accordingly, in the existing playgrounds, children find the opportunity to perform mostly sliding (93.8%), swinging (90.3%), crawling (78.2%), and climbing (65.7%) activities.
- Examinations show that nature and topography are one of the main components adding to the creativity of play spaces with 91.4%.
- Currently, 98.8% of the areas do not provide playworkers or volunteers doing regular activities, but 64.88% of these areas have potential for playworkers and pop-up games (a place to put a container, a nearby building, etc.). 35.12% of the examined areas were not found to be suitable for pop-up activities (388: yes, 210: no).
- 65% of the playgrounds provide suitable areas for exhibitions, festivals, organizations and daily activities.

- 85.61% of playgrounds have sports areas and the remaining 14.39% do not have a sports area (512: yes, 86: no). Most of them comprise fitness equipment, followed by basketball courts.
- 68.56% of the areas are suitable for picnics. This data is important for families to watch their children play from a safe distance while having leisure (410: yes, 188: no).
- 96.7% of playgrounds offer creative play opportunities with leaves/conifers. Evaluations revealed that play with free and moving parts, surfaces for drawing/painting and sound making/rhythm-keeping equipment, which have an important role in child development, are at the lowest rate in the parks, and the possibility of playing with water has a very low rate of 3.5%.
- While evaluating the option for renting a bicycle,scooter, etc. no distinction was made between private enterprises or public organizations. As a result of this evaluation, it was determined that 73.2% of the parks examined provided the opportunity to rent such equipment. Among the rental opportunities, İsbike bike rental stations come first, and Martı Scooter Rentals come second.

5.2. ACCESSIBILITY

Field studies carried out within the scope of the master plan evaluated and scored playgrounds in terms of accessibility (Figure 3). Ease of access to the playgrounds; proximity to public transportation networks; accessibility with multiple transportation networks; suitability of roads leading to the playground for the use of disabled and baby strollers; protection of the entrances and exits of the playground from traffic; availability of parking place for bikes; and variety of parking spaces in the proximity of the park; availability of social facilities, have been taken into account. 25% of the total scoring of play spaces was made upon evaluations related to accessibility.

Each district in Istanbul has been evaluated over the average scores of the playgrounds it hosts. According to the evaluation results, the districts with the highest scores were Arnavutköy, Küçükçekmece and Fatih; the districts with the lowest scores were Esenyurt, Bağcılar and Ataşehir. The highest score reached was 14 out of 25, and 117 playgrounds scored 14 points. The playgrounds with the lowest scores address Avcılar Nursery Garden, Beylikdüzü Nursery Garden and Esenyurt Nursery Garden with only 4 points. The following map shows the distribution of playgrounds according to accessibility scoring.

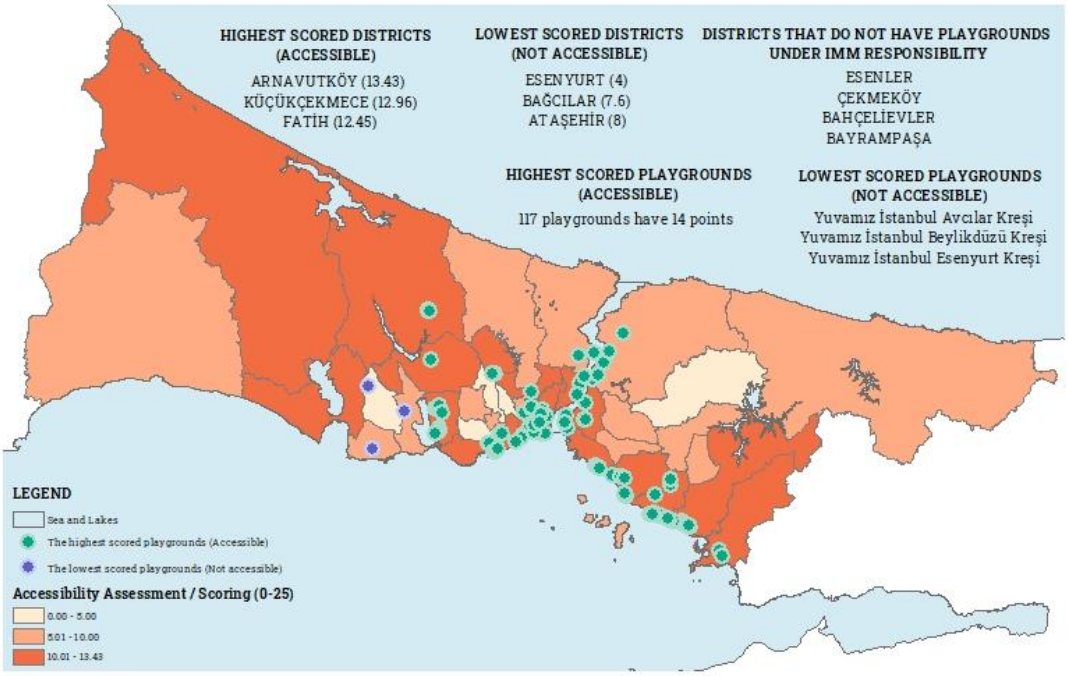


Figure 3. Accessibility scoring of playgrounds under the responsibility of IMM (Produced by IMM Department of Parks, Gardens and Green Areas according to the results of the field study conducted within the scope of the Istanbul Play Master Plan.

Some of the results obtained from the examinations on accessibility are given below:

- 89.8% of evaluated playgrounds provide easy access to neighborhood residents.
- 87% of playgrounds are close to public transport networks.
- 56.68% of playgrounds provide more than one transport access.
- 47.15% of the roads leading to playgrounds are suitable for the disabled and baby strollers.
- 60.53% of the playgrounds are close to automobile roads. The playgrounds are protected from traffic through various tools, and sidewalks are the most widely used with a rate of 88.5%; traffic lights and pedestrian crossings are also predominantly preferred.
- 85.61% of children's playgrounds are intensively used by children (512 yes-86 no).
- 22.2% of playgrounds provide parking lots for bicycles.
- Playgrounds do not provide parking areas for baby strollers.
- Playgrounds are mostly surrounded by green areas, cafes/restaurants/shops, schools, mosques, hospitals/health centers and nurseries.

5.3. SUSTAINABILITY

High population and density rates of Istanbul result in limited contact with nature. Playing with natural elements in the urban environment and especially in designated playgrounds is highly constrained. In order to indicate whether playgrounds meet sustainability criteria for ensuring healthy development and play, several indicators have been outlined: status and maintenance of surface materials; sufficiency of green

spaces; protection from noise, sun, dust and wind; cleanness; shadowing; elements that allow contact with nature; availability of rainwater collection system. The sustainability assessment makes up 15% of the total score of playgrounds.

Results show that the districts that contain the playgrounds with the highest sustainability index are Güngören, Arnavutköy and Bağcılar; the districts with the lowest scores were Büyükçekmece, Ataşehir and Fatih. The highest score reached 7 out of 15, and 157 playgrounds scored 7 points. 6 playgrounds scored the lowest of 3 points. The map below shows the distribution of playgrounds according to their sustainability scores (Figure 4).

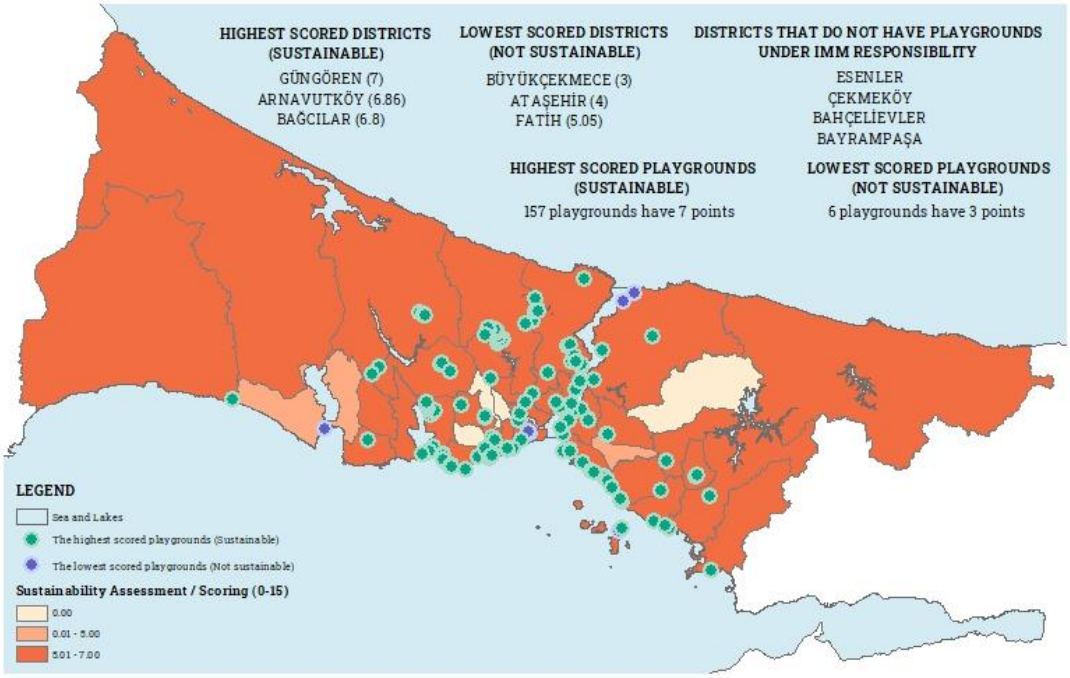


Figure 4. Sustainability scores of playgrounds under the responsibility of IMM (Produced by IMM Department of Parks, Gardens and Green Areas according to the results of the field study conducted within the scope of the Istanbul Play Master Plan.)

Results derived from field studies related to sustainability are given below.

- Most playgrounds' surfaces consist of EPDM and its derivatives (65.21%).
- 62.20% of playground surfaces are well-maintained (372: yes, 226: no)
- Playground equipment mostly consists of plastic, metal, wood and ropes used for climbing nets. These materials are found in 96.98% of playgrounds. In addition, hard concrete surfaces covered with epdm are also used for playing.
- 94.64% of playgrounds comprise sufficient green spaces in the surrounding area (566: yes, 32: no).
- Maintenance of playgrounds is mostly provided through trash cans and warning signs rather than recycling bins and water fountains (Figure 6.40). 61.20% of the playgrounds are provided with sufficient signage (366: yes, 232: no)
- Trees (68.1%) and pergolas (11.4%) are generally used for shade in playgrounds.
- No rainwater collection system has been detected.
- There are various elements that provide contact with nature in the playgrounds.

5.4. INCLUSIVENESS

The current recreation infrastructure does not provide enough diversity in terms of inclusive activities. Risk management on playground design is mostly overestimated, and consideration of different age groups is lacking. Accessibility to sports facilities and fitness equipment is provided, whereas provision of areas for alternative entertaining activities such as dancing, or social interaction, is neglected. In this reference, design of the play infrastructure should consider different recreation activities according to the needs of age groups and enhance provision of inclusive public services.

In this regard, all playgrounds have been evaluated upon availability of: equipment for care for babies and children; WC; sitting areas; wayfinding for visually impaired; sensory play; play equipment for disabled; areas for socializing; areas for teenagers; areas for intergenerational play. The inclusiveness index constitutes 20% of the total scoring of playgrounds.

According to the results, the districts with the highest inclusive playgrounds are Sultanbeyli, Arnavutköy and Beşiktaş; the districts with the lowest scores were Büyükçekmece, Adalar, Ataşehir, Gaziosmanpaşa, Şile and Güngören. The playground with the highest score is located in Orhangazi City Park, which has 17 points out of 20. Other 11 playgrounds with 15 points are highly rated playgrounds. 21 playgrounds scored 1 point. The map below shows the distribution of playgrounds according to their inclusiveness scoring (Figure 5).

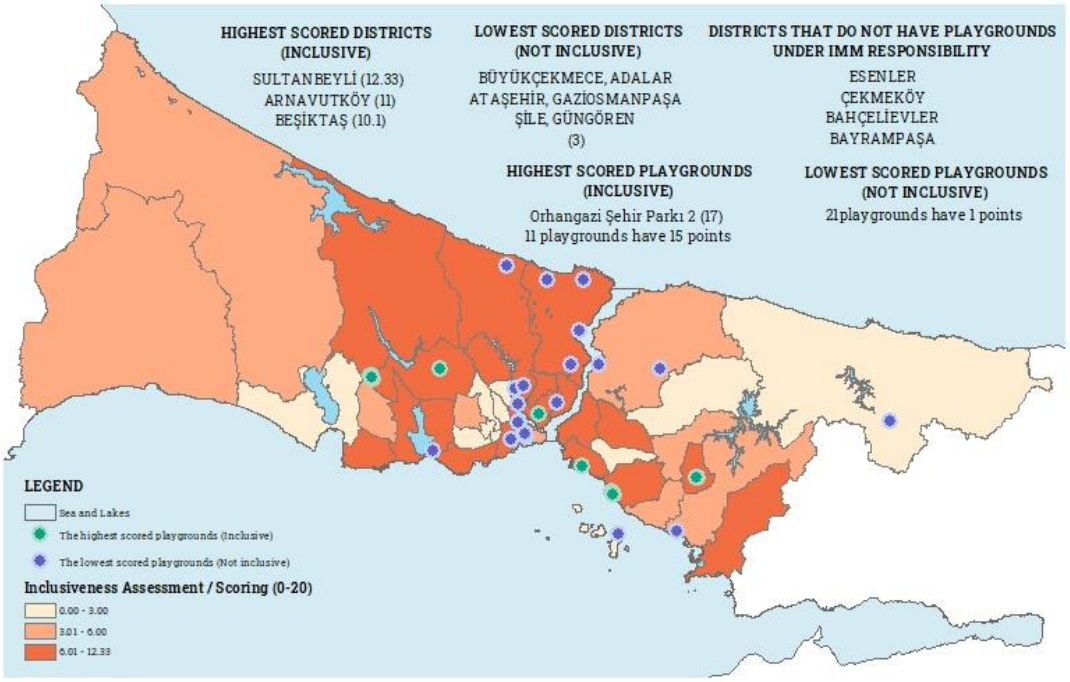


Figure 5. Inclusive playgrounds under the responsibility of IMM (Produced by IMM Department of Parks, Gardens and Green Areas according to the results of the field study conducted within the scope of the Istanbul Play Master Plan.)

Results related to the inclusiveness index of playgrounds are given below:

- 24.24% of playgrounds provide equipment for baby and small children's care (breastfeeding room, diaper changing place). (145: yes; 453: no)

- 44.48% of playgrounds provide WC in the proximity. (266: yes, 332:no)
- 89.46% of playgrounds provide sitting areas. (535: yes, 63: no)
- The rate of having a designated area for pets (walking and waste collection) in the park is 1.83% (11: yes, 587: no)
- 28.26% of playgrounds provide ramps (169: yes; 429:no). Although the majority of these ramps comply with the standards, ramp slopes and accessibility conditions need to be reviewed systematically.
- The rate of presence of ground markings for the visually impaired in parks is 16.2%.
- 13.37% of playgrounds provide sensory play (abacus, dry pool, intelligence games, etc.). (80: yes, 518: no)
- 7.85% of playgrounds provide equipment designed for the use of disabled (physically/mentally). (47: yes, 551: no)
- 26.58% of playgrounds offer socializing areas for adolescents and young people (skateboard, skating and scooter area, freestyle bicycle, lecture hall, etc.) (159: yes, 439: no).
- The rate of areas where different age groups can play together is 32.10%. These are generally workout areas, climbing nets, trampolines, skateboard areas, towers, sports areas, amphitheaters, playhouses, sandboxes and areas for using scooters. (192: yes, 406: no)

5.5. SAFETY

The safety of playgrounds is a major factor in increasing the quality and value of play. Being able to move freely and comfortably primarily requires feeling safe.

All playgrounds under the responsibility of IMM have been evaluated under the heading of safety, which makes up 20% of their total scoring, including: elements that threaten play (syringes, broken glass, vandalism, etc.); lighting; park security; staff for 0-3 year olds; surrounding residence and workplace, etc.; closing hours of the parks; and playground's compliance with safety standards.

Results indicate that playgrounds with highest safety scoring are located in Esenyurt, Gaziosmanpaşa and Bakırköy districts; the districts with the lowest scores were Şişli, Arnavutköy and Avcılar. 23 playgrounds scored the max 14 points out of 20, and 6 playgrounds scored the minimum of 2 points. The map below shows the distribution playgrounds according to their safety scores (Figure 6).

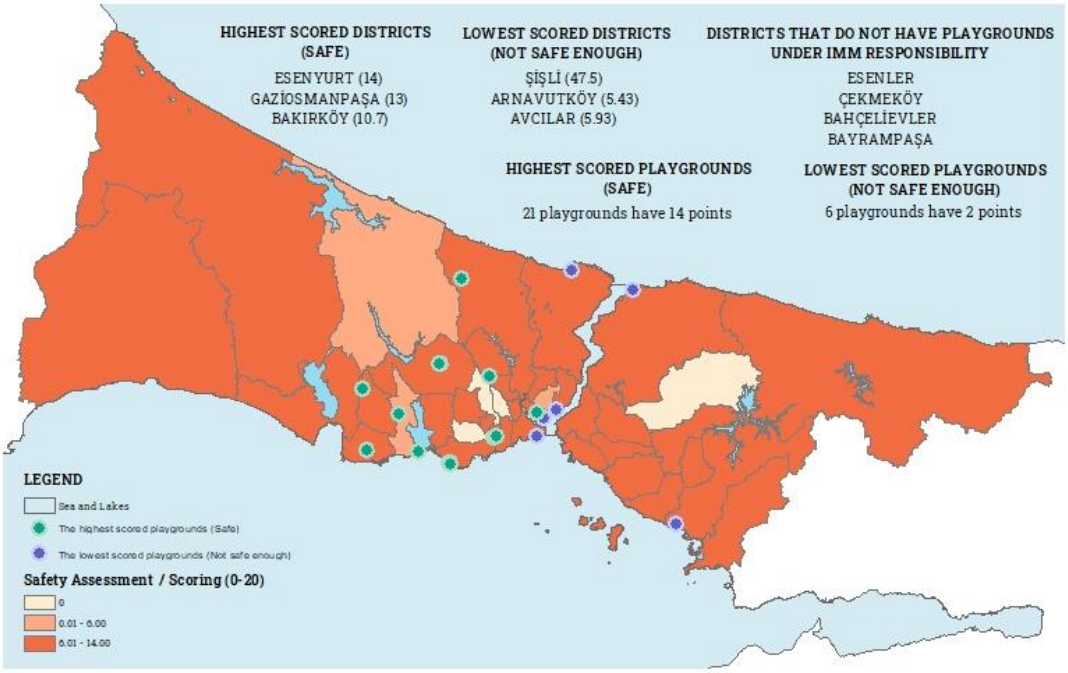


Figure 6. Safety of playgrounds under the responsibility of IMM (Produced by IMM Department of Parks, Gardens and Green Areas according to the results of the field study conducted within the scope of the Istanbul Play Master Plan.)

Results related to safety of playgrounds are listed below:

- Traces of elements that would threaten the safety of play (syringe, glass fragments, cigarette butts, vandalism, etc.) were found in 54.51% of the examined parks. (326: yes, 272: no). Most of these elements are composed of butts, followed by glass shards in the second place. Intensive smoking around children's playgrounds is also one of the issues to be considered.
- Information/notification signage regarding the use and safety of equipment in playgrounds are available in 61.20% of the examined parks, while 38.80% are missing.
- There are lighting elements in 95.6% of the parks, park security in 56.3% and border staff in 28.5% (for 0-3 years old).
- While 59.86% of the examined playgrounds face residences/workplaces/shops, 40.14% are lacking (358: yes, 240: no).
- 76.43% of the parks are open for use 24 hours a day. 23.57% of the parks are closed for use after a certain time. (141: yes, 457: no)

6. RESULT AND CONCLUSION

The obtained results provide a general overview about the opportunities for play, suitability and the play value of 598 playgrounds under the responsibility of IMM. The research delivers a digital database of play spaces in Istanbul and provides the opportunity to gradually build on existing knowledge.

The results for Istanbul concentrate on insufficiency in planning and design approaches of play spaces, difficulty in accessibility due to inhomogeneous distribution and design performance, over-standardization of play activities, indicating a low play value in the overall quality of playgrounds. The following conclusion lines have emerged based on the evaluation indicators:

- Insuffıcient variety of activities and low play value of evaluated playgrounds
- Deficit in entertainment areas, over-standardized playgrounds in terms of color and materials and insufficient variety and quality of play activities; the majority of playgrounds are limited to 3 basic play activities (sliding, swinging and climbing). Also, lack of a design approach supporting sensory and creative play for healthy child development has been identified in the majority of playgrounds.,
- Insufficient access to active green areas and playgrounds; more than half of the roads leading to the playgrounds are not suitable for the use of the disabled and baby carriages, and most of the playgrounds do not have parking spaces for bicycles and floor signs for the visually impaired people.
- Lack of inclusive design approach; the playgrounds do not provide any equipment for the care of babies and small children or any socialization areas for adolescents and young people. Insufficient playground equipment for the use of disabled children is another indicator. In addition, often participatory processes are neglected in the design and planning processes.
- Insufficient play-nature interaction; lack of nature-based solutions in play space design and approaches such as rainwater harvesting systems, etc.
- Indicators on threats and vulnerabilities in ensuring safe play like lack of necessary signage and traces of butts, syringes, broken glass, vandalism, etc. Study on the compliance of playgrounds with safety standards should be additionally performed.

7. DISCUSSION

For the first time, a diagnosis of the city's recreation infrastructure and analysis of play and recreation uses in the play spaces of Istanbul, has been conducted. However, elaboration of analyzes and the development of measurement criteria should be further evolved. Although the study draws a general framework for the playgrounds of Istanbul, it analyzes the playgrounds under the responsibility of IMM in more detail. So, district municipalities and relevant ministries should implement the approach to obtain more holistic data. It is also required to develop an integrated monitoring system and create a network among the related actors. The obtained results should be integrated in policy and strategic documents to support a vision towards a more child-friendly urban environment.

Although the study provides detailed analysis, it is important to note that some statistical results can be misleading, considering the final evaluation of the obtained data. That is due to the fact that the data obtained at upper scale can contribute to tricky conclusions at a neighborhood scale. In this context, it is important to highlight the need for small-scale studies in relevance to defined criteria (accessibility, sustainability, etc.). For example, data on the large green spaces on the city's periphery or availability of high play value playgrounds causes the findings to be presented incorrectly at a neighborhood scale, thus emphasizing the need to further evaluate the obtained data through variable scales.

Further analysis on activities and quality of parks and playgrounds, including district municipalities, would reveal the reasons for decline and pressure in design and planning; put a light on essential play and physical activities that promote the play culture in the city; and necessary transformation for providing more inclusive play and recreation services.

Final notes on the evaluation of playgrounds contribute to specific concluding remarks, showing that the European side of the city is characterized with polarization trends of social equality issues, emphasizing on the contrast in the utilization and quality of play spaces, hosting both the play spaces with the highest and lowest play value. In contrast, the Anatolian side of the city is characterized with more balanced and equitable utilization of play and recreation services, which also emphasizes the presence of better urban living conditions. In addition, the evaluation of play spaces show limited provision of play and recreation services to 0-3, 10-14, 65+ age ranges, and insufficient provision of services with confined inclusiveness and accessibility to disadvantaged groups. The evaluation approach could be complemented with additional social analysis and feedback in order to follow up trends and changing needs of users and community.

Annex A. Evaluation form of playgrounds drafted upon defined five criteria.

SCORING	QUESTIONS
	Name - Surname
	Date/Day/Time
	Weather / Temperature
	District
	Park Name
	Park Typology - Neighborhood Park, District Park, Urban Park
	User Age Range - under 5 and caregiver, Child (5-12), Youth (13-18), Adult (18-64), Elderly (65+)
	Number of Playgrounds
	Name of Playground
	(If there is more than one playground, fill in this field.)
	Coordinate
25%	**ACCESSIBILITY**
2	Is it in an easily accessible location? - Yes, No
2	Is it close to public transport networks? - Yes, No
2	Are there multiple access lines? Please specify if any. - Yes, No
2	Are the paths leading to the playground suitable for disabled and stroller use? - Yes, No
2	Is the playground near by a transportation axis (If yes, please fill the following question) - Yes, No
5	Is the playground protected from the traffic? - Crosswalk, Safe Sidewalk, Traffic Lights, Safe Cycle Path, Slowed Traffic
2	Is it heavily used by children? - Yes, No
2	Is there parking for bikes? - Yes, No
6	What activities/opportunities are there in the surrounding area? - School, Nursery, Mosque, Green Space, Hospital/Health Center, Cafe/Restaurant/Shop
15%	**SUSTAINABILITY**
For inventory	What is the surfacing material of the playgroung? - EPDM variables, Wood chips, Sand, Other: comment
1	Is the suface of the playground well maintained? - Yes, No
For inventory	What is the material of the playground equipments? - Metal, Woos, Plastic, Other: comment
1	Are the playground equipments well maintained? - Yes, No
1	Do open and green spaces seem sufficient at first glance? - Yes, No
4	Which of the following is the playground protected from? - Noise, Sun, Dust, Wind
3,5	Which of the following is available for the playground management? - Bin, Fountain (0.5), Recycle Bin, Warning signs
For inventory	Which ones are available for shade? - Tree, Awning /umbrella, Pergola, Other: comment
1	Is there a rainwater harvesting system? - Yes, No
3,5	What is available to provide contact with nature? - Grass/Bush, Tree, Rock-Stone-Gravel, Sand, Sowing-Planting area, Water, Bird/other creatures
20%	**INCLUSION**
2	Is there equipment for baby and young children (breastfeeding room, changing room)? - Yes, No
2	Is there WC? - Yes, No
2	Are there sitting areas close to the playground? - Yes, No, If yes mention
2	Is there a designated area for pets in the park (running and waste collection)? - Yes, No
2	Is there a ramp / does it comply the standard (max 6%)? - Yes, No
2	Are there guide tracks suitable for visually disabled? - Yes, No
2	Does the design of the space support sensory development? - Yes, No, Other
2	Are there special playground equipment for disabled individuals (physically/mentally)? - Yes, No
2	Are there any socialization areas for adolescents and young people (Skateboarding, Scooter, Skating, Freestyle Cycling, amphitheater, sports fields etc.)?
2	Are there areas where different age groups can play together? - Yes, No, If yes mention
20%	**SAFETY**
4	Are there any traces of elements that threaten play safety? (Syringe, broken glass, vandalism, etc.) - Yes, No, If yes mention
4	Which of the following are available for the safety of the playground? - Lighting (2), Park attendant, Border element (for 0-3 age)
4	Are there any residences/businesses/shops in the surrounding directly facing the park? - Yes, No
4	Does the play equipment comply with TS 1176 safety standards? - Yes, No
4	Is the park closed for use after a certain time? - Yes, No
20%	**PLAY VALUE (MULTIFUNCTIONAL, CREATIVE, EDUCATIONAL)**
1	Is there diversity in structure, color and material? - Yes, No
7	Which play activities are available in the playground? (Minimum Playability Quality Standard For 3 Main Play Activities: Sliding, Climbing, Swinging) - Crawling (0.5), Sort walking (0.5), Jumping, Climbing (1), Balance, Running/Playing ball, Hanging, Sliding (1), Cycling, Skating, Swing (1)
5	What are the features that make the playground unique? - Nature, Topographic diversity, Non-catalog custom designed equipment, Wide variety of play activities, Intergenerational play,
	Are there playmakers or volunteers doing regular activities at the park? - Yes, No
1	Is there a sports field (if yes, please specify)? - Yes, No, If yes mention
0,5	Is there a suitable area for a picnic? - Yes, No
4	What are the possibilities for creative play? - Water play, Free and moving parts, Sound making/rhythm devices, Surfaces for drawing/painting, sand/soil/playing with clay, open-closed spaces, open/free space without equipment, leaf/ conifer plants
1	Is there a suitable area for events (exhibition, festival, event)? - Yes, No
0,5	Are there opportunities to rent bicycles, scooters, etc. sports and other equipment (if yes, specify)? - Yes, No, If yes mention

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GENDER AS AN ANALYSIS CATEGORY IN ENVIRONMENT - BEHAVIOUR STUDIES

Aslıhan Çetin

PhD Program Student
Süleyman Demirel University, Department of Architecture
mmr.aslihan.cetin@hotmail.com

Şefika Gülin Beyhan

Prof. Dr. Suleyman Demirel University
Faculty of Architecture, Department of Architecture
gulinbeyhan@sdu.edu.tr

ABSTRACT

Environmental-behaviour studies focus on the study of the relationship between human beings and their living environment. The study of this relationship and the revealing of its results have an important place in the development of design and the quality of life of the society. The gender relationship with the discipline of architecture, whose subject is human, is a broad work area that expresses a wide field of study that is covered with different techniques.

Understanding the discipline of architecture, which is influenced by society and directs society with the spaces it produces, is of big importance in terms of understanding society, or in other words, in terms of understanding human beings. the discipline of architecture, which has made great technical progress until today, needs new ideas and concepts in the theoretical sense. In this study, it is aimed to analysis environmental-behaviour studies in the gender intersection in this context. Environment-behaviour studies include not only concepts, models and theories, but also various methods and techniques. These techniques and methods vary according to the purpose and content of the studies. The scope of the study; consists of published studies (thesis, book, article, paper, etc.) on environment-behaviour and gender, conducted in the world and in Turkey between 2015-2022. It is aimed at creating a content in which studies are grouped in terms of topics and techniques. As a result, a perspective was presented in terms of criticizing the unequal use of private and public space and enabling individuals to exhibit genderless behaviour.

Keywords: Urban; Environment-Behaviour; Gender

INTRODUCTION

Cities are not empty boxes in which social actions take place, but are formations shaped according to social codes, with their unique memory, and are constantly developing and transforming. Cities have a multi-layered

structure as the physical counterpart of all experiences in the living world. As everything that happens socially is an urban equivalent, there is a social equivalent to everything that happens urbanely. Therefore, it is possible to talk about a dialectical relationship between the urban and society. The urban space should be perceived not only as the basic relationship of building blocks, but as a combination of many layers of behaviour. The formation of the urban space, on the other hand, is affected by the behaviour of the society living in it. These behaviours are known to be produced by various social resources. In today's urbans, the phenomenon of inequality of social resources comes to the fore. Inequality; can take place on the basis of culture, ethnic group and class or gender as men and women. Inequality is defined by different disciplines; according to various topics such as social rights, participation in the public sphere, and behavioural inequality. In architecture, it is observed that environmental-behaviour studies are conducted on gender-based basis. The discipline of architecture, in fact, has been a form of expression that has increased its influence, starting from the relationship it established with social dynamics. The architecture-gender relationship, on the other hand, has become generalized as the main elements limiting gender consider architecture as a field of expression. The reason why the concept of gender has not been clarified throughout the history of architecture is that power centres are pointed out as the source of the spatialization of the dominant gender and gender-based distinctions.

According to Lynch (1960), human environmental behaviour depends on the images acquired from the structured environment. Accordingly, there is a relationship between environment and behaviour that is discussed within different concepts and perspectives. Environmental-behaviour studies also focus on the study of the relationship between human beings and the environment in which they live. The study of this relationship and the results of it have an important place in developing design and the quality of life of society. Environmental-behavioural studies have been one of the issues that gained importance towards the end of the last century in different disciplines. Studies involving various methods and applications; have found their place in different disciplines, from the field of design (architecture, interior architecture, city and regional planning, etc.) to social sciences (sociology, psychology, anthropology, etc.) (Atauz, 2004; Yağcı, 2014; Khalili et al. 2015; Arjmand, 2016; Francis, 2016; Beebeejaun, 2016; Yüceşahin ve Yazgan, 2017 ve Souza et al., 2018). Environmental-behavioural studies begin and end with the attempt to find solutions for the problems raised by society. The gender relationship with the discipline of architecture, whose subject is human, is a wide field of study covered by different techniques. Understanding the discipline of architecture, which is influenced by the society and directs the society with the environment it produces, is very important in terms of understanding the society and the human being in particular. The discipline of architecture, which has made considerable progress in technical terms until today, needs new ideas and concepts in the theoretical sense. In this context, the need to understand the place and effects of the concept of gender, which has recently started to take place in the discipline of architecture, arises. The concept of gender is differentiating the roles of men and women by combining people in two main groups as men and women. This distinction between the genders also arises spatially in parallel with the social and cultural structure. Spatially, with the studies on gender discrimination, it is seen that the inequality experienced is reflected in every area from urban life to the use of space. Revealing the relationship between space and gender, regardless of scale, seeking answers to the questions encountered, arranging social relations and design reveals the problem of the study.

The space is shaped by its relationship with the user, and individuals are also affected by their interaction with the space. In order to make inferences about the reflections of this interaction on different users, it is necessary to analyze the movements of the users in the space. Because, due to the opportunities offered by the city on a single gender group, inequalities become more visible. It is very important for users to identify these inequalities and make new suggestions.

As a result, urban spaces are indifferent and disinterested in gender. Urban plans are also created in line with this idea. In addition, crime elements that arise as a result of the segregated and heterogeneous structure of the city due to different social and ethnic groups are another factor that increases urban inequalities. Getting an idea about the use of space and socio-cultural structure of a city will be understood by looking at the gender roles and gendered spaces observed in the city.

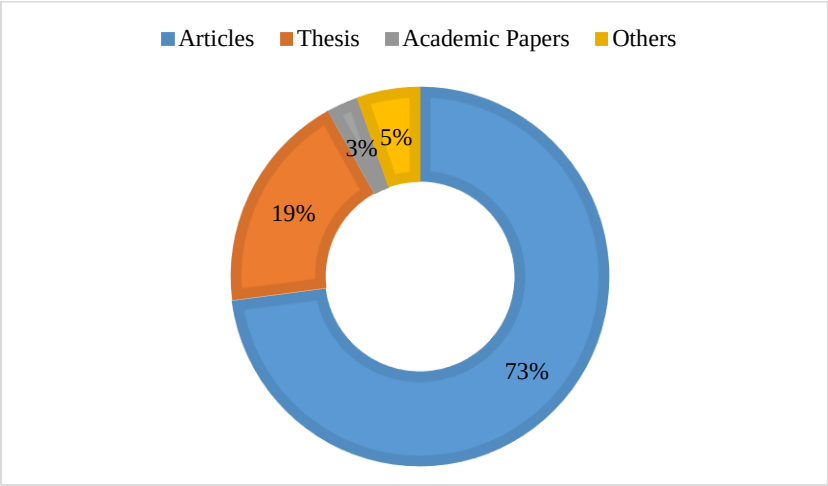
RESEARCH DESIGN

In recent years, the relationship between human behaviour and the physical environment has attracted attention in many disciplines and studies in this field have gained momentum. The versatile character of environmental-behaviour studies and the search for solutions to problems related to environmental design contribute to the development of the fields of study. However, despite the noticeable level of development, the gender factor remains deficient in many aspects in the development of the physical environment. This creates a significant gap in environmental-behaviour studies in terms of detecting the physical environment and human behaviour of a particular gender group. Therefore, gender-based studies are needed to understand the similarities and differences between the genders.

From this point on, the study was carried out through the basic hypothesis, “the behaviour in the physical environment is shaped by the gender factor”. In this respect, first of all, environmental-behaviour models were examined and studies were carried out on the behavioural model (Rapoport, 1973). Behavioural model; determines the explicit behavioural process rather than the internal-psychological process. At this point, however, the gender impact on behaviour has not been a subject of direct research within the discipline of architecture.

For this reason, the physical environment-gender relationship in the discipline of architecture, which is fed by society and social factors, has been sought in the academic studies carried out (Turgut, 1990). Environmental-behaviour studies include not only concepts, models and theories, but also various methods and techniques. These techniques and methods vary according to the purpose and content of the studies. The scope of the study; consists of 37 published studies (theses, books, articles, papers, etc.) on environment-behaviour and gender, conducted in the world and in Turkey between the years 2015-2022 (Graph 1). In Graph 1, while the numerical distribution of publications published on environmental-behaviour and gender issues between 2015-2022 is shown, it is stated that the publications in the article type have the highest rate with 73% and the academic studies published in the paper type have the lowest rate with 3%.

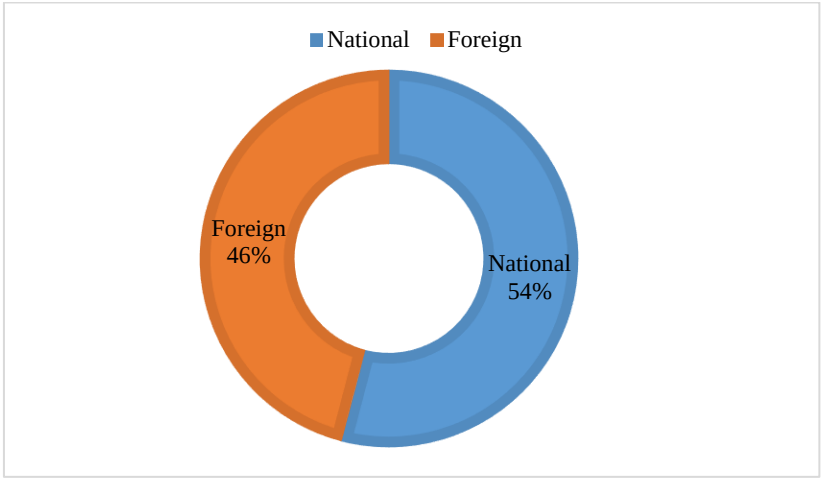
Graph 1. Numerical data of academic studies on environment-behaviour and gender



RESULTS

The scope of the study consists of bibliographic research and detailed content scanning. Accordingly, academic studies were classified according to their subjects and methods, and they were handled in two groups, published in Turkey and abroad. The distribution showing the domestic and international origin of the studies is given in Graph 2. According to the graph, it can be said that the rates of academic studies published in the country (54%) and abroad (46%) are close to each other between the years that are the subject of the research. It is seen that the domestic publications reached in the detailed content scanning are numerically higher with a small proportional difference.

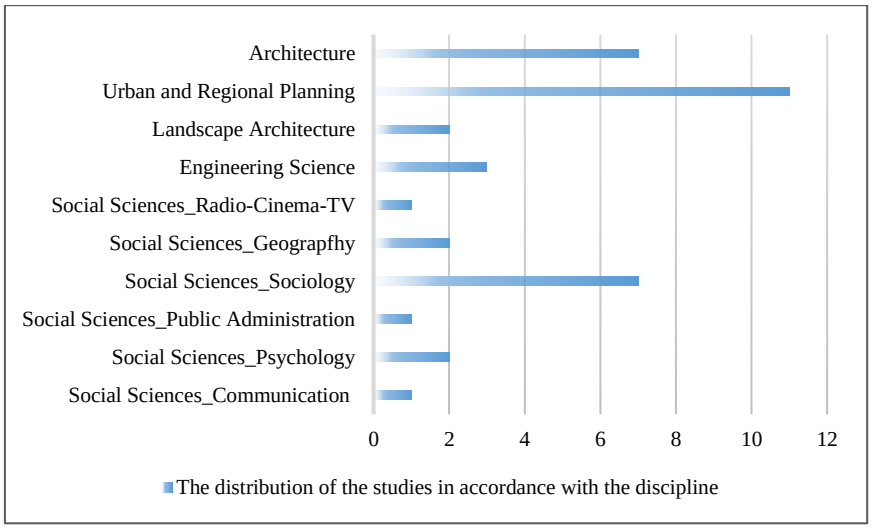
Graph 2. Publication (National/ Foreign) status of the reviewed studies



In this study, which was carried out by considering environmental, behavioural and gender issues together, academic and scientific publications, including theses, articles, papers and other publications, has been scanned. This search was first done by using the keywords such as environment and behaviour, then by using

keywords behaviour and gender. Thesis studies were searched on the internet from the official national thesis centre of YÖK. Articles, papers and other publications were also searched through Google academic, ResearchGate, ScienceDirect databases. As a result of these studies, the disciplines, fields of science and publication years were digitized (Graphs 3 and Graphs 4). Upon the analysis of Graph 3, it is seen that the keywords researched in the study are most common in the fields of architecture, sociology and city and regional planning.

Graph 3. The distribution of the studies in accordance with the disciplines involved in the study



In Graph 4, the publications reached in the search were intensified in 2016, 2018 and 2020. From the distribution of years in the graph, it can be said that the subject is up-to-date and has been handled at an interdisciplinary level.

Graph 4. Distribution of the analysed studies by years

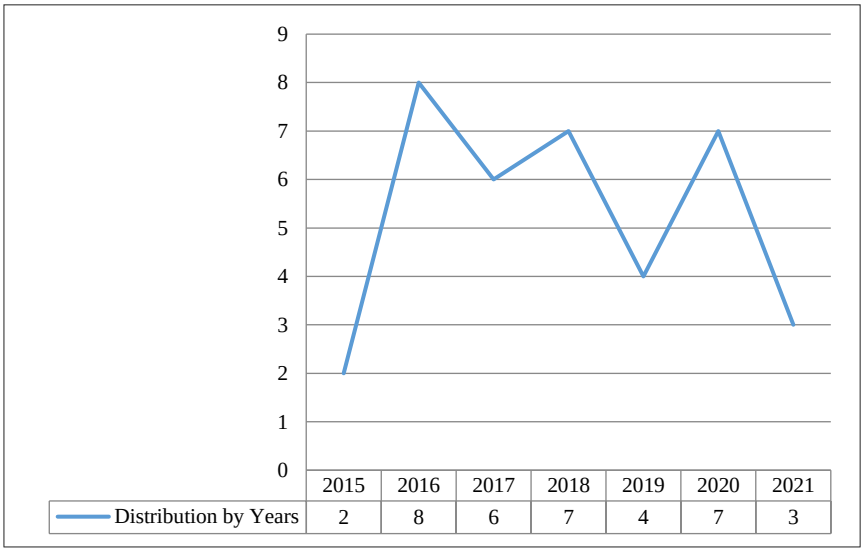


Table 1. Subject and method used in domestic sourced studies

AUTHOR/S, YEAR	TITLE							RESEARCH METHOD								
	Public Space Use	Spatial Behaviour	Cognitive İmpact	Urban Experience	Space-Gender Relationship	Fear of Crime	Spatial Segregation	Behaviour Observation / Analysis	Behaviour Map	Survey	Cognition Map	Onsite Observation	İnterview	Evaluation / Discussion / Review	Photo / Document-Content Analysis	Literature Review
Yalçınkaya, 2015					■										●	●
Mumcu et al, 2016	■							●		●						
Albayrak, 2016		■						●								
Acuner, 2016				■										●		
Erdoğan, 2016				■						●		●	●			
Tandoğan and İlhan, 2016						■				●						
Aktaş, 2017					■											
Sevinç Doğan, 2017					■									●		
Akkirman, 2017					■					●			●			
Yücaşahin and Yazgan, 2017					■										●	
Yılmaz, 2018				■										●		
Akıncı, 2018				■									●			
Güven, 2018				■				●								
Mirioğlu, 2019	■							●					●			
Akbaş Arpacı, 2019		■						●								
Alpman, 2019							■							●		
Koparan, 2020	■													●		
Ünüvar, 2020			■					●								●
Bayar Kılıçarslan, 2020				■						●						
Tunç Subaşı, 2020					■					●			●	●		

Upon analysis of the studies published in Turkey and abroad; It is seen that the publications are handled according to 2 basic parameters:

1. In the content scanning made in the publications, it has been determined that the behavioural effect of the physical environment is one of the basic approaches. Use of Public Space (Mumcu et al., 2016; Mirioğlu, 2019; Koparan, 2020; Bashari et al., 2015; Khalid et al., 2020a), Spatial Behavior (Albayrak, 2016; Akbaş Arpacı, 2019), Cognitive Impact (Ünüvar, 2020), Urban Experience (Acuner, 2016; ; Erdoğan, 2016; Yılmaz, 2018; Akıncı, 2018; Güven, 2018; Bayar Kılıçarslan, 2020; Mahadevia ve Lathia, 2019), Spatial Preference (Müller et al., 2017), Fear of Crime (Tandoğan and İlhan, 2016), Spatial Segregation (Alpman, 2019) (Table 1).

Upon analysis of Table 1; From the distribution of the subjects, it is seen that there is a concentration on the urban experience and the space-gender relationship. It has been determined that behavioural observation/analysis and survey studies are used more intensively as research methods. It is seen that there are no studies using behaviour and cognition maps technique in the publications between the years examined in national publications.

2. İn the content screening of publications, it is seen that there was another approach to how behaviour varies in different gender groups. Place - Gender relation (Yalcinkaya, 2015; Beebeejaun, 2016; Aktaş, 2017; Sevinç Doğan, 2017; Akkirman, 2017; Yücaşahin ve Yazgan, 2017; Khorsheed et al., 2018; Khalid et al., 2020b; Tunç Subaşı, 2020; Juanita ve Kapadia, 2021), Gender effect on walking behaviour (Chai et al., 2016; Arshad et al., 2016; Almahmood et al., 2017; O'Dowd, 2018; Souza et al., 2018; Gauvin et al., 2020; Kawgan Kagan, 2020; Olivieri ve Fageda, 2021)(Table 2). In the end, when looked at, researchers focused not only on one of these approaches, but sometimes both. So, it was possible to address and understand the physical, social and spatial aspects of the space at the same time.

Upon analysis of Table 2; It is seen that there is a concentration on the distribution of topics on space-gender relationship and gender effect on walking behaviour. As a research method, it was determined that behaviour observation / analysis and spatial analysis studies were used more intensively. When the findings of Table 1 and Table 2 are compared; it has been seen that there are some differences in the subject and methods used in national and foreign studies.

The techniques and research methods used in the studies examined vary considerably (Table 1 and Table 2). However, it has been observed that behaviour observation/analysis, behaviour map, survey, interview and spatial analysis techniques were mainly used. Especially in studies originating abroad, the human-space relationship was highlighted by making use of virtual environment or social media data (Çalışkan, 2015). Thus, it is understood that foreign-sourced studies show richness in terms of techniques. In studies in the field of social sciences such as psychology and sociology, survey, interview and literature review techniques were mostly used. In the studies conducted in the field of design, behaviour observation/analysis, behaviour map, spatial analysis, survey and interview techniques were used. It has been possible to address the relationship between gender and space by defining the behaviour spatially through observations and using other methods (questionnaire, interview, etc.).

Table 2. Subject and method of foreign studies

AUTHOR/S, YEAR	TITLE						RESEARCH METHOD						
	Public Space Use	Urban Experience	Space-Gender Relationship	Gender Effect on Walking Behaviour	Transport Policies	Spatial Preference	Behaviour Observation / Analysis	Behavior Map	Survey	Spatial Analysis	Social-Media Data	Evaluation / Discussion / Review	Literature Review
Chai et al., 2016				■			●						
Khorsheed et al., 2018			■				●			●			
Bashari et al., 2015	■							●					
Beebeejaun, 2016			■									●	●
Arshad et al., 2016				■					●				
Almahmood et al., 2017				■			●	●					
Müller et al., 2017						■					●		
O'Dowd, 2018				■			●						
Souza et al., 2018				■			●						
Mahadevia and Lathia, 2019		■						●	●	●			
Khalid et al., 2020a	■									●			
Khalid et al., 2020b			■							●			
Gauvin et al., 2020				■			●				●		
Kawgan Kagan, 2020				■					●				
Olivieri and Fageda, 2021				■			●			●			
Swamy, 2021					■							●	
Juanita and Kapadia, 2021			■							●	●		

CONCLUSION

In the discipline of architecture, the relationship with gender is the roles and responsibilities that the society puts on gender groups (Yalçınkaya, 2015) and the resulting behaviours rather than physical differences. It is inevitable that such an absolute reality will affect the architectural product. Similarly, it is clear that the way of behaviour affects architecture. Thus, the necessity of addressing the relationship between architecture and gender in academic studies arises.

This study is also tasked with analysing research that focuses on the relationship between the environment and human beings and the study of this relationship through physical environments based on gender. It is aimed to reveal in which topic and research method techniques the studies examined within the scope of the research are handled. It has been observed that studies dealing with the effect of gender in the field of environment-behaviour take place in many disciplines, from the field of design (spatial/urban design, industrial design, planning, landscape) to social sciences (psychology, sociology, education). The reason for examining the studies conducted in recent years is to show that there are new approaches in data collection using advanced techniques and technology. These approaches have also found a place in different studies in different disciplines. It can also be said that this issue, which has been seen in many studies in recent years, arises from the need to emphasize gender equality and to reveal its relationship with space.

In domestic studies, the subjects mostly focused on the urban experience and the space-gender relationship. On the other hand, studies abroad have been discussed on the subject of space-gender relations and the effect of gender on behaviour. Studies published both domestic and abroad are mostly conducted at the article level; thesis, declaration, etc. their research has been concluded to be limited.

The study includes a review of a topic that has been interested in the attention of gender equality in recent years. In the world and in Turkey, it has been questioned how much interest the study on environmental behaviour and gender has generated, and which research techniques are used. The study has the potential to be detailed using different scanning techniques. At the same time, the study undertakes the task of highlighting on the researchers working in a similar field on issues such as the distribution of publications by years, the status of related disciplines, the diversity of subject and content, and the distribution according to research techniques. It is also important that data on the subject is found in interdisciplinary workspace to bring together different disciplines. The results of the study on detailed scanning also have the potential to guide study in different areas to be carried out in the future.

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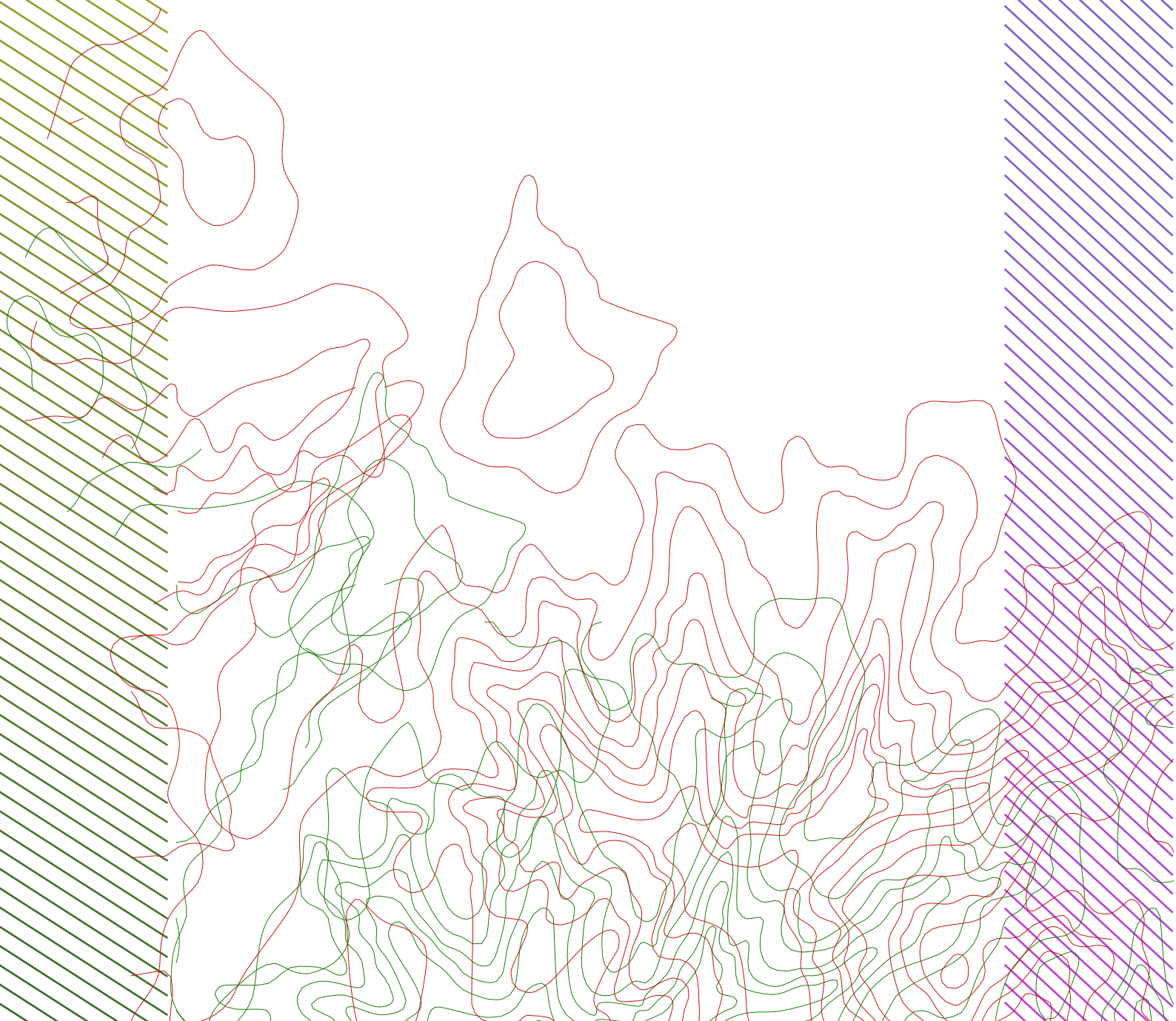
Session II

New Perspectives On Interdisciplinary Urban Design



A NEW PROCESS PROPOSAL FOR THE INTERACTION BETWEEN SITE MANAGEMENT PLAN AND URBAN DESIGN: THE CASE OF PRIENE ANCIENT CITY

Fatma Çağla Şevik

Msc in Urban Design, Mimar Sinan Fine Arts University
fatmacaglasevik@gmail.com

ABSTRACT

Scientific, historical, archaeological, cultural etc. protected areas that provide information on many subjects; It is at risk in many issues such as natural disasters, human-induced risks, unplanned urbanization. Site management plan with a multidisciplinary structure developed since the second half of the 20th century as a spatial intervention tool in eliminating these risks in economic, social and environmental dimensions; It directs conservation areas with its participatory, process-oriented and holistic approach. These approaches overlap with urban design, which is a spatial intervention tool that aims to improve the quality of life and pursues the public interest, proceeds with a participatory and interdisciplinary approach. The processes, stages and basic principles of two spatial intervention tools, which have this similar approach and common goals, are compared. A relational context has been revealed by making this comparison method over world and turkey practices. Based on the relational context, this study aims to develop a hybrid process proposal for urban collage areas (conservation area and its surroundings) and to reveal its principles in the interaction of site management plan and urban design. The methodology and stages of the newly developed hybrid process are discussed in detail. The new method brought by the process has been evaluated over the ancient city of Priene. As a result, it was concluded that the urban collage areas formed by conservation areas and residential areas, based on the relational context, should be considered together, not as two separate phenomena, and the hybrid process should be applied as a guide in the projects to be implemented in these areas.

Keywords: Site Management Plan, Urban Design, Hybrid Process, Urban Collage, Priene Ancient City

1. INTRODUCTION

Historical, archaeological, artistic, etc. Understanding the importance of the values that are the subject of cultural heritage, increasing awareness and the necessity of preserving the accumulation of a non-renewable past are gaining more and more importance day by day. As can be seen in recent history, with the discovery of Göbekli Tepe, it is seen that a legacy from the past can change world history and rewrite it. Urban conservation areas with these values; It is at risk in many issues such as natural disasters, human-induced risks, insufficient budget, unplanned urbanization and construction pressure. The area management plan, which has a multidisciplinary structure that has developed since the second half of the 20th century, as a

spatial intervention tool in eliminating these risks in economic, social and environmental dimensions; It guides urban conservation areas with its participatory, process-oriented and holistic approach (Aksoy and Enlil, 2012).

With this point of view, it has objectives such as solving existing problems, eliminating risks, evaluating existing potentials and reconstructing the future (Ulusan, 2016). These goals and approach are aligned with the goals and approach of urban design, which developed in the second half of the 20th century, being the art of creating space, making decisions to improve the quality of space and life, taking care of the public interest, advancing with a participatory and interdisciplinary approach, and developing spatial intervention. overlaps.

When the basic structure of the urban design and the site management plan is examined together, it is seen that both have a multidisciplinary working principle, a participatory understanding, a process-oriented approach rather than a result, and they adopt common goals and approaches as a spatial intervention tool in solving the problems experienced in cities and constructing the future. However, with the assumption that urban design and site management plan processes have a similar flow, it has been adopted that there is no hierarchical trend between these two spatial intervention tools, on the contrary, they have a coordinated operation. It is thought that a more qualified and more successful process for plans and projects can be formed by synthesizing these coordinated processes in a way. This hybrid process proposal with a new and holistic perspective aims to contribute to the field of both conservation and urban design for plan and project processes, in developing spatial intervention with the process stages and stage outputs obtained by presenting a unique method within the scope of the thesis study.

1.1. AIM OF THE STUDY, SCOPE AND METHOD

Within the scope of the study, it is aimed to design a hybrid process proposal for urban collage areas and to reveal its principles in the interaction of the area management plan and urban design processes and stages in line with this adopted idea.

Within the scope of the study, urban collage areas that form a dialectical relationship between the past and the future; It consists of the combination of the conservation areas reflecting the past and the residential areas that do not have the characteristics of protection, regardless of rural or urban area. Rather than how to make plans and projects for these areas, it is aimed to present a hybrid approach that will guide the process management, and in which framework the area management plan and urban design applications should be carried out, on which processes and principles it should be developed.

This study, which aims to design a hybrid process proposal in urban collage areas with the interaction of space management plan and urban design; The management plan as spatial intervention tools and the guides prepared for the conservation areas of urban design under the leadership of UNESCO, and the comparison of the basic principles, processes and stages in the literature studies, and the inferences obtained by examining the application examples. In this direction, a hybrid process proposal has been put forward in the interaction of site management and urban design based on the relational context. In this context, the process

methodology, the basic and sub-stages of the process, and the basic principles that increase the efficiency of the process are discussed. In addition, different criteria and methods have been determined for each principle in order to reach the principles and support the methodological approach. This study also; It covers the borders of Güllübahçe Neighborhood, to which the Priene Archaeological Site is connected to Aydın Province, Söke District. Priene's values that can create inputs within the framework of the hybrid process related to the Urban collage area are discussed.

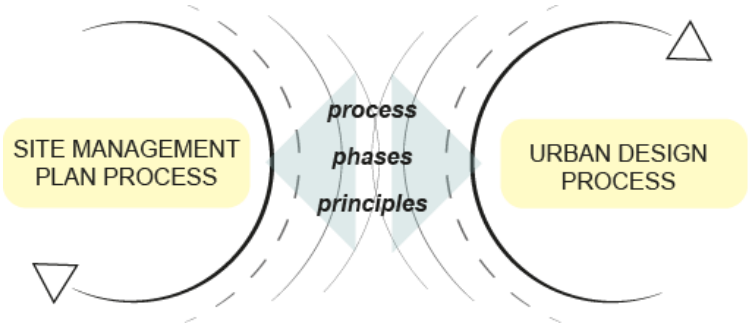


Figure 1. Process proposal development method

As a method; In the interaction of the space management plan and urban design processes, which deal with the space in a multidimensional way and have a multidisciplinary working principle, a comparison method has been adopted to prove the relational context between these two spatial intervention tools. In this direction, a multi-faceted comparison was made, especially the process, stages and principles, through the guides and regulation prepared under the leadership of UNESCO for the protection areas of the process, literature studies on the urban design process, and national-scale application examples with the Ancient City of Pompeii.

2. FINDINGS ON THE RELATIONAL CONTEXT BETWEEN SITE MANAGEMENT PLAN AND URBAN DESIGN

Although cities are the focus of attention of many different disciplines and fields of study today, many different approaches and methods are being developed to produce many ideas and theories about space within the disciplines of urban design, planning and architecture. In the development of these methods, it is seen that multidisciplinary and participatory process approaches come to the fore by developing multidimensional perspectives and strategies in terms of social, economic and environmental aspects in their fields of study (Gül and Bostan, 2018).

When the basic structure of urban design and area management plan is examined together, it is seen that both have a multidisciplinary working principle, participatory understanding, a process-oriented approach rather than a result, and adopt common goals and approaches as a spatial intervention tool in solving problems in cities. Based on these common goals, in order to reveal the interaction between these two spatial intervention tools, it is aimed to reveal the relational context by comparing the processes and stages between them in detail.

2.1. PROCESS AND PHASES RELATIONSHIP

In order to reveal the relational context in the interaction of the site management plan and urban design, the basic process flow of these two spatial intervention tools and the sub-stages of the process were compared.

The site management plan is a feedback process that adopts a multi-disciplinary and systematic working approach. As the site management plan contains legal restrictions, within the scope of the study, regarding the process flow and stages; Regulation No. 26006 and studies prepared under the leadership of UNESCO's advisory bodies ICOMOS, ICCROM, IUCN and accepted as basic guides at the international level have been examined. These stages may include different sub-stages in line with the principle of location specificity. (Thomas et al., 2003)

Table 1. Comparison of site management plan process phases (Böke,2020).

ICCROM / Management Guide for World Heritage Sites (1998)	**IUCN / Management Plan Guidelines for Protected Areas (2003)**	**ICOMOS UK / Management of Historic Environments (2005)**	**UNESCO / World Cultural Heritage Management (2013)**	**Regulation on Site Management (2005)**
1. Initial research of the field	1.Pre-planning preparation	1. Determination and development of management strategy,	1. Purpose	1. Creation of the planning team
2. Description of the area and definition of the boundary	2. Data collection	2. Identification of the protected area,	2. Decision making process (participatory process)	2. Management area outline (stakeholders and related institution opinions)
3. Identification of resources,	3. Evaluation of data and source information,	3. Determination of cultural value and importance,	3. Defining the area	3. Management area
4. Evaluation of resources	4. Identification of constraints, potentials, opportunities and threats,	4.Determining printing and change requests for reuse	4. Importance of space	4. Establishment of an site management organization
5. Formulate goals and consider constraints	5. Developing the management vision and goals,	5. Determination of the protection policy,	5. Identifying key issues	5. determining the current situation
6. Identification of projects and actions	6. Developing options to achieve vision and goals (including urban development)	6. Evaluation of options,	6. Vision / general policies, objectives	6.Area analysis
7. Preparation of work program and annual plans	7. Preparation of a draft management plan	7. Preparation of action and business plans,	7. Action plan (timing, priorities, resources and indicators)	7. Determination of the vision of the field and formation of the main policies
8. Execution of projects and actions	8. Evaluation of the presentations, revision of the draft Management plan, preparation of the final management plan,	8.Application,	8. Monitoring plan	8. Determination of work schedule, schedule and projects
9. Recording, reporting and reviewing results	9. Approval of the Management Plan,	9.Monitoring and reviewing,	9. Review and timeline	9. Vision of the area
10. Storage of information and data	10.Application	10. Research and documents,		10.Management plan draft
11. Revision and re-evaluation of the definition of the field	11.Monitoring and evaluation	11. Project budgets, costs, business plans		11. Pre-approval of the advisory board
12. Formulation of revised targets and reassessment of constraints	12. Decision to review and update			12. Management plan draft
13. Determination of new projects according to the revised situation				13. Coordination and supervisory board approval and approved Management plan
14. Preparation of revised work program and next annual plan				14. Implementation monitoring, evaluation and training processes

As seen in Table 1, determining the preliminary preparation and purpose, determining the border of the management area with a participatory understanding, determining the current situation regarding the area and revealing the problems, then determining the vision and preparing an action plan by describing the policies and targets for this vision, and It is seen that the preparation of a draft plan before approval, making the necessary revisions, and then the approval, implementation, monitoring and evaluation stages are considered as common. In addition, it has been determined that the stages of the process are shaped depending on the basic three phases.

Urban design process; Participation is a process that is built with the understanding of being multi-disciplinary and has a feedback structure in line with user experiences. The structure of the design process begins with the determination of the current situation, continues with the analysis, synthesis, determination of the theme (vision) and evaluation, and the presentation of the final product, then the application is defined as a process that develops and continues user experiences (Karaman, 2008). After the stages are completed, post-implementation evaluations show that the process has a cyclical approach.

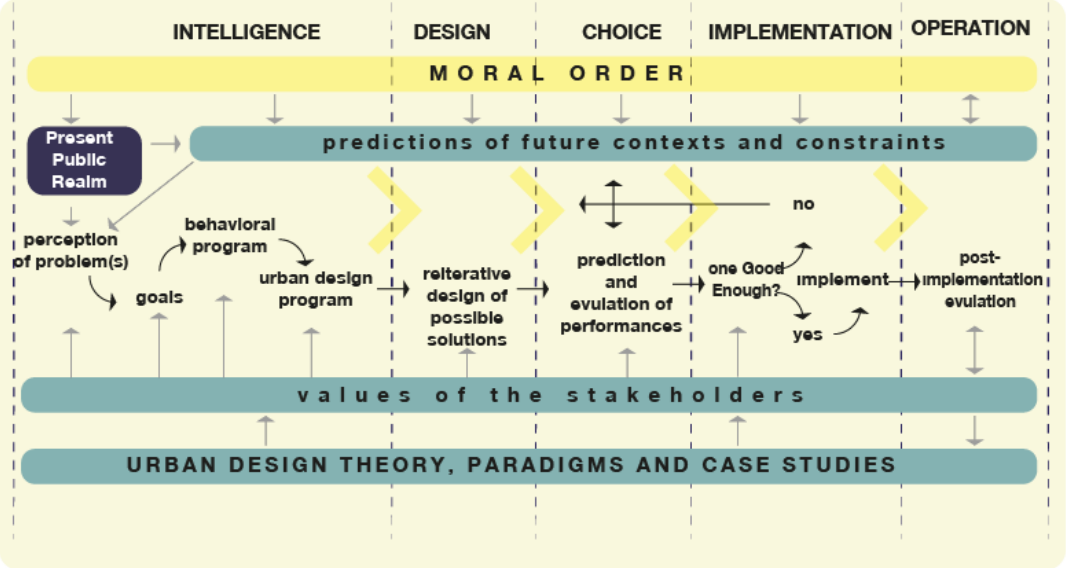


Figure 2. Process of urban design (Lang,2005).

Process description According to Jon Lang's (2005) definition; It is a chart that develops step-by-step, identifies problems, and descriptively conveys approaches that continue until the final product is completed.

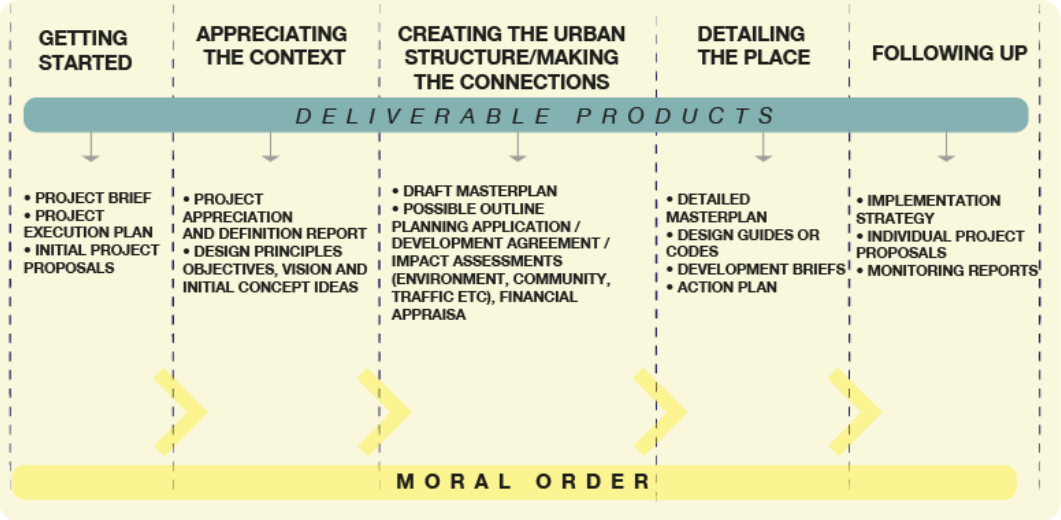


Figure 3. Process of urban design and outputs (Llewelyn – Davies, 2000).

Another definition of the urban design process is the process according to the definition made by Llewelyn – Davies (2000); It consists of five stages: initiation, contextual evaluation, creating the urban structure and establishing connections, detailing and monitoring the space. Each stage is interrelated and supports each other. After the stages are completed, back updates show that the process has a cyclical approach. The outputs obtained after the completed stage are discussed.

When the basic structure of the design process is examined; First, the understanding phase consists of determining the problem related to the field, collecting preliminary information and documents, determining the goals and objectives, analyzing the collected data, synthesizing the analyzes through interpretation and evaluation, and then the determinations in the field. According to the data obtained afterwards, with the transition to the design stage, the vision (theme, concept) is determined and the strategies related to these are developed. The third stage, the selection stage, is the selection of the final product from among the alternatives. The next stage is considered as an ongoing process that is shaped by the application and finally the production of post-application methods and user experiences (Lang, 2005).

In the international guides and legal framework prepared to guide every stage of the site management plan process, it is stated that the process consists of 3 basic stages: preparation, implementation, monitoring and evaluation. When the process shaped by these stages is integrated with the urban design process, it is seen that they have a coordinated systematic. Thus, it is seen that the planning phase can be handled by choosing among understanding-design-alternatives, the implementation phase can be handled with urban design implementation and implementation tools, and the monitoring and evaluation phase can be considered as post-implementation evaluation and measurements.

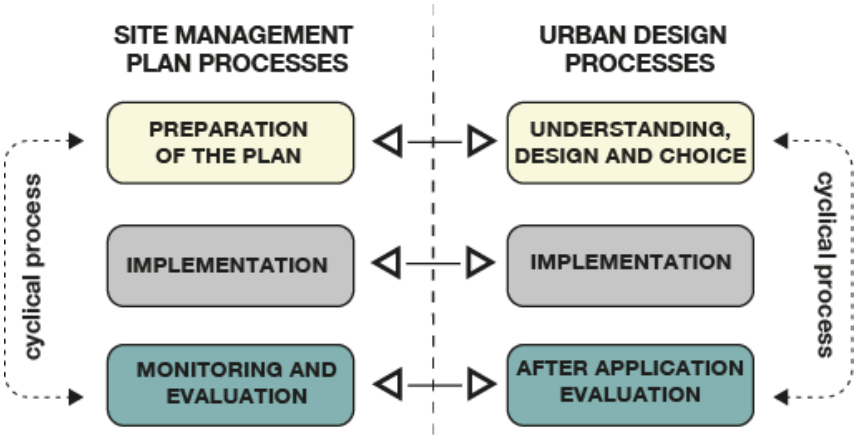


Figure 4. Comparison of site management plan and urban design basic processes.

Comparison of Preparation Phases.

The field management planning process of the "Preparation Phase of the Plan", which is the first stage of the three basic stages, has been reduced to the most concise stages according to the guides prepared under the leadership of UNESCO and the inferences made from the legal framework, and discussed as six sub-stages. As Jonn Lang and (Llewelyn – Davies stated) in the urban design process, five sub-stages were considered.

• Preliminary Preparation – Gathering Preliminary Information.

Preliminary preparation process in the area management plan; It consists of determining the border of the management area, forming the planning team, conducting the stakeholder analysis and then holding the stakeholder meeting in which all stakeholders participate. Considering the urban design process, it is first matched as determining the problem and boundaries in the study area, determining the role of the actors in the process, and collecting preliminary information and documents related to the area. Feilden and Jokilehto, 1993).

• Definition, Importance and Value of the Field – Current Situation Determination / Analysis Synthesis.

In order to determine the importance and value in the site management plan, the Universal Value of the site should be specified according to the World Heritage criteria. In addition, it is recommended in the Operational Guidelines, published by the World Heritage Center in 2005, to conduct comparative analyzes with areas with similar characteristics on a national and international scale, which may or may not be on the World Heritage List. In addition, it is emphasized that integrity and originality are important factors in revealing the importance of the area. When examined in terms of the urban design process, it can be integrated with the process in which the current situation is determined (UNESCO, 2005).

• Current Situation Detection – Current Situation Detection / Analysis Synthesis.

After examining the historical development process of the area according to periods or layers; It is necessary to analyze the area in order to determine the current state of the area in terms of physical, social and economic aspects and to reveal if there is any work that has been done to protect the area. At the same time, the determination of the problems and potentials related to the area is also included in this section after the analysis. When examined in terms of the urban design process, it is matched with the analysis and synthesis processes in which the current situation is determined (Thomas, et al., 2003).

• Vision Setting and General Principles – Concept and Design Principles.

After the analyzes are synthesized and evaluated, a vision should be determined for the strategies and policies to be developed in the field, in order to best describe the future position of the field. General principles and strategies develop within the framework of this vision. The context of vision and principle development overlaps with the normative aspect of urban design. When examined in terms of the urban design process, it can be integrated with the process of determining the vision for the area and determining the design criteria for them. In addition, the principles emphasized in the regulation and the issues that need to be developed in the projects are seen to support the urban design principles of "management, protection and use, promotion, visitor management" (Regulation No. 26006, 2005).

• Action Plan – Design.

The main issues related to the action plan, which includes the area management strategies in detail, are determined by the participatory method regarding the solution of the identified problems. The development of short, medium and long-term projects for the identified issues and strategies are the plans in which the budget of each project directs the development of its responsible stakeholders. In order to facilitate this system, timelines can be grouped according to management strategies and it is stated that the implementation phase of the process is facilitated when they are reduced to sub-units in the form of project packages. When the action plan issues and urban design principles are considered together; With the perspective that urban design will present to the action plan, it is seen that urban design projects can become a tool in the solution of spatial problems and interventions (Thomas, et al., 2003).

• Draft Plan – Choice.

After the completion of the action plan, the plan prepared before the approval phase is accepted as the "Management Plan Draft". This draft first passes under the supervision of the Advisory Board and takes the name of a “Plan Draft”. Finally, if it is approved by the "Coordination and Supervision Board" without revision, the plan will take its final form. When examined in terms of the urban design process, performance evaluation and estimations are made among the alternatives and matched with the selection phase of the project (Regulation No. 26006, 2005).

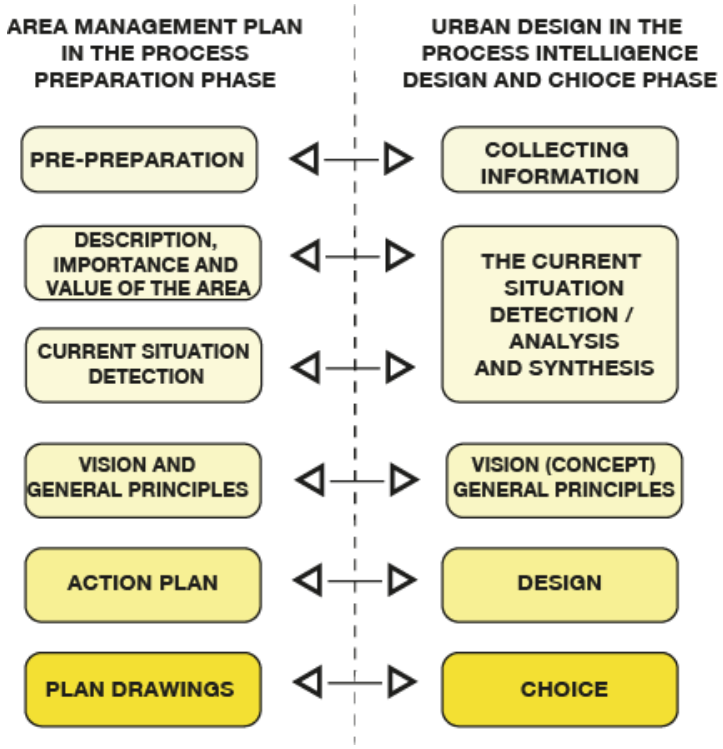


Figure 5. Comparison of site management plan and preparation phase in urban design processes.

Comparison of Implementation Phases.

After the completion of the first stage, it is seen that it is the same for both planning tools. This stage includes the implementation of the projects prepared within the framework of the vision determined in the first stage and selected among the alternatives. The implementation phase covers the implementation process of the approved management plan. It is the phase of meeting the financial resources of the projects whose budgets are determined by the responsible institutions or organizations and the implementation of the projects. When this stage is evaluated from the perspective of urban design, it can be accepted as a tool for the implementation of projects (Thomas, et al., 2003).

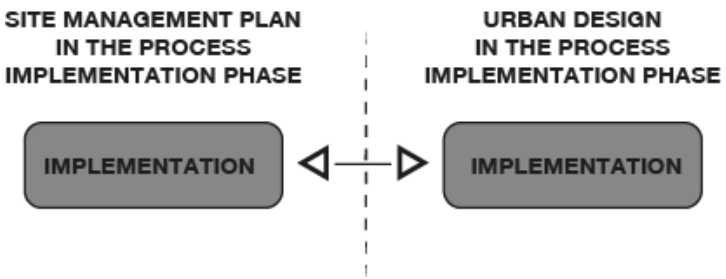


Figure 6. Comparison of application phase in site management plan and urban design processes.
Comparison of Monitoring and Evaluation Phases

The last stage, the third stage, the road and method used for the purpose to be achieved for the site management plan and urban design are largely similar. In the monitoring and evaluation phase; whether the plan was implemented effectively and successfully; whether the vision, goals and policies are adhered to; It is checked whether the actions of the management plan are carried out. In this direction, it has been determined as a method to determine performance indicators and to make annual / 5-year evaluations. In urban design, this stage is the use of user experiences through surveys, performance measurements, etc. It can be matched as a feedback study that includes determining the methods and post-implementation evaluation.

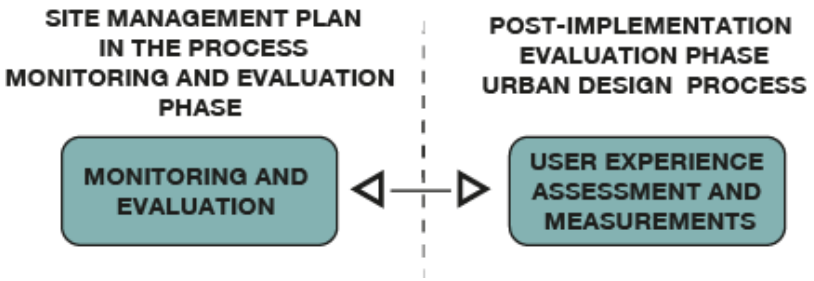


Figure 7. Comparison of monitoring and evaluation phases in site management plan and urban design processes.

2.2. RELATION OF FUNDAMENTAL PRINCIPLES

Regarding the site management plan, some principles are specified in order to ensure the continuity of the process in a qualified way and to make the plan effective and successful, according to the main guides and the inferences obtained from the relevant regulation. These are basically; being flexible, being transparent, being perceptible, being prepared for risk, being participatory, being holistic and producing solutions, being applicable and realistic, being efficient, being process-oriented, being measurable, and adopting a strategic approach. (Thomas, et al., 2003; UNESCO, 2013; Feilden and Jokilehto, 1993).

The principles of urban design are based on the normative nature of including social sciences as a result of its multi-disciplinary structure. The principles that urban design should achieve, reflecting the space and quality of life it wants to achieve, are generally discussed as follows (Schurch, 1999; Tekeli, 2001): livability, suitability for function, mixed-use, balance of private and public space, sustainability, locality, human scale, accessibility, readability, perceptibility and flexibility.

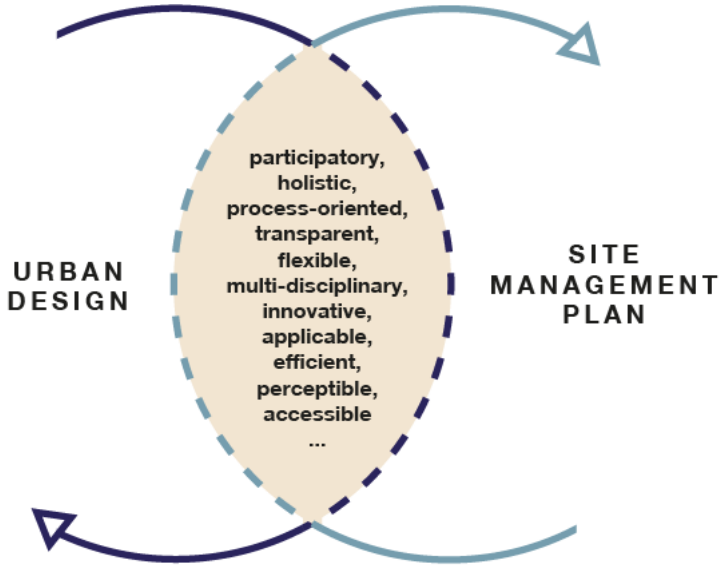


Figure 8. Common intersection set of site management plan principles and urban design principles.

When the area management plan and urban design are considered together in the context of principles, it is seen that they have similar characteristics in many points. The intersection areas were revealed by the method of conceptual comparison of its principles (Figure 7).

2.3. EXAMINING THE INTERACTION THROUGH APPLICATION EXAMPLES

Within the scope of the application examples of the site management plan, the ancient city of Pompeii, located in the Province of Naples, Campania Region of Italy, was chosen as an international example. The reason for choosing the Pompeii Ancient City is that there are similarities in the archaeological literature between Priene and Pompeii Ancient Cities, which are also stated by UNESCO. These similarities contain a lot of information about city plan systems and daily life (URL 1). On the other hand, the examples from Turkey were chosen as the application examples of Ephesus and Aphrodisias Ancient City and Göbekli Tepe, which are archaeological sites due to the fact that the Ancient City of Priene is an Archaeological Site. While examining these management plans, within the scope of the study; general information about the area, the border of the management area, planning process and stages, basic principles, urban design reviews and titles. If there is no direct reference to the urban design for the actions or projects in the management plans, the projects were examined by associating them with the subjects, based on the general principles of urban design.

Table 1: Site management plan practices compasion table

General Information		**Manage-ment Area**	**Process Flow**		**Urban Design Relation**
World Heritage Site	**Vision**	**Area + Buffer Zone (ha)**	**Process Principles**	**Phases**	**Urban Design Projects**
Pompeii, Herculaneum and Torre Annuziata **(Naples, Italy)** **1997**	Conserving and enhancing the archaeological sites of Pompeii, Herculaneum and Torre Annunziata by promoting the sites to which they belong and by devising strategies that can bring together the diverse public and private interests of local communities.	98,05 ha + 84,40 ha	Participatory Transparent Monitorable Multidisciplinary Risk Prevention Focused Accountable Development Oriented	1. Planning team to hold meetings focused on renewing the works 2. Stakeholder engagement meeting 3. To reveal the definition and importance of the area and to review the management area and buffer zone accordingly 4. Carrying out research and analysis studies to determine the current situation, 5. SWOT analysis and synthesis deductions, 6. Putting the vision, management goals, objectives and principles on track 7. Results of short-term and ongoing actions for implementation, review of medium and long-term action plans 8. Preparation of strategic guides for the Buffer Zone 9. Examination of applications protection, public use, disaster management, governance, capacity building, financial support and funds 10. Determination of monitoring indicators for auditing	•Creation of urban agricultural parks •Design and use of original urban furniture • Urban transformation and renewal projects in buffer zones • Transportation projects to strengthen access to the archaeological site • Designing visitor routes for individuals so that groups such as the disabled, elderly and children can access the area.
Aphrodisias Ancient City **(Aydın, Turkey)** **2017**	Within the framework of a participatory and sustainable field management approach, Aphrodisias is an Aphrodisias that preserves its outstanding universal values, is accessible to all segments of the society, brings cultural and economic vitality to its environment, and establishes the balance between conservation and tourism.	1125 ha + 556 ha	Participant Transparency Sustainable holistic Focused on Protection Innovative Multi-disciplinary	1. Creating the Site Management Planning Team 2. On-site research, 3. Stakeholder Analysis and then the First stakeholder meeting with the experts, 4. Performing analysis studies, (detection of current situation) 5. Revealing cultural significance 6. Discussion of the obtained findings at the 2nd stakeholder meeting (2 separate meetings were held with experts and stakeholders), 7. Determining the "action plan" issues related to the action plan with the participatory method, Developing the strategies related to the issues 8. Preparation of action plan for implementation and project packages within its scope 9. Developing a plan monitoring and evaluation strategy for the implementation of the project packages, 10. Starting the implementation of the projects after the approval of the plan,	• Revision of the conservation plan • Environmental regulation project, • Bicycle and pedestrian routes project, around the area • Identifying scenic spots and including them in tour routes, • The project for the development of touristic economic activities that represent the images of the ancient city

Ephesus Ancient City (İzmir, Turkey) **2015**	An area management that will enable it to be an exemplary center for the conservation and survival of World Heritage Ephesus and World Heritage Ephesus, which is lived by being protected with sustainable, participatory and innovative approaches	662,62 ha +1246.30 ha	Participant Learning Multi-disciplinary Innovator negotiator	1. Creating the Management Planning Team 2. Creating the Planning Model and Schedule 3. Making spatial, historical, social and cultural analyzes of the area 4. Analyzing the current plans and strategies for the area 5. Making analyzes to determine the current situation 6. First Management Plan Development Workshop 7. Second Management Plan Development Workshop 8. Focus Group Studies 9. Innovative and Creative Plan Elements Development Study 10. Preparation of an action plan for implementation 11. Appointment of the Head of the Area and Formation of the Advisory Board 12. Establishment of the Coordination and Supervision Board 13. Finalization of the Draft Management Plan 4	• Preparation of landscaping projects • Determination of cycling and trekking routes, • Ensuring efficient use of public transportation with park-and-go-go systems • Establishing the brand identity of the Efes management area
Göbekli Tepe Archaeologic -al Site (Şanlıurfa, Turkey) **2018**	Within the scope of protecting and developing the cultural value of the area and its surroundings; preserving the attributes and spirit of the place, enabling and encouraging excavations and researches, ensuring the sustainable development and use of the site and its surroundings.	2180 ha + 461 ha	Participatory Multi-disciplinary Transparent Flexible Protection-oriented	1. Creation of the planning team 2. Stakeholder participation meeting before the draft plan 3. To reveal the definition and importance of the field 4. Conducting research and analysis studies to determine the current situation 5. Putting the vision, management goals, objectives and principles on track 6. Preparation of an action plan for implementation 7. Determination of monitoring indicators for auditing	• Development of Landscape Design Concept • Development of the Visitor Route • Making Necessary Researches and Giving Necessary Trainings for the Production of Handicrafts and Gifts Symbolizing the Area

According to Table 2, when the Pompeii, Herculaneum and Torre Annunziata Archaeological Site Management Plan and Turkey examples are evaluated together, regardless of the criteria determined according to their outstanding universal values, preserving the area and the multi-faceted development of the environment it is related to are prioritized on the basis of the visions foreseen for the area. When the border of the world heritage site and buffer zones are considered together, it is seen that region selections are made with participatory methods in a way to create a holistic environment in terms of the historical value and historical layers of the area.

Process flows are discussed within the scope of basic principles and stages. Comparative inference from examples; first of all, determining the planning team, making stakeholder analysis and determining the border of the management area together with the stakeholders, determining the importance and value of the area, making current situation analyzes, making synthesis and evaluation in line with the analysis and determinations, determining the vision, target, policies according to the inferences, and then an action plan, It is seen that a feedback approach of the process flow is adopted as the follow-up of the implementation, monitoring and evaluation stages. In this process flow, it is seen that some basic principles are common, even if each example contains different principles. These seem to come to the fore as participatory, multi-disciplinary, transparent and protection-oriented principles.

The urban design relationship has been discussed through action plans and projects within the scope of application examples. If there is no direct reference to urban design in the actions or projects, the projects were examined by associating them with the subjects, based on the general principles of urban design. It is seen that an action plan was created by following the method of preparing project packages only in the Aphrodisias Ancient City Site Management Plan. It is seen that matters such as financial resources, timing, targets, activities, responsible institution and related institutions are common in the action plans. Urban design includes accessibility, perceptibility, readability, etc. within the scope of these action plans. It has been examined through activities and projects that overlap with urban design principles. When examined comparatively, it is seen that the prominent projects are projects on accessibility and alternative transportation, cultural heritage-oriented landscaping projects, landscape projects, and local identity-oriented perceptibility projects

3. PROPOSAL OF A HYBRID PROCESS IN THE INTERACTION OF SITE MANAGEMENT PLAN AND URBAN DESIGN

A hybrid process proposal was developed based on the relational context between principles, processes and stages in the interaction of the site management plan and urban design, and the common goals and approaches they adopted as a spatial intervention tool. This hybrid process proposal, developed by comparing the site management plan and urban design processes, is methodologically based on the process flow and the basic principles determined for the process. The word "hybrid", which characterizes the methodological approach of the process, is stated in the statement of TDK in its current dictionary, and it is stated that this word of French origin means "combination of two different power sources" as a technological term (URL 2). Based on this definition of the word hybrid, it is thought to be a suitable description for this new process with the approach of synthesizing, in other words, hybridizing the processes of area management and urban design.

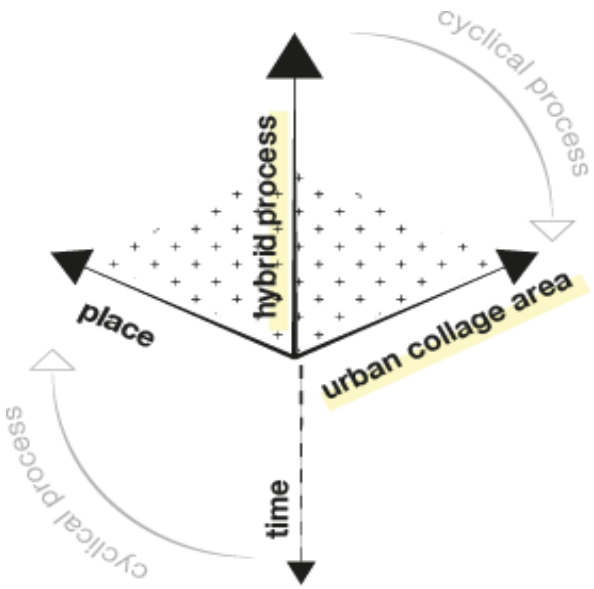


Figure 9. The relationship between urban collage and cyclical process as a reflection of the hybrid process proposal to the place.

The areas where the hybrid process proposed in the interaction of the area management plan and urban design are reflected in the space are described as urban collage areas. These areas, which bring together the past and the future, the new and the old, and create harmony in duality situations, reflect the approach and operating system of the hybrid process. Thus, it becomes clear that the buffer zones and management areas should deal with the city as a whole.

British architect and theorist Colin Rowe and Fred Koetter in their book Collage City (Collage City, 1984) thought that it would be beneficial to bring together the insoluble dualities in the urban space, and that bringing together the opposing and insoluble dualities and leaving them alone will enable to confront the issue and emphasizes that it will open up discussion. He interprets this situation as the scene of both memory and inspiration. In this direction, they proposed a model in which these dual ideas about urban space could come together and stated that the dualities could only be resolved by the method they described as 'collage' (Rowe and Koetter, 1984).

3.1. METHODOLOGICAL APPROACH AND PROCESS

A methodological approach has been put forward in the unity of principles and cyclical process flow. The methodological approach includes the process flow, the association between the stages, the follow-up and compliance between the stage outputs, and the criteria and methods determined according to the principles. The process flow consists of six stages, adhering to three basic stages, accompanied by the determined basic principles that facilitate the process flow and operation within the framework of the relational context. These;

initial and preliminary preparation, current situation and contextual determinations, vision, targets and plans, action plan, implementation, monitoring and evaluation stages.

Meetings and field studies to be held at every stage; In order to systematically progress the designed process flow of the reports, plans and projects that need to be prepared, inferences were made from the process chart of Llewelyn-Davies (2000) and the outputs related to the stages were determined. Outputs that are determined step-by-step actually appear as basic and concrete elements that add to each other, ensuring the continuity of the process flow, enriching the process and facilitating the organization of the operation.

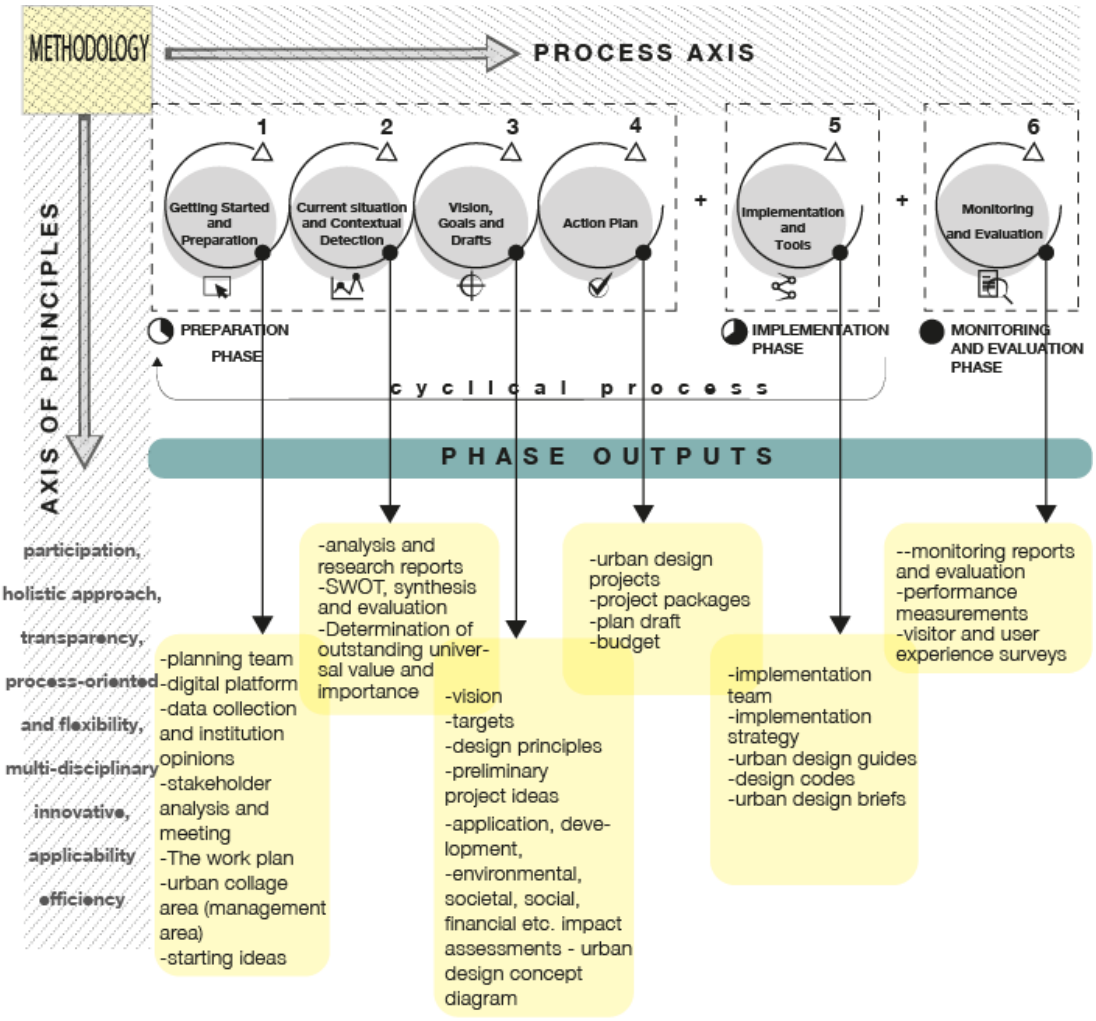


Figure 10. Hybrid process methodology and phase outputs

Phase 1th – Getting Started and Preparation: The process started with the creation of the planning team, which has a multi-disciplinary structure, and a digital sharing platform (web site, social media, etc.) should be established based on process-oriented and innovative principles. Simultaneously with the establishment of this platform, where the process can be followed transparently, opinions from relevant institutions in the field should be requested and stakeholder analysis should be carried out. In stakeholder engagement meetings,

initial ideas about the potentials of the field and how to solve the main problems experienced should be determined. In addition to these ideas, the first issue to be decided is the determination of the area boundary. Under the leadership of this area planning team, which includes the urban collage, the border determined by the opinions of the institution and the participation of the stakeholders is a draft planning border. In addition, at this stage, the determination of the buffer zone should cover the entire geographical boundaries or town/neighborhood boundaries to which the cultural heritage is connected, with an urban area holistic approach. In addition, inclusive strategies for the buffer zone should be developed (Thomas, et al., 2003).

Phase 2th - Current Situation and Contextual Determination: In this context, along with revealing the current situation regarding the spatial, social and economic structure of the area, it is necessary to investigate its importance and value in order to perceive and understand the cultural heritage that needs to be protected, which is the main reason for the plan. In this direction, first of all, the location of the area, the historical development and change process according to its periodic layers, the cultural assets in the area and their outstanding universal values, the state of intactness and originality in revealing the importance of the area, and the archaeological site should be analyzed in studies related to excavations and findings.

Upon completion of the research and analysis reports, a synthesis and evaluation report should be submitted in order to reveal the basic SWOT determinations and problems, potentials, opportunities and threats according to these data. At this stage, the determinations and opinions of the stakeholders on the field should also be taken with web-based survey methods through the digital platform established in the first stage. Thanks to the synthesis and evaluation stage, contextual determinations will play an important role in the next stage, which is the setting of vision, goals and plans.

Phase 3th - Vision, Goals and Projects: An inclusive and future-oriented vision for the field should be developed according to the contextual determinations obtained with a participatory understanding and holistic perspective. Targets and urban design principles related to urban collage areas should be determined for this future projection. In this direction, thematic urban design concept schemes are created specific to the place. Afterwards, environmental, economic, social, transportation, financial etc. Impact assessment reports need to be prepared. Reports and concepts prepared as process outputs will determine the criteria for choosing between alternatives before implementation in the next stage (Thomas, et al., 2003).

Phase 4th - Action Plan: The action plan is the stage of determining the activities and projects that will be directly implemented. For the determined targets and policies in the action plans; short, medium and long-term priorities should be determined. To facilitate this system, timelines can be grouped according to management strategies and reduced to sub-units as project packages. The preparation of the project package also facilitates the implementation phase of the process, as the definition of each project is made, its budget, financial resources, responsible stakeholders and time management are determined separately (Feilden and Jokilehto, 1993). Urban design will be included in the action plan project packages, and the quality of space and life will be increased. Urban design projects, which are accepted as examples of good practice, mentioned as inspiration projects, will be provided as an example for the projects that are to be done.

Another important point regarding the projects in the process is the preparation of the budget. The realization of a project and goal depends on its financial viability. Here, compliance with the principles of applicability and transparency is important (UNESCO-UK, 2005). The hybrid process adheres to the Regulation No. 26006 as a legal area at the approval stage. The plan prepared in this context is accepted as a "management plan draft" (urban collage) according to the national legislation. After the approval of the "Coordination and Supervision Board", the second phase of the plan, which is the implementation phase, begins (Regulation No. 26006, 2005).

Phase 5th - Stage Implementation: The implementation phase covers the implementation process of the approved plan. It is the process of meeting the financial resources of the projects whose budgets are determined by the responsible institutions or organizations. At this stage, in order for the plan to continue successfully and effectively, it is necessary to establish an implementation team consisting of experts to ensure the continuity of the staff. Organization, coordination, documentation and evaluation stages of business plans will be carried out entirely by the implementation team. (ICOMOS-UK,2005).

Urban design application tools for the realization of the prepared plans or projects are very important for reaching the basic principles of the process and for the plans and projects to come to life. These tools will be responsible for designers and practitioners to reach the urban space desired by the users. Urban and rural design guides, urban design summaries, and urban design codes are considered within the scope of implementation tools (T.R. Ministry of Environment, Urbanization and Climate Change, 2016b)

Phase 6th - Stage Monitoring and Evaluation: Since the planning process has a process-oriented structure, not a result, the monitoring and evaluation stage is the last stage of the process, but it is the stage that guides the preparation and the next planning period. At this stage, performance measurements regarding the field should be made with the outputs obtained at this stage, and dynamic feedback should be provided through visitor and user experience surveys via the digital platform. In the monitoring and evaluation phase; whether the plan was implemented effectively and successfully; It will be possible to control whether the vision, purpose and policies are adhered to, and whether the activities and projects are carried out according to the action plan. Thus, the monitoring and evaluation report prepared at certain time intervals such as annual and five-year will guide future revisions.

3.2 BASIC PRINCIPLES OF THE PROCESS

Table 3. Basic principles of the hybrid process

Basic Principles	Criteria	Method	Aim
Participation	Digital partipation	Social mapping	Making selections on the area map online with GIS methods, writing and placing ideas on the map in writing in online workshops
	Digital partipation	web-based social research	Having participants evaluate and vote on a topic in a virtual environment by providing them the chance to participate at their own place, time and duration.
	Stakeholder Meetings	public meeting	Consulting and receiving feedback from a large number of users, transparently sharing information
	Stakeholder Meetings	workshops and focus groups	To exchange information with participants with a specific interest group, to discuss an idea, to seek forward-looking and innovative ideas for a project, to prioritize, to get opinions on issues such as
Holistic Approach	Spatial	Environmental Integration	Establishing upper-scale and lower-scale relations in spatial dimension, determining the boundaries, taking into account the environmental conditions
	Social	Social Life	By determining the social and cultural structure, ensuring the protection of local values and taking precautions against alienation
	Economic	Economic Completion	Determining the economic inputs and circulation, revealing the sectoral distribution and complementarity on the basis of employment and diversity providing
Transparency	Monitoring and check	digital platform	Thanks to the digital platform, sharing information about the entire flow of the process and tracking the process transparently
	Finance and Budget Management	finance and budget management model	Establishing a model for the organization of financial and fund resources, sharing the budgets in the process flow through the platform in terms of accountability
	Actors	Actor Selection	Giving responsibilities over the roles of stakeholders in addition to legal obligations
Process Oriented and Flexibility	Flexible conditions	digital platform	Adapting to changing conditions in the context of flexibility through participation of design decisions and interventions in the process, thanks to the digital platform
	Dynamic feedback	Performance Measurements	Providing feedback with visitor and user experience surveys, and performance measurement surveys regarding the proficiency levels of the projects.

Multidisciplinary	Legal obligation	Planning Team	The inclusion of professionals belonging to the disciplines determined within the scope of the regulation in the process varies according to the nature of the profession groups.
	Ideal conditions	Planning Team	Involvement of professionals who are excluded from the regulation requirement, the need for specialist personnel in the implementation team, especially during the implementation phase
İnnovative	Use of technology	technological infrastructure and artificial intelligence	Using process stages as facilitators,
	Creative approach	Creative and Design focused activities	Creative approaches should be at the forefront in order to preserve originality at every stage of the process.
	Capacity development	Technological Infrastructure	Adoption of more advanced tools in line with existing procedures with an innovative approach
Practicability	Responsible organisation	Identification of Responsible Institution or Organization	Defining duties of institutions and organizations in the context of legal obligations, granting necessary authorizations
	Implementation	Implementation system	Establishing an application system, making project simulations and future projections, avoiding organizational complexity thanks to the presence of the team responsible for the implementation of the projects,
	Legal Awareness	Legal Framework Determination	Clearly revealing legal constraints in natural and cultural elements, guiding the practices of the constraints
Productivity	Effective use of resources	source analysis	Identifying natural and economically owned resources, identifying additional resources that can be provided from outside, and using them efficiently and effectively
	Timing	study plan / work program	Defining the works defined in the work plan to be made from the beginning to the end of the process, keeping the question of how it will be efficient by taking into account the variability in the process, in the foreground throughout the process

4. EVALUATION OF THE ANCIENT CITY OF PRIENE WITHIN THE FRAMEWORK OF HYBRID PROCESS

The hybrid process envisaged by the methodological approach can actually be handled through any settlement with an urban collage area. However, the reason for choosing Priene within the scope of the study; It has been evaluated as its place and importance in the history of urban planning, the archaeological site and the interactive area around it, and its urban collage area, and its inclusion in the UNESCO World Heritage Tentative List (URL 3).

4.1. PRIENE LOCATION, IMPORTANCE AND OUTSTANDING UNIVERSAL VALUE

The Priene Archaeological Site is located in the southwest of Turkey, within the borders of Güllübahçe Neighborhood in Söke district of Aydın Province. There are Kuşadası district in the north of Söke, Didim district in the south, Koçarlı and Germencik districts in the east, while the Aegean Sea is located in the west.

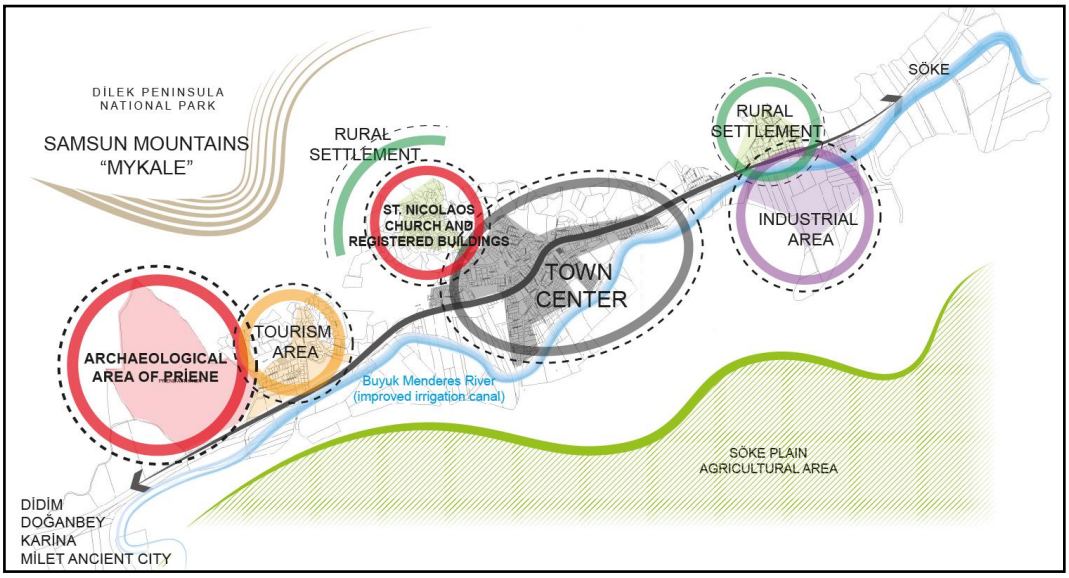


Figure 11. Environmental relationship of Güllübahçe neighborhood and Priene Archaeological Site.

In terms of the location and relationship of the Ancient City of Priene in this settlement, the borders of the tourism area interact directly. On the eastern side along the linear axis, there is St. Nicholas Church and registered immovable properties for residential use and the surrounding rural settlement area. The area defined as the city center is the area where commercial activities are concentrated and is in direct contact with Priene through the axis. Settlement In the entrance part of Söke, there is an industrial area based on agriculture and a rural settlement in its neighbourhood.

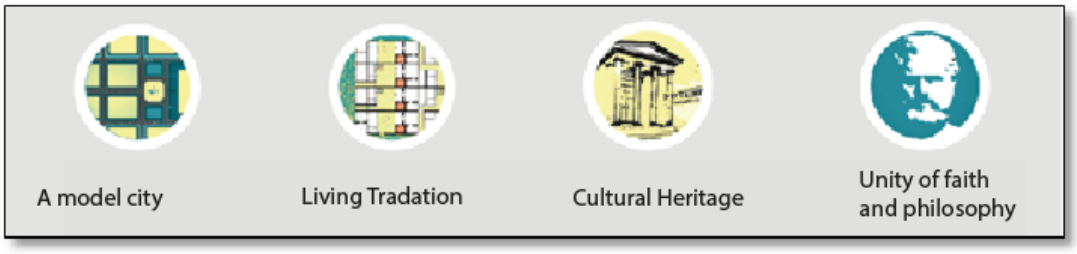


Figure 12. Outstanding Universal Value and Importance of Priene

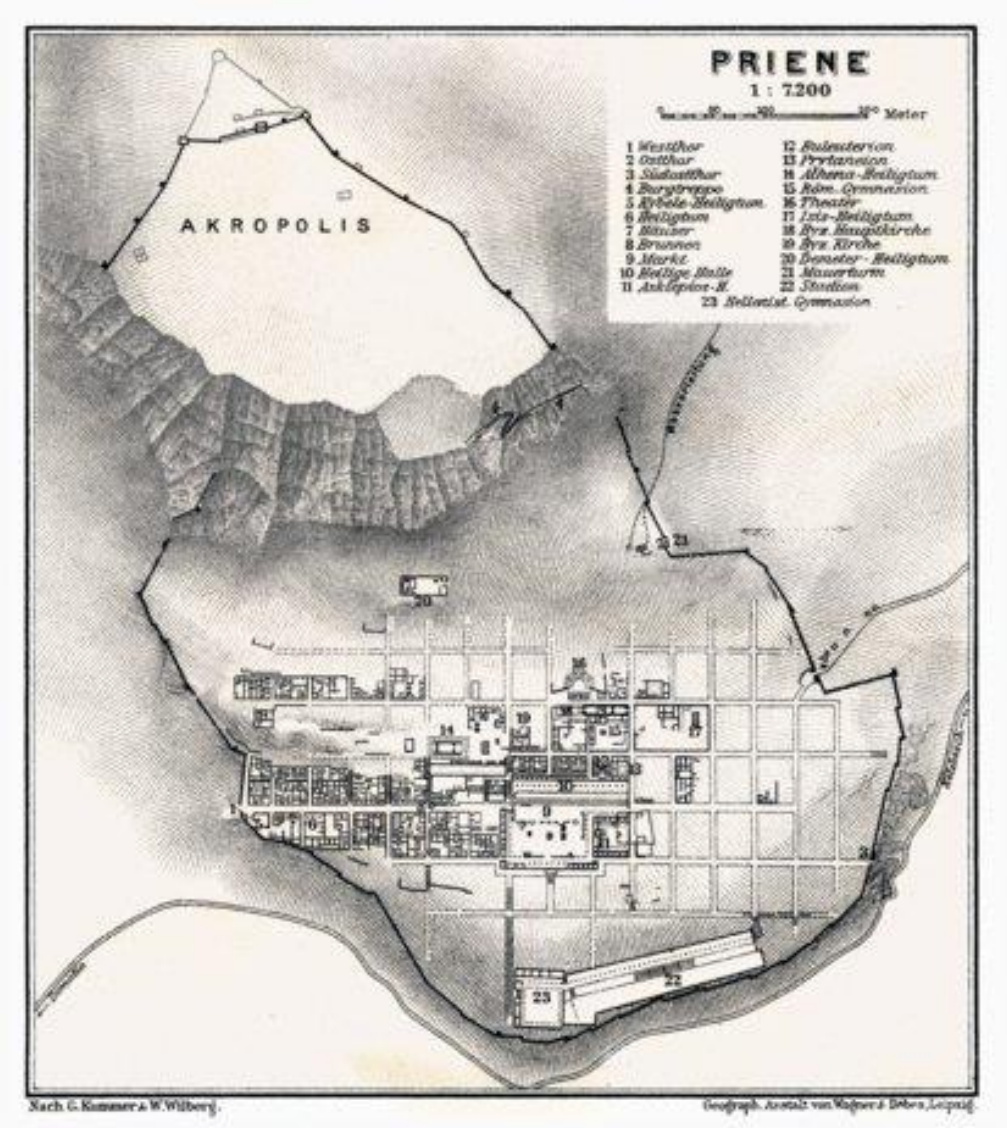


Figure 13. City plan of Priene

The city of Priene, which was planned by Hippadamos, who was accepted as the first city planner in the late-classical Hellenistic period, applied to the steep slope and has a grid city plan, is one of the 12 cities of the Ionian Confederation. It remains within the borders of Panionion, the religious and political center of Ionia (Duyuran, 1948).

B.C. He is accepted as the first planner who drew the grid plan of Hippodamos of Miletus, which determined the problems of unplanned cities in the process until the 5th century and formed rectangular building blocks with streets and streets intersecting each other at 90 degrees for the first time. He planned the cities of Priene, Ephesus, Piraeus and Labranda, especially Milet. This grid plan is interpreted as the reflection of social equality

to the space. Today, the grid plan has become an exemplary system for functional city planning and has become an example for many cities, especially New York, Manhattan, and Alexandria (Kuvvetli, 2019).

The Priene Archaeological Site was included in the UNESCO World Heritage Tentative List (URL 3) by meeting the criteria (ii) (iii) (iv) (vi) on 02.05.2018, following the studies carried out with the support of local stakeholders.

4.2. URBAN COLLAGE AREA

The urban collage area, which is considered as the spatial plane of the hybrid process, has been determined through the inferences within the scope of the study. The necessity of determining this limit with the planning team together with the stakeholders under the current process conditions was stated at the preparation stage of the hybrid process.

Within the scope of the urban collage area, the Priene Urban Collage area is formed by the combination of the ancient city of Priene, which is one of the cultural accumulation areas, and registered buildings, and residential areas that do not have the characteristics of protection, regardless of rural or urban. In addition, cultural and natural interactions were emphasized in the formation of the urban collage area within the scope of a holistic perspective. While cultural interactions constitute the Priene Archaeological site, churches and registered structures, Dilek Peninsula National Park and Söke Plain create natural interactions.

In this direction, Priene and residential areas are not two separate phenomena, but based on the idea advocated by the urban collage, conservation areas and residential areas are handled together, and urban interventions are developed in a way that will connect these two disconnected areas and create a harmony.

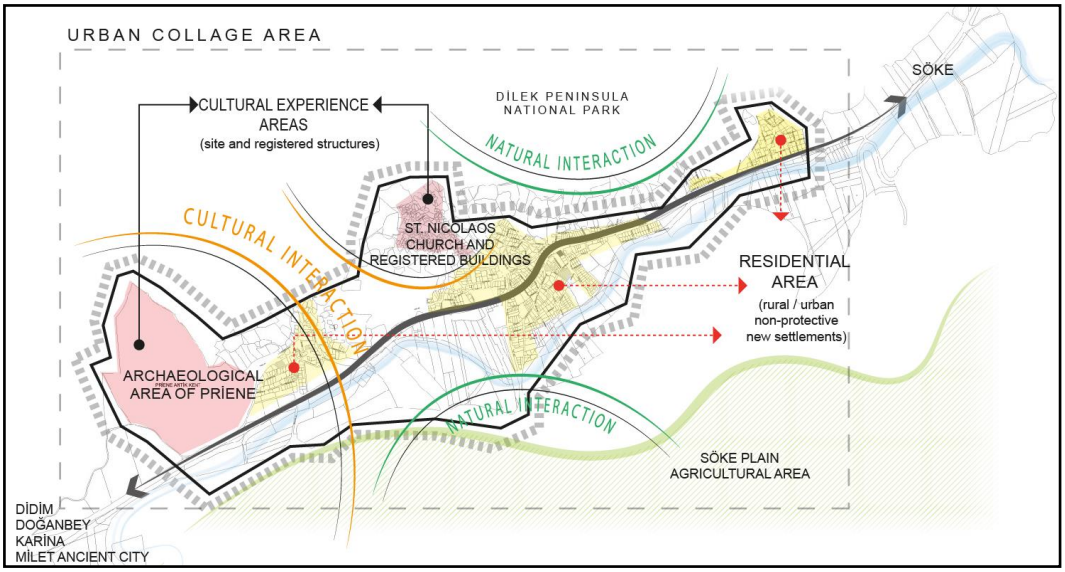


Figure 14. Priene Ancient City and Güllübahçe Neighborhood urban collage area

5. CONCLUSION AND EVALUATION

The site management plan and urban design, the basic guides prepared under the leadership of UNESCO, and the comparative examination of the urban design processes, and the basic principle, process flow and the inferences obtained from the application examples, the relational context has been revealed.

Within the scope of the study, it has been seen that the sub-stages of the area management plan and urban design, in the focus of processes and stages and principles, can be discussed under different headings specific to the area, adhering to three main stages. (Thomas et al., 2003). Stages have similar characteristics and flow, research-analysis-synthesis processes are similar, vision and strategy development overlap with the normative aspect of urban design; It has been seen that the projects proposed for the solution of spatial problems in the action plan can be considered integrated with urban design projects.

Based on the relational context, the hybrid process proposal aims to create a successful and effective process in the evaluation of urban collage spaces. In this direction, in the context of the methodological approach, the phase outputs, which are the basic and concrete elements that facilitate the organization of the process and the flow of the processes and principles, have been revealed. The main issue here is based on the aim of revealing how the plan should be made rather than how it should be done, without ignoring the legal requirements, and being a guide in managing the process.

Inferences made on the ancient city of Priene, which was chosen as the sample area; Although Güllübahçe is an archaeological site located within the boundaries of the settlement, it should be considered as a subject of the city when considered with a holistic point of view, not only as a site management plan problematic, with its potentials, risks and problems. In this direction, Priene and the residential area should not be considered as two separate phenomena, but together with the protection areas and residential areas (management area according to the national legislation) based on the idea advocated by the urban collage. It is argued that the urban area as a whole is related to the urban collage area formed by the lifestyles here and the culture shaped by the traces of the past.

As a result, based on the existence of the relational context revealed by the comparison method between the site management plan and the urban design processes, the site management plan process can be considered together with the urban design processes, and these areas should be handled together in line with the idea advocated by the urban collage spatially, the conservation areas and the residential areas, It has been concluded that the hybrid process that will guide these areas with a holistic perspective should be applied.

In additionally Future Of Urban Design, the hybrid process will create new tools, develop new approaches and adopt new understandings; will provide a new perspective, method and process description.

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LAYERED MORPHOLOGY OF GDANSK: PAST, PRESENT AND FUTURE

Saira Abbasi

Ar., Politechnika Gdańska,
saira.abbasi @pg.edu.pl

Nirmiti Sutar

Ar., Sapienza University of Rome
sutar.1904432@studenti.uniroma1.it

Małgorzata Kostrzewska

Dr inż. arch., Politechnika Gdańska
malgorzata.kostrzewska@pg.edu.pl

Łukasz Bugalski

Dr. inż. Arch., Politechnika Gdańska
lukasz.bugalsski @pg.edu.pl

Justyna Martyniuk-Pęczek

Dr. hab. inż. Arch., Politechnika Gdańska
justyna.martyniuk-peczek@pg.edu.pl

ABSTRACT

This study aims to analyze the urban fabric and form of the city of Gdańsk based on the Muratorian and Italian school of urban morphology, to deepen the understanding of the morphological process of the urban fabric. It can be seen that the urban fabric of the city is a juxtaposition of all these layers and based on Muratori's approach these are indicative of not just the past, present but also the future. The study sample is of the oldest areas of Gdansk that are identified to be dated from 10th to 16th Century and is known as Stare Miasto meaning Old Town. Analysis is based on the study of existing literature, historical archives, cartography and maps.

It is seen that the surroundings of the Gdansk city center have changed, and a number of elements that were destroyed were not reconstructed. Minor shifting of matrix routes and development of new poles and nodes are visible, but the primary formation of matrix route visible from the 16th Century remains constant. The research identifies that the nodes, as well as the edges of the historic city play an integral part in the shaping the urban tissue and form. Furthermore, the river and its shape act as edges as well, and the changes in the shape of the river influence the shape of the urban form.

Keywords: Urban orphology, Gdansk, Muratori, Italian school of planning typology

1. INTRODUCTION

This study of historical territorial formation is based on the tools and methodology of the Italian School of Planning Typology developed by Muratori, and his contemporaries like Caniggia or Maffei (G Cataldi, 2003; Giancarlo Cataldi et al., 2002). The research is meant to understand the process through which human settlements have formed as a consequence of spontaneous and critical consciousness, and not for the recreation of traditional building techniques. It also yields the information through which modern and contemporary cities form, and the decision-making process of man in relationship to its environment. In this regard the historical traces of the city facilitate the interpretation of its morphological and territorial changes (Maretto, 2013; Sadeghi & Li, 2019; Trisciuoglio et al., 2021).

The historical city of Gdansk in Poland, offers an interesting reading and application of this methodology for two main reasons. Firstly, because the majority of application of the theories of Muratori have mostly been analyzed in cities of Southern Europe and Africa. Hence, Gdansk offers an opportunity to apply this approach in a city located in Central Europe. Secondly, the city has a complicated and interesting history, and most of its urban fabric was completely demolished after the World War 2, and then rebuilt. This offers a unique study to read the reconstruction of the routes and fabric based on critical consciousness process. Lastly, the urban fabric of the city is a juxtaposition of all these layers, and based on Muratori's approach these are indicative of not just the past, present but also the future (Maretto, 2013; Marzot, 2002), and a prediction can be made based on the formation process of the past and present on how the future city could develop.

1.1. THE STUDY AREA GDANSK

The major territory of Poland is considered as having a relatively flat topography, and water bodies or rivers play an integral role in the shape of human settlements. This is also evident in the environment around Gdansk, a historical city whose origins seems to date as far back as the 10th century (Śliwiński & Możejk, 2017), and archeological remains from the 12th century have also been discovered near the old city center (Możejko, 2017). The city is located close to the Baltic Sea, and the Martwa Wisla (the Dead Vistula River) that is a branch of the Vistula River. The Vistula River is one of the largest rivers of the world and connects Poland to Central and Western Europe. Hence, trade and commercial activities are the main reasons for the initial growth and development of Gdansk, owing to its strategic location as a harbor city, and its land and water connections (Davies, 1933).

By the 14th century the city of Gdansk can be identified as a medieval town complex, that is composed of different quartiers or zones like the Stare Miasto (Old Town), Glowne Miasto (Main Town), or Young Town, and the Granary Island.

From the 15th century up to the 17th century the port of Gdansk gained immense importance as 80% of corn that arrived from river transport was exported to other areas of Europe from its port. It is not until the 19th Century that with the advent of the industrial revolution and improved railway transportation system that there was a sharp decline in the use of river transport (Niemirycz, 2018). From the 18th century onwards, the

city faced wars, political upheavals and changes. Gdansk came under the rule of Prussia around the early 19th Century, then gained independence as a sovereign state in 1919. It faced strong control by German forces until 1949 when it became a part of Poland once again. A large part of the urban fabric of the historic city center was completely destroyed in the World War 2 and very little remain of the original urban tissue, and much of the areas were rebuilt again (Almeida-García et al., 2021).

1.2. LIMITATIONS AND DELIMITATIONS OF THE SCOPE OF WORK

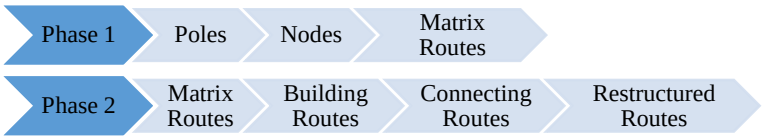
As it is the first phase of research for the city of Gdansk using Italian school of planning typology, this study begins by only analysing the oldest known areas of Gdansk as identifiable from maps and historical data. The sample area considered, appears to have been the first moment of settlement development as far back as the 10th century (Śliwiński & Możejk, 2017), and is known as Stare Miasto, meaning the 'Old Town', where archaeological remains dating from the 12th Century were also found during excavations (Możejko, 2017).

The authors are aware that socio-political and economic changes influence the morphology of cities, however, these changes are outside the scope of this work. Firstly, because the primary aim of this research is to analyse the urban form using tools of the Italian school of planning typology that comprise of the identification of poles and nodes, and formation of the routes and urban fabric around them. Secondly, a lot of time would be needed for such an extensive and detailed urban analysis and the influence of socio-political or economic factors in morphological changes to the urban tissue. These aspects could be explored in future studies once the first phase of analysis is complete. Furthermore, due to the extensive destruction of the city during the World War 2, there is no existing urban tissue of any residential neighbourhood available for detailed analysis of understanding the progress of morphological changes.

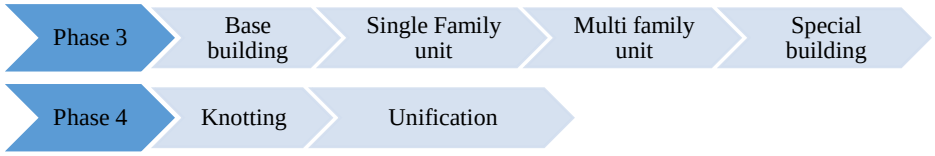
2. METHODOLOGY

Analysis is based on the study of existing literature, historical archives, as well as, cartography and maps that show the form and plan of Gdansk from the years 1520, 1600, 1720, 1866, 1938 and 2019. The paper roots its study on the notions of *type*, *typological process*, and morphological transformation of a city in its urban fabric structure, and its two main components, namely, routes and fabrics as established in the Italian school of planning typology by Muratori, Maffei, or Cannigia (Maretto, 2013). This research focuses on the route formation and is made possible by the identification of routes based on the existence of pertinent strips that developed as the result of the formation of building lots or plots. According to Muratori, the routes come before the formation of the land parcel formation, or lots. When the land is purposely divided in a jurisdiction or municipal governance it is known as a plot. And when it is topographically divided and is a spontaneous result of human settlement it is called a lot.

The process of analysis is divided in two phases, and based on the identification of the following important elements in the language of the urban fabric:



For future studies:



The identification of each of these elements was used after understanding the concepts of terminologies as explained in the book "Interpreting basic building"(Gianfranco & Luigi, 2017) written by Gianfranco Caniggia and Luigi Maffei. The understanding for each is as follows:

2.1. Pole: A point in space which is the beginning and end of point of multiple continuous spaces or routes in the urban fabric. It can be seen as a point where multiple routes converge or originate from. The pole is greater in hierarchy than a node in urban or even territorial networks, and is considered as the "sublimation" of a node. In the base urban fabric, the pole fabric can be formed as a consequence of a base building, whereas in a special urban fabric it is formed as a result of a special building that has advanced in its formation to the extent that it has undergone the knotting process.

2.2. Node: A node is a singular point of continuation or intersection between two continuations. This could be in the form of two routes coinciding, or their axes. It can also be the point from where a connection (route) is starting while intersecting or perpendicular to it, or forming a Y-junction. It is lower in hierarchy than a Pole.

2.3. Matrix Route: This is the route formed in the first moment of the development of a human settlement, before any construction begins. It forms as a result of polarity of poles, and aims to take the shortest possible route to connect two poles. It is seldom straight and is often visible as a curvilinear path, as it runs its course while avoiding obstacles along the way.

2.4. Building Route: This route develops in the second moment of the route formation. It precedes the matrix route, after the tissue has begun to form around it. The building route usually forms at right angles to the matrix route and in the depth of their matrices.

2.5. Connecting Route: This is the third moment of route formation, and follows after the development of building route. It connects the building routes and completes the formation of the tissue into an urban block. As the urban tissue matures along a building route, it does not grow indefinitely and instead stops growing at

a point where it is feasible to provide connection and access between two parallel growing building routes. A route forms, connecting them which is known as the connecting route.

2.6. Restructured Routes: These routes are formed after the urban fabric has already matured, and when new poles have developed at a later stage, and the city deems it necessary to connect them. It is formed as a result of the demolition of existing built fabric, and develops a new fabric along its route.

3. FINDINGS

The analysis of the Old City area can be divided into distinct layers that depends on the formation of its edges and territorial changes: 1. medieval city and wall. 2. pre-and post-formation of the fortified wall., 3. Pre-World-War, 4. After the destruction of World War 2.

3.1. LAYER 1: MEDIEVAL CITY AND WALL

The first analysis is done using the Kleoppel map made in the early 20th century, and is a reconstruction of Gdansk in the 1500. Based on this map the pole, nodes and routes have been identified (see fig. 3). It is evident that the first moment of formation of matrix route has happened along the river that flows through the city. It is along this matrix route that the first Pole (P1) is visible that is established to be a church. P1 is visibly acting as a catalyst for the further growth and development of matrix routes that connect the route network towards gates of the city walls. A total of 9 nodes are identified, of which 2 of the nodes N8 and N9, are in front of the gates to the city, and form part of the matrix route that is an extension of the territorial connection of the city with the neighbouring settlements. Furthermore, 3 Nodes (N1, N4, N5) intersect at Pole P1, and the matrix route of Node 5 extends into the building block as a building route into the dense urban fabric around P1. Interestingly Pole P1 is not located in the centre of the urban fabric and is towards the south quarter of the fabric, that is the direction in which future expansion takes place.

The fabric grows outwards from P1, in a grid like manner to form new urban tissue that connects routes towards the gates of the city. The urban fabric is denser within the space formed between the matrix routes of Nodes N1, N2, N3 and N4, simulating the formation of a block in close proximity to P1. The fabric thins out as it grows away from the pole and gets closer to the river banks, especially along the east and west sides of the river. This indicates that at later stages the urban fabric is more likely to grow towards the north and south.

Furthermore, the urban tissue has developed within the confines of the river which flows around the city, and the water acts as an edge that contains the urban growth in the first phase. The matrix route in this particular fabric also clearly divides the tissue into segments, according to their density variations. With the higher density being close to the Pole and Nodes.



Figure 3. Analysis of Old City of Gdansk as it would have been in1500 using the Kloeppel map.

Analysis from the Kloeppel Map of 1520 shows that towards the north and south of Pole P1 there has been rapid transformation of urban fabric, and the node N6 has evolved to become a Pole (P2), and a new Pole P3 has developed altogether between Nodes N8 and N9 that are the main gates to the city (see fig.3). This is in line with the prediction of growth that was visible in the north and south regions of the city in the 1500 c map. So, not only did the concentration of the tissue increase, but they changed the hierarchy of the routes. The nodes have been converted from points of intersection on the matrix route, into points that provide stimulus and orientation for the further growth of the urban fabric. It is pertinent to note that nodes are a continuous space along the matrix route, whereas the poles are spaces of pause that push and pull the growth of the tissue.

There is a building route developing from the matrix route along the South node, which does not connect with any other matrix route, and turns back to reconnect to the point of origin. This is a very unusual, and it is likely that the existence of the river played a role in exerting a force in the shape of the route. It appears that the

edges formed by the river could be the reason for this unusual loop of the building route. The connecting routes then follow a typical pattern of growth. Although an in-depth analysis of the urban fabric of building formation is not part of this research, it appears that the majority of the building tissue has developed following the conventional patterns of growth in the Old City.

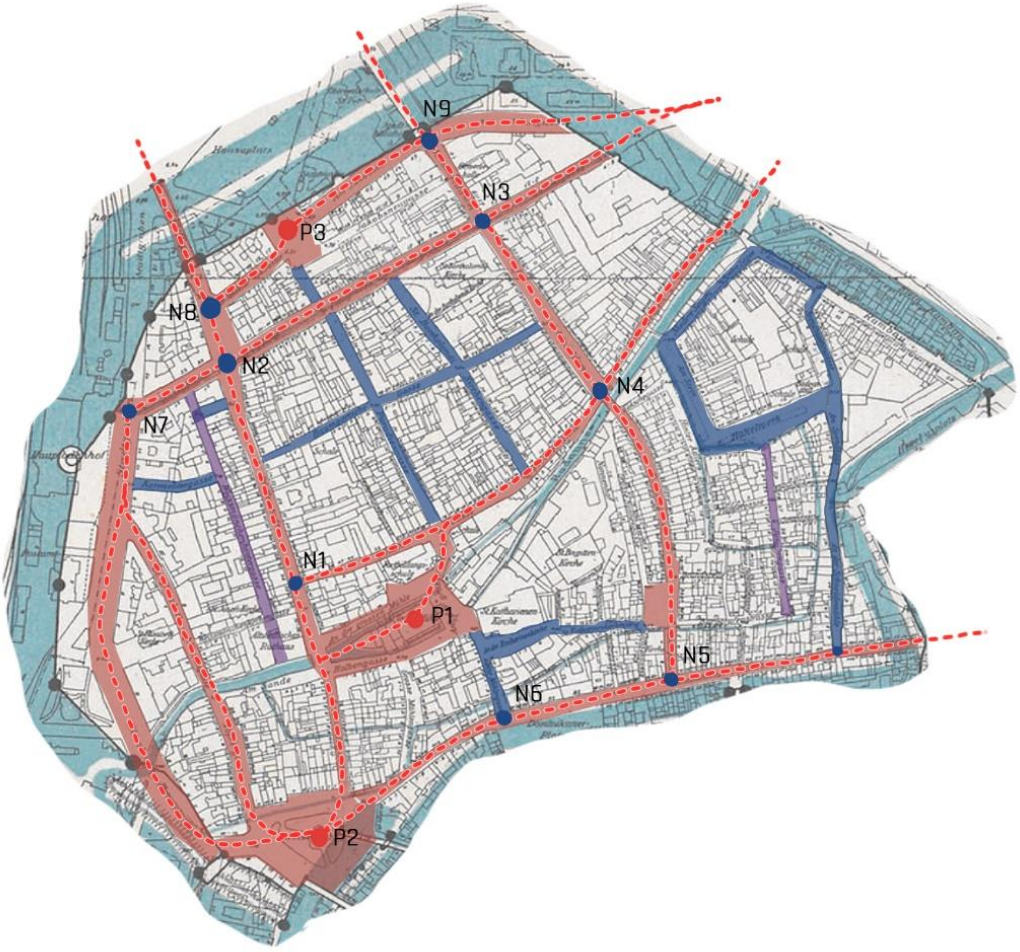


Figure 4. Analysis of routes, poles and node formation of the Old City area of Gdansk as it would have been in 1520, using the Kloeppel Map.

3.2. LAYER 2: THE FORMATION OF NEW FORTIFICATION WALL AROUND THE OLD CITY:

Analysis of the "Stockholm plan" from 1601, the 1688 map of Dantzig (Gdansk) by Janssonius van Waesberge (see fig.5), and 1783 map (see fig.6) by Glassbach, Carl Christian all clearly show the construction of a new fortified city wall, that has extended the city boundaries. Densification of existing and formation of new urban fabric that has expanded beyond the Old City walls and the sample area is visible. This new fortified wall also

follows the shape of the existing water bodies, and enlarges and extends the river to create a moat, which acts as a natural defence system for the city.

These maps only depict the territory, edges, route systems and general of the lots, it proved challenging to analyse the urban tissue in detail. Hence, detailed analysis of the polarity and routes network could not be done for this phase, especially as the existing fabric was completely demolished in World War 2, and it proved challenging to assess it without evidences of the substrate. One significant change that is visible is that there is a matrix route following closely the formation of the Old City wall, and the increase in densification of building lots close to river banks that previously appear to be agriculture lots. Besides this there appears to be no significant changes or development regarding formation. The edges of the new dense system now appear to define the boundaries up till which the urban fabric could expand.



Figure 5. Map of Gdansk, circa 1687-88 by Janssonius van Waesberge. Publisher Curicke, Reinhold.

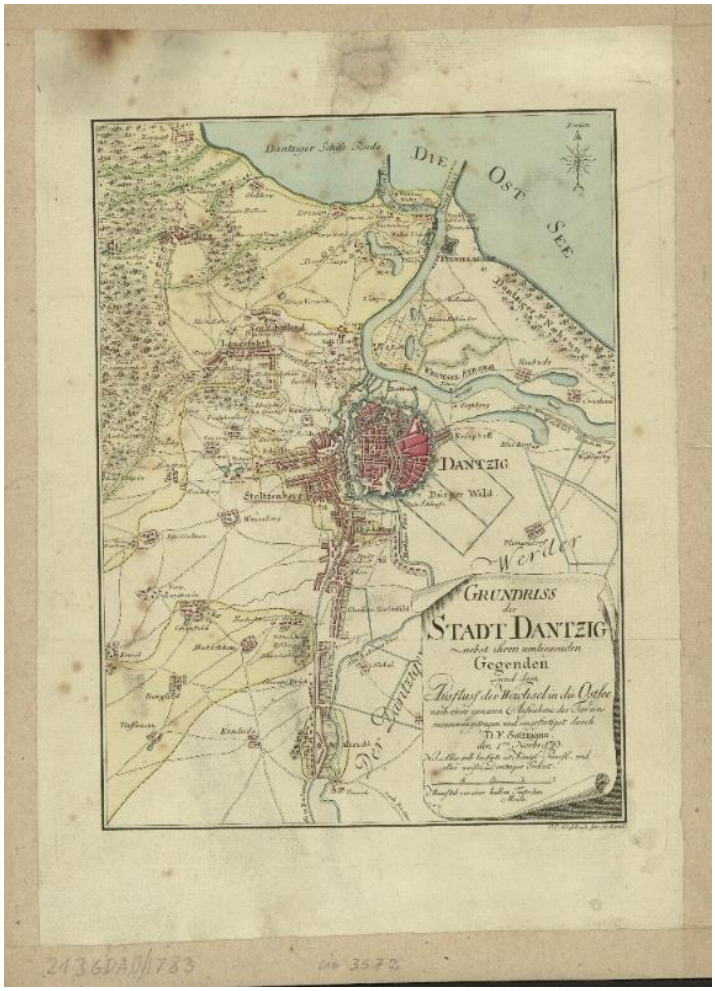


Figure 6. Map showing Gdansk and neighbouring territory dating from 1783, made by the German cartographer Daniel Friedrich Sotzmann.

During the analysis of the Buhse Map from 1866(see fig. 7), it is clearly evident that the number of nodes have significantly increased to 12, and nodes N5 and N6 have lost their nodality (see fig.7), and replaced by new nodal formations (N6' and N13), while the number of Poles (P1, P2 and P3) remain the same. A new matrix route has developed connecting nodes N9, N3, N4 to the new node N6'. Along with this the route around old city of the wall is now a matrix route with new branches developing from it furthering the growth of urban fabric.

Furthermore, even though the three poles still exist, pole P1 appears to be reducing in its hierarchy as the matrix route passing through it from Node N4 has now become a building route. Meanwhile Pole P2 has gained more scale and space in the urban fabric, and the new matrix route that has replaced the old city wall, passes through this pole in a continuous loop, increasing its polarity. Changes in land use pattern are also visible, as well as, the densification of urban fabric continues parallel to the matrices of matrix routes. The majority of open land appears to be forming smaller route networks and building tissue, that is primarily of residential nature.

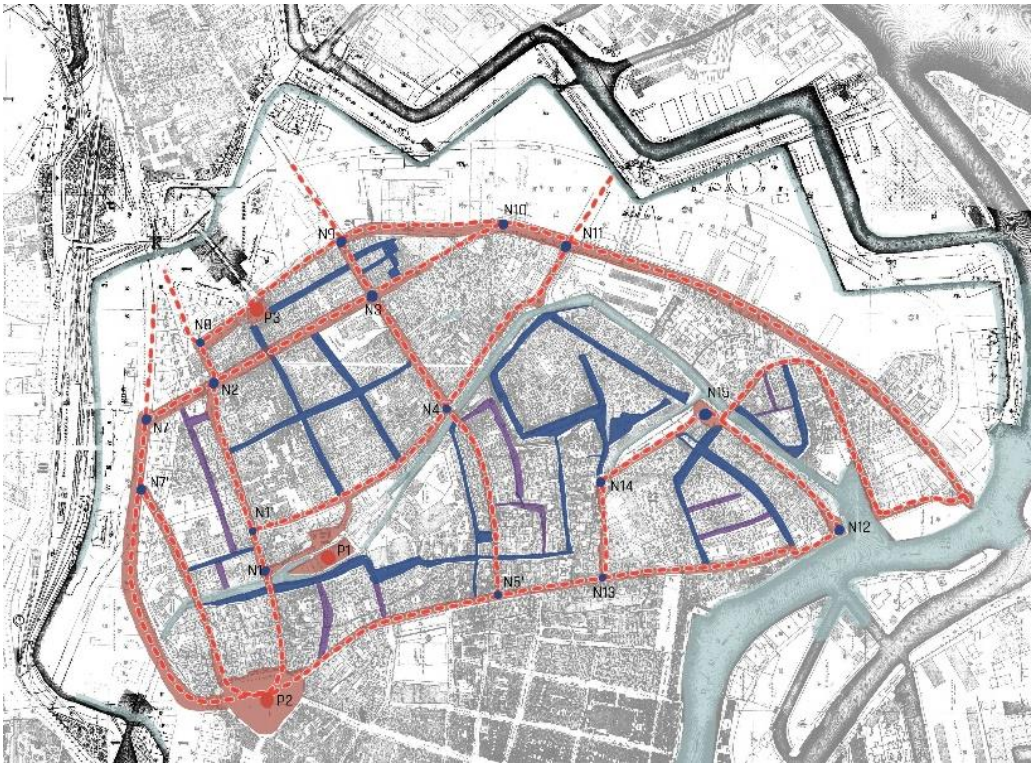


Figure 7. Analysis of pole, node and route formation in Old City (or Old Town) of Gdansk using Buhse map from 1866.

3.3. LAYER 3: PRE-WORLD WAR 2

This part of the analysis is undertaken using the 1938 Gelande map (see Fig.8) most significant changes are that the fortified wall has now been demolished, and Pole P2 and P3 have increased in polarity. P2 and P3 have acted as catalysts for the formation of dense urban fabric in their vicinities. Furthermore, since the development of P3 has grown in scale and part of the built tissue have become part of its space. The existing matrix routes are extending well into the periphery of the old city, and 4 matrix routes now pass through P3, making it an important point of polarity. P3 has gained significance of polarity, to the extent that it appears to be the primary pole for the first moment of fabric generation, even though, analysis shows that it was a node that evolved to become a pole.

Node N5 visible in the 1866 map is gone, but between it and P2 the formation of a new node has continued. However, since the development of the urban tissue of this space is outside the study area, its analysis could be part for future studies. However, it can be noted that it's position next to a Pole, and along previous tissue of historical importance may not be a coincidence.

Meanwhile, the formation of urban tissue appears to follow a typical growth pattern along their building and connecting routes.

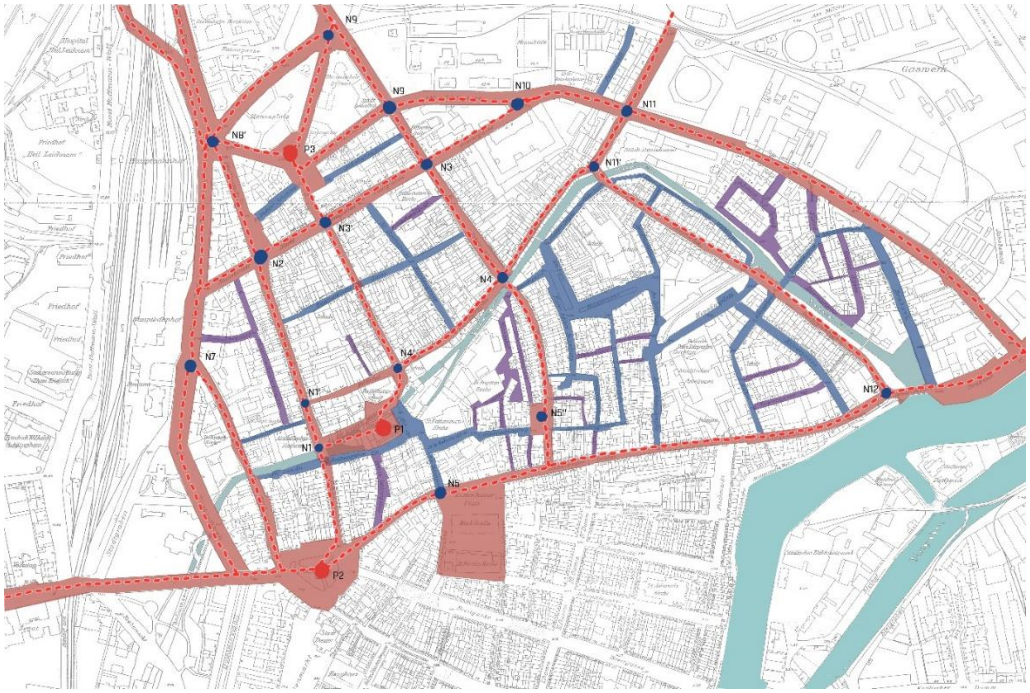


Figure 8**.** Analysis of pole, node and route formation using "*Gelandeplan"* from 1938.

3.4. LAYER 4: POST – WORLD WAR 2 AND THE EXTENSIVE DAMAGE TO URBAN TISSUE

A recent map from 2021 has been used for analysis (see fig.9), and it is visible that despite the massive destruction of the urban fabric, the matrix route that began forming in 1520 and matured in 1886 still exists. It appears to develop in the similar area where the sub strata of the Old City wall exist. The matrix route begins from Pole P2 and loops around back to its point of origin. This is reflective of the circular pattern of the old city wall that is visible in 1500 and 1520 maps. Thus, it can be seen that the memory of the city wall, has remained in all the subsequent layers of the urban fabric. It appears to follow the edges where the sub-strata of the old city wall may have been. Even though the edges are no longer visible as vertical edges, but they remain constant as horizontal edges, and clearly divide the urban tissue.

The urban blocks in the fabric post-world war are no longer following the dense, compact patterns visible before. They are now scattered, and loosely composed into the urban block due to intersection of routes within this new urban fabric.

There is a significant thinning of the route network, and the building blocks have increased in size. This may be owing to increase in land value and the desire to monetize the land. There are no confined pertinent areas in the urban blocks. The urban tissue, its patterns and the visible ratio of open and built space, is not reflective of medieval cities as seen in the map of Gdansk from 1500 to 1938.

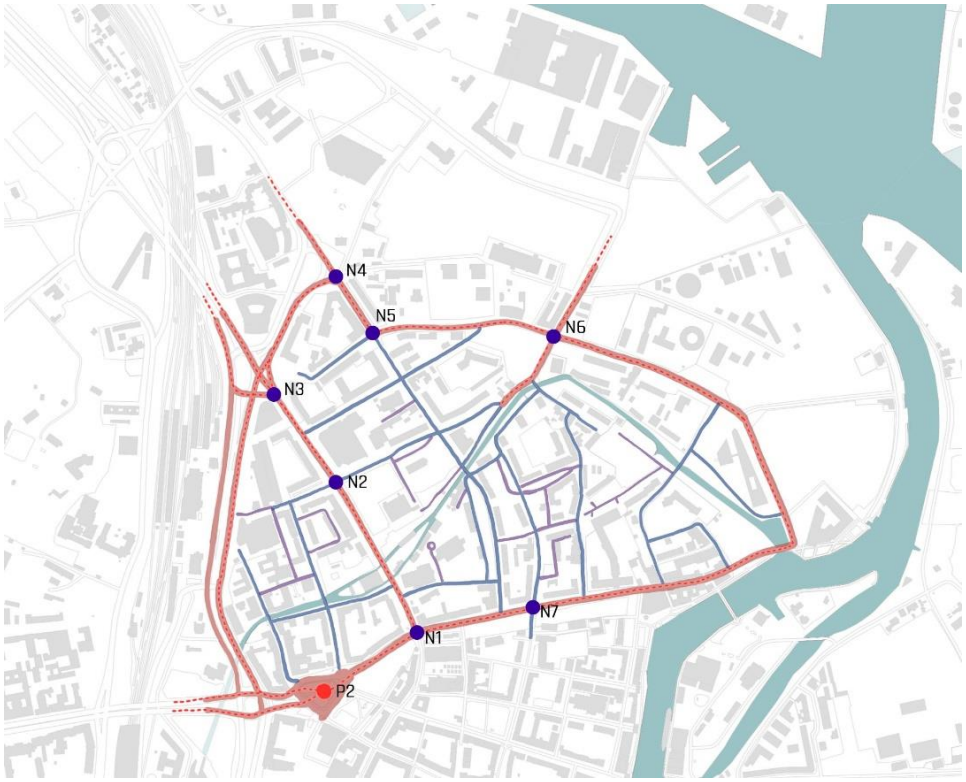


Figure 9. Analysis of pole, node and route formation using 2019 maps acquired from Municipality.

4. DISCUSSION

It is pertinent to note that despite the massive destruction and demolition of the urban fabric, and even after the opportunity to rebuild the road network, the matrix route system remains more or less the same but with significant hierarchical changes overall, especially in building and connecting routes. It is also interesting to note that the first pole formation P1 visible in the Kloeppel map of 1500 is around a church. As we know the history of cities makes evident that a neighbourhood is usually distinctly divided into sections known as quarters or districts based on their function and ethnicity. This grouping happens around important public institutions of their time period, like places of religious worship like temples, church, synagogues, or market places, etc (Mumford, 1961), and this division of sectors was visible in the formation of the urban fabric around the pole P1 in the years 1500 and 1520.

During the analysis of the Layer 3 it also became evident, that a pole (P3) can grow to such a significant size and scale that without the analysis of previous plans it would appear as a primary pole in the first moment of fabric generation. It also identifies that a point that was hitherto a node can become a pole and gain large amount of polarity.

Furthermore, the post-war fabric of the old city is completely changed, and does not appear to carry footprints from its previous layer. Further studies and research in this regard can be undertaken to identify which of the urban tissue and fabric can be recovered. As the route network the urban fabric still retains the potential to

develop in a manner that could be in line with its morphogenesis. Furthermore, the Poles P1 and P3 are completely lost, but Pole P2 has retained part of its polarity, and there is the opportunity to re-organize the space to regain its polarity and revitalize the growth process such that it follows its historical continuation to arrive at the modern form of the city. As discussed earlier, the aim is not to replicate any of the past historical features or characteristics of the urban fabric or form, but to devise a process at which we can arrive at the future form of the city's urban fabric. However, it is unfortunate that during critically conscious approach of reconstruction and renovation of the city it appears to have devalued the heritage value of the urban fabric that existed before.

It does appear though, that the edges of the old city like its walled city, and river influenced the growth and form of the urban fabric. Poles and their polarity, as well as, the edges of the old city play an integral part in the shaping the urban tissue and form of the historic city. By understanding these effects, architects and urban planners can arrive at more sustainable ideas and solutions for the future growth and development of the historic urban fabric.

5. CONCLUSIONS

1. That future urban growth could be based on the continuation of building fabric as it would have evolved respecting the sub-strata in order to keep the heritage value intact.
2. Even though, there appears to be significantly less sub-strata left, the patterns can be used to develop future growth patterns.
3. This research has used a methodology to understand the patterns of an urban fabric over the historical ages of the city. It would be beneficial to use this methodology in the analysis of different areas of the historical city of Gdansk, to identify more patterns. This will deepen the knowledge on the growth of the urban fabric that leads towards the development of Gdansk and other similar cities that have heritage value, and were massively affected by the World War 2, or other significant effects that demolished their original urban fabric.
4. Predictions can be made in the form of proposals for the development of new urban fabric, that revive the heritage value of a historic city that has lost its value due to socio-political, ecological or climatic disasters.

It is evident that as a result of the layers formed on the urban fabric, and the discontinuation in its growth, it is challenging to form a straight narrative of the process. This study has attempted to do a first analysis of the routes and the network, and it would beneficial to combine this with further analysis of the urban tissue. The identification and analysis of the development of basic buildings and special buildings, especially those who have been completely formed through the knotting process would help formulate the notion of the future urban fabric of the historical city of Gdansk, and other similar cities who have suffered a discontinuation in their formation due to catastrophes like war or natural disasters.

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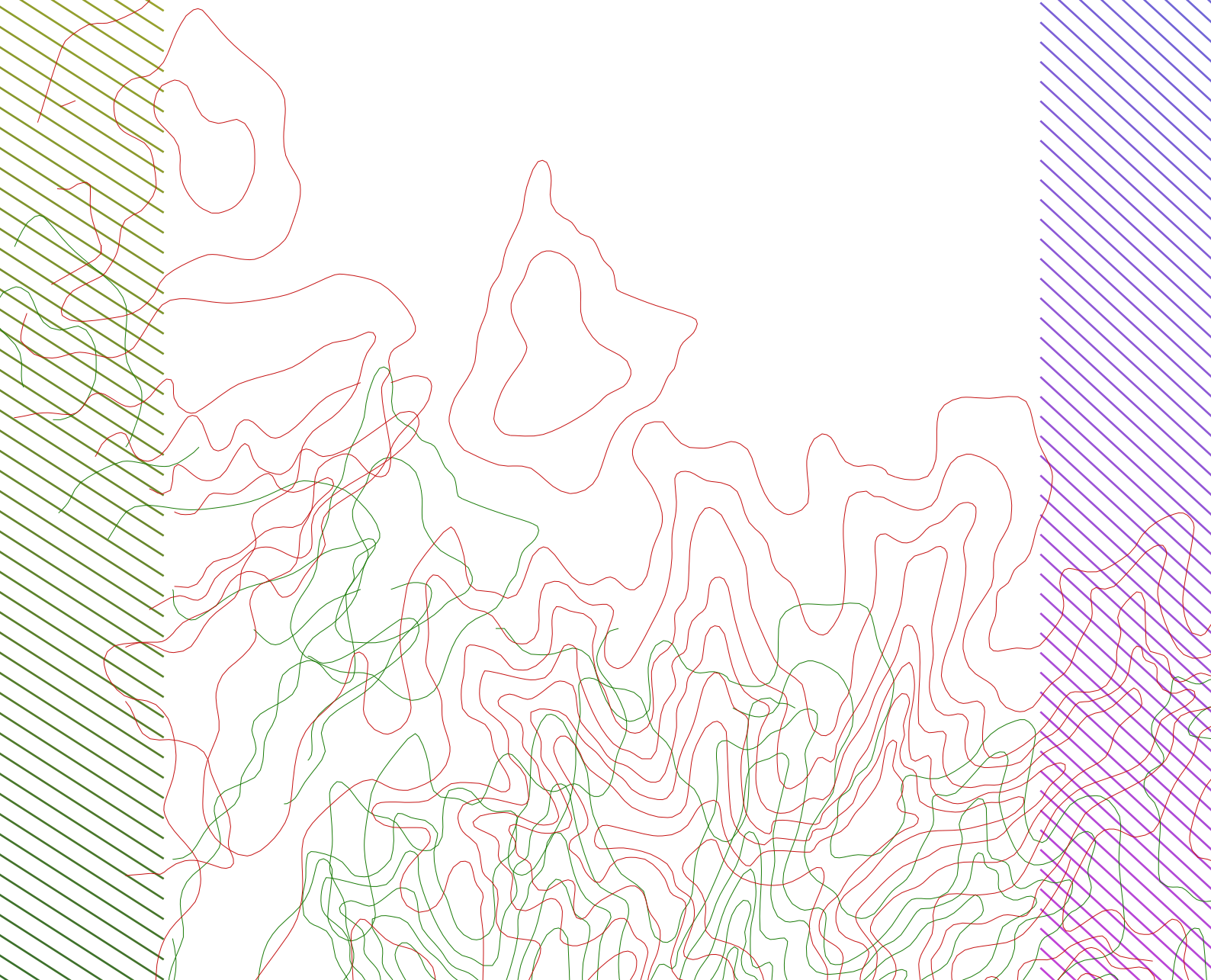
Session III

Urban Policies, Environmental Justice and Resilient Future



URBAN DESIGN FOR RESILIENT CITIES OF THE FUTURE - LESSONS TO BE LEARNED FROM THE TOGETHERNESS OF EARTHQUAKE AND PANDEMIC

Özlem Gök Tokgöz

Department of Architecture, Eskisehir Technical University
ozlemgok@eskisehir.edu.tr

Mehmet Ali Altın

Department of Interior Design, Eskisehir Technical University
mailaltin@gmail.com

ABSTARCT

Many decisions taken in cities throughout history; taken into account in the circumstances that make institutions and communities more cohesive and transformative. Resilient cities have been able to absorb the pressures and adapt to different functions. Within the scope of the study, it is aimed to investigate the reflections of the different impacts of cities, changing uses and needs. The Bayraklı and Bornova district, located in the city center of İzmir, in the western part of Turkey, on the Aegean Sea coast, was chosen as field of the study. An earthquake, 6.9 magnitude was experienced in the selected region on October 30, 2020, and many buildings became unusable. It is an important example in terms of determining the unique performance and needs of living together with earthquake and pandemic, considering and designing resilient areas for the city. In this study, it is aimed to reveal the factors that make cities more resilient in poly crisis situations. In accordance with this purpose, a qualitative research was designed in which a phenomenological research method was adopted. In this study, disaster regulations, emergency plans, news, photos and videos were examined, and interviews were conducted with people who experienced the pandemic and earthquake together. At the end of the study, the concept of resilience was examined through the determined example and the factors affecting resilience in multiple crisis situations were examined comprehensively.

Keywords: Resilient Cities, Pandemic, Earthquake

1. INTRODUCTION

Cities are constantly changing and developing with the shocks they had and the crises they have experienced. In cities throughout history: infrastructure, public and green spaces, many decisions on construction: It has been taken by considering current crisis, shocks and similar possibilities. The resistance of cities to all these different knocks and shocks leads us to the concept of urban resilience. Urban resilience is defined as the ability of an urban system that all the socio-ecological and technical networks that compose it, to maintain

desired functions or quickly return, adapt to in the face of a crisis or shock. (Meerow et al., 2016). The concept of resilience is the capacity of a community to adapt when exposed to a hazard. Urban resilience has a dynamic structure that covers many different areas.(Osman, 2021) Economic crises, global warming, migration, natural disasters, social and political crises, and many other situations are where urban resilience is tested. All the problems experienced in the urban area should be seen as lessons for the future resilient cities. Urban policies should be formed in the light of lessons learned.

Since the end of 2019, the pandemic process has affected the use and design of urban areas; re-examined with changing needs. The role of the urban built environment in health has changed during COVID-19. With the social distance rules brought about by the limited access to the public space during the pandemic process, people's staying at home has reduced physical interaction, slowed down or completely stopped practices such as education, economic activities, religious meetings, sports activities, cultural activities. Changing urban dynamics has shown how ready urban areas are to disasters such as pandemics. The pandemic has made us rethink the concepts of the resilient city. (Banai, 2020) It is important to find and develop areas or policies that make cities more resilient. Disasters show that the cities of the future need to be more resilient, durable, adaptable and flexible.

The study focused on the role of urban design in the coexistence of pandemics and earthquakes. Earthquakes are situations that should be examined especially in terms of the resilience. After the earthquake, all the dynamics in urban areas are changing, especially urgent urban decisions are very important. This study considers the case where the earthquake and pandemic situations come together. In Turkey, the Bayraklı and Bornova district, located in the city center of İzmir, on the Aegean Sea coast, which is one of the most seismically active regions in the world, was chosen as field of the study. A 6.9 magnitude earthquake was experienced in this area, on October 30, 2020. After the earthquake, the survivors who could not use their houses, taking into account the precautions regarding the epidemic. It is a contradictory process in the coexistence of earthquake and pandemic, the life that was isolated and confined to houses with the pandemic, and then the destruction of the houses in the earthquake has ended the life in the houses. As private spaces became unusable after the earthquake, isolation and social distances required by the pandemic were tried to be implemented in public spaces. At this point, it was seen how important urban design were. In this process, it has been seen how important places such as green spaces and sports halls are, which allow multifunctional use. It is also a good example for understanding how needs, disadvantaged groups and non-human elements in the city are affected in this process. And It is determining the unique performance and needs of living together with earthquake and pandemic, considering and designing the future resilient cities.

The aim of this study is to learn about the deficiencies in urban policies and urban design. We target to reveal by approaching the world 'out there', understanding social phenomena, trying to describe and explain the situation which was experienced in the earthquake and pandemic coexistence. Therefore, a qualitative research method was adopted in the study. Within the scope of the study, the materials were analysed under two groups as interviews and the supportive materials. A phenomenological research method was designed. While the interviews are made with people who have experienced the earthquake and the pandemic together, the supportive materials consist of newspaper news, maps, videos, photos and reports.

It is aimed to obtain results that support and confirm the interviews with other materials. Important urban places under the influence of pandemics and earthquakes was examined and changing uses and needs were determined through interviews with citizens affected by this change. For the holistic determination of the deficiencies and problems, the interview structure is grouped under titles such as during and immediately after the earthquake, the effects of earthquake and pandemic coexistence, post-earthquake needs (shelter and basic needs) and changing of the urban life, especially use of the public space. The interviews were transcribed and coded by researchers Nvivo12 pro was used for coding and analysis of the materials. The data was enriched with supporting material and a comprehensive evaluation was made.

As a result of the study, it has been determined that organizational deficiencies and administrative problems are seen in collective crisis situations such as earthquake and pandemic coexistence. In addition, the areas that the citizens find safe or unsafe, especially the issues that should be taken into consideration in the design of urban green areas have been seen. Urban spaces like green areas, parking places, sport halls etc. should be well planned, especially in earthquake regions, and mass disaster scenarios should be determined and simulated.

2. METHODOLOGY

A 6.9 magnitude earthquake was experienced in the Aegean coasts of Turkey and Greece, which is one of the most seismically active regions in the world, on October 30, 2020. (EEFIT, 2021) A qualitative research method was adopted in this study. Qualitative research helps in a comprehensive assessment and understanding of how the event is perceived "from the inside"(Flick, 2007) Within the scope of the study, the materials were analysed under two groups as interviews and the supportive materials. A phenomenological research method was designed. While the interviews are made with people who have experienced the earthquake and the pandemic together, the supportive materials consist of newspaper news, maps, videos, photos and reports. It is aimed to obtain results that support and confirm the interviews with other materials that we can call grey literature (Haddaway & Bayliss, 2015; Pappas & Williams, 2011).

In this study, the use of public spaces under the influence of pandemic and earthquake, within the framework of changing needs, was examined with the help of maps prepared, and the changing uses and needs were determined through interviews with the citizens affected by this change. The study was limited to interviews with people living in the Izmir. People from different age groups and different backgrounds who experienced earthquake and pandemic together, were preferred. While preparing the interview form, the relevant literature was inspected in detail and expert opinions were taken. The interview structure is grouped under titles such as during and immediately after the earthquake, the effects of earthquake and pandemic coexistence, post-earthquake needs and how urban life changed the use of public space. Table 1 shows the themes and the information to obtained. The data obtained after the interviews were divided into groups within the framework of the themes. And themes are grouped by codes. Codes are labels or tags used to allocate units of meaning to the data and coding helps to organize the data. And It helps to prevent ‘data

overload' resulting from mountains of unprocessed data and provides a first step in conceptualization (Walliman, 2017). In this study, the interviews were transcribed and coded by researchers.

Table 1. The Interview's structural themes and information to be obtained.

Themes	**information to be obtained**
During and immediately after the earthquake	where did he/she experience the earthquake, where did he/she go after the earthquake, who was on the call, what did he/she witness
Effects of earthquake and pandemic coexistence	Feelings, concerns and effects in the earthquake zone
Post-earthquake needs	Immediately after the earthquake needs like shelter, heating, etc.
How the urban life changed use of the public space	Urban spaces whose use has changed after the earthquake, which areas are safe, which areas are unsafe. Urban green spaces uses.

Supportive materials are mostly structured on internet news. Photos, satellite maps and videos are used to deepen the phenomena discovered through internet news. Content analysis with a qualitative approach was conducted on the reachable materials. Firstly, rough research on the Internet was conducted through news portals with keywords "İzmir", "earthquake", Covid-19" and "Pandemic". More elaborate news was discovered in local news resources rather than the mainstream media. Local news resources are mined in deep to find out related content and they were captured. The captured news is coded in NVivo12 Pro with dates and resource names. The interview data and supporting materials conducted in the study are summarized together.

3. EVALUATION OF RESULTS

Within the scope of the study, 9 people have been interviewed. Interviews with the participants were made online, audio and video recordings were taken. Interviews took approximately 40-45 minutes. In this part of the study, only the evaluation of the interviews is given for now. This section will be enriched and developed with supporting materials. Comments from the interviewee displayed as P1-P9. Figure 1 summarizes the study structure and its results. As a result of supporting materials and interviews, the themes of needs and deficient, pandemic, places, key figures, social media and urban green spaces were determined. Urban green spaces and social media came to the fore within the framework of the theme of resilience.

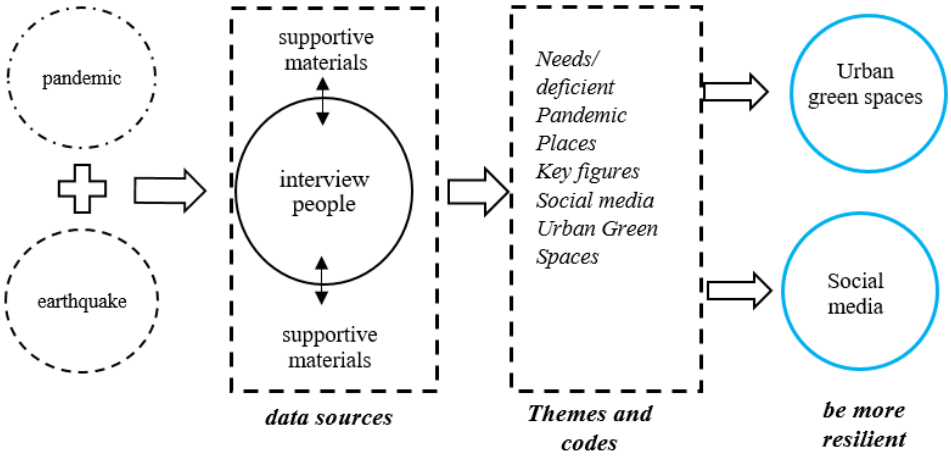


Figure 1. Basic structure of the research

The themes determined in the study are also divided into different sub-themes. A preliminary list of the themes was originally detailed in Table 2. In deficiencies and needs, there are basic needs such as shelter, food, heating, electricity, internet and cleaning. In addition, it was stated in the interviews that one of the most important needs of earthquake victims is psychological support. The effect of the pandemic has been examined under the subheadings of hygiene, social distance and online education.

Table 2: Theme and Sub-Themes Resulting from the Analysis of the Data

Needs/ Deficient	**About Pandemic**	**Places**	**Key figure**	**Other codes**
shelter	hygiene	parks	children	social media
food	online education	car parking	elderly	feelings
heating	social distance	garden	relatives	be unorganized
cleaning		assembly areas	pets	
electricity		sports hall		
internet		recreation areas		
psychological support				

In the study, important urban areas were tried to be determined. In the study, the places which are important urban areas were determined as parks, car parking places, garden, assembly area, sports hall and recreation areas. Another code, the key figures are children. elderly people, relatives and pets. In addition, other important theme that emerged as a result of the interviews, such as social media, be unorganized and feelings were grouped as other codes. Each theme is explained with explanatory quotations from the interviews.

Needs / Deficient

The most emphasized theme in the interviews was needs and deficient. In the interviews, people were asked about the needs immediately after the earthquake and post-earthquake period. The participants also talked about the deficiencies before the earthquake and many issues that they saw as administratively deficient. Photographs of the needing lists were also found on internet resources Among the needs, the most prominent is the need for shelter. The need for shelter arose immediately after the earthquake for many people whose houses were destroyed and damaged or waiting for damage assessment. The participants stated that the tent set-ups were not fast enough on the day of the earthquake, and then they were set up irregularly. It is setting up tents everywhere, especially in the parks and the gaps in the neighbourhood.

> *"There weren't enough tents, for example, so many people slept on the ground the first day. (P2)"*
>
> *"During the day, people could spend their time standing or sitting on the grass, in parks but at night, this was the biggest problem when talking about children, elderly. The sitting area and sleeping area was the biggest inadequacy. (P1)"*
>
> *"We started around 7 o'clock, the municipality fire team arrived... 3 people, we set up 30 tents there, we set up the Municipality tent. However, we had a shortage of personnel there. Therefore, there were volunteers. Then we finished it, there is even a video of it, at 8 o'clock. AFAD arrived at 2 o'clock at night. The soldiers have arrived. The difference is almost abysmal. The difference of 6 hours. People entered the tents very late at night. (P9)"*
>
> *"There were many people in the parks around the house, there were tents so for a while, those tents were everywhere, there were too many tents around. (P8)"*

Some participants stated that these tents did not provide the comfort conditions. Many important needs such as heating, electricity, clean water have not been adequately providing.

> *"People didn't have a warm place to sleep or shelter outside. It was very cold and the tent was not adequately protected. It was tried to warm up by a fire outside. (P1)"*
>
> *"Nearby café, restaurants are now whatever, people go there and charge their phones. The electricity demand was too great to provide. The heater was being used, is it better to use the socket for the heater or for the phone in cold weather? That is why people go to any market and it was said that could I charge my phone? (P1)"*

There were also participants who stated that besides their basic needs, people should be supported psychologically and help them go through this difficult process.

> *"I think the biggest problem is giving psychological support. Of course, there are basic life needs, these aside, you lose your mother, father or a relative or something very seriously in that process. You may need shelter, you may need to food, but you need psychological support, maybe you will commit suicide there, a psychiatrist or psychologist should support you, there must be a psychological support unit there. (P3)"*

About Pandemic

In the section where the effects of the pandemic and earthquake coexistence were asked, the themes about the pandemic were hygiene, online education and social distance. All the people we interviewed to expressed their concerns about hygiene. It was stated that especially in areas where the effects of the earthquake are more and people try to save their lives, hygiene is not paid attention to. People started to think more about the pandemic after they saved their lives after the earthquake. The attention to the increase in cases after the earthquake also people to think about hygiene more. The participants stated that they could not pay attention to social distances due to the shock of the earthquake.

> *"We couldn't keep social distance because you came out of the earthquake and you want to hug the first person you see. You see that he/she is alive. Social distancing was very much ignored in this case. (P1)"*

> *"We were thinking about hygiene the most. It was the time of Corona, and the numbers were increasing. But everyone was together as if there was no pandemic. (P8)"*

People also claimed that they expect more hygiene in the toilets and bathrooms in the tent areas. They also stated that dining areas and food distribution should be more hygienic. One of participant, who works voluntarily in the Aşık Veysel recreation area, stated the following about the toilet and bathroom areas.

> "*There is the pandemic and the showers opened two days later. Those inside the ice rink were also opened, and while people was taking a shower, their number could be kept up. After all, it was wet floor, an environment that increased the spread of a virus during the epidemic of the microbe, a warm environment, a disinfectant should be made after entering the common places. I don't think it's difficult, it's very simple. Even if you put in a volunteer, there were many people who would do it. We can say that the toilets are not a good condition. There were too many entrances and exits, if 800 tents are mentioned, there are 2500-3000 employees, maybe there with volunteers. There were two toilets in the area we opened, with 3 toilets in each. There were also two on the ice rink. There were 2 entrances each, the cleaning was not enough. We couldn't see that enough cleanliness, most of the time we didn't drink water to because we didn't want to use the toilets. (P9)"*

Online education continued before and after the earthquake. The lack of internet and computers, especially in the tent areas, has become important. Especially students who received primary school education tried to

continue their education in temporary classrooms established in tent areas. In the interviews, it was determined that university students were also affected by this process, but many universities gave additional time and privileges to students who were in the earthquake zone.

Places

Natural disasters such as earthquakes change the functioning of cities. The city life, which changed with pandemic, also changed after the earthquake. In the interviews, the participants were asked how the urban life changed, where they took shelter and which areas were generally used. In this section, participations stated that especially after the earthquake, they took shelter in parks and green spaces. People stated that they think urban green spaces safe places. Big sports halls, car parking areas and recreation areas have also been the areas used especially after the parks in this process.

> *"The only place we can go in an earthquake is the green areas and gardens near us. There are many houses with gardens here people have always go to the gardens. (P1)"*
>
> *"There are no buildings around, an open space, and there aren't many buildings that could be knocked down and collapsed. For me, the safest areas seem to be those places. The car park next to our house is a really large car park. There may be large parks; there may be such car parking areas. …Aid was always collected in the parks next to our house. Aid was also distributed in the parks. There were many people in the parks. (P8)"*
>
> *"Conversion of a park into a habitat in case of disaster. …It is open space, but we must be able to turn it into a living space whenever we want. Areas that we can turn into a safe space. (P2)"*

Emergency assembly areas were another topic that was especially mentioned on urban spaces. Many participations stated that they did not know about the assembly areas in the city. There is an opinion that the areas designated as assembly areas are also selected from the urban green spaces. In a study conducted after the earthquake in Elazig, another city of Turkey, it is stated that urban green spaces were determined as assembly areas (Meral et al., 2021).

> *"… People gathered in the parks. There was no assembly place. I do not know though. Everyone go to the parks. (P8)"*
>
> *"First of all, I can talk about the inadequacy of assembly areas. Because as I said, there were no assembly areas near us, so we had to go out to the gardens. The assembly areas in the center of the city are generally green areas next to playgrounds. (P1)"*

Aşık Veysel recreation area came to the fore as an area where tents were set up and aid was collected right after the earthquake. (Figure 2) In this area where more than 800 tents were established, the post-earthquake needs of the people were met.



Figure 2. Asik Veysel Recreation area – after the earthquake tents (URL-1)

Asik Veysel recreation area has also become a prominent area in the collection and distribution of earthquake aid. Donations were collected on the ice rink inside, and tents were set up outside. In the interviews and the supporting materials made with, it has been seen that an urban area of this size has an important place for earthquake zones.

Key figures

While the participants shared their experiences with the earthquake, they talked about the figures they were particularly worried about. Children, elderly, relatives and pets have been key figures that come to the fore. Relatives and friends are the first people that worried about. People are called after the earthquake. For many people, these are close relatives like their parents and siblings. After that, many participants stated that they are concerned about children in the tent areas. It is very important in order to support the children when large-scale disasters occur (Ersoy & Koçak, 2016; Kitayama et al., 2000). An EBA (Education Information Network, or EBA for short, is a social educational electronic content network established by the TR Ministry of National Education in Turkey.) truck which are computers and internet connection, has also been to the field for the students can continue their online education. There are many volunteer people who go to tent areas to spend time with children and play games. They tried to reduce the psychological effects of the earthquake on children. One of the participant's mentions that

> *"A very close friend of mine already works as a street performer, and they mostly organized activities for children there. They played games with the children so that they would not be affected by that situation too much. He went almost every day. (P5)"*

Elderly people are in the group that needs help most in large scale disaster. They are more vulnerable to psychosocial effects of disasters (Ticehurst et al., 1996; Zhu & Sun, 2017). People are thinking about how to save their pets from earthquake. It is thought that the news of the animals rescued from the building wreckage and the efforts to adopt these animals are effective in people's thinking about this issue.

> *"It was three or four hours after the earthquake, we went in two minutes, we wanted to take care of our cats, we immediately collected them. (P2)"*
>
> *"If an earthquake happens at night, which cat will I take first? I wonder if I take the box or carry it on my lap. Can I wear his collar? (P3)"*

In this sense, special attention should be paid to these groups during and after the earthquake. The aid provided should be inclusive of all segments of social life.

Other Codes

In recent years, social media has begun to take an important role in crisis management.(Houston et al., 2015) It has an important function in informing institutions, developing interactions and revealing reactions about problems (Mavi, 2020). Social media analysis is used in many studies and reports because it reflects people's attitudes and opinions (EEFIT, 2021; Mavi, 2020; Yin et al., 2020). Social media has been a prominent topic in the interviews. All participants stated that social media helped to collect and identify needs. Opinions stating the importance of social media use and the role of deficiencies in aid collection are;

> *"Social media is something that opens up traffic that's closed… (P7)".*
>
> *"The biggest positive factor was social media. Because I definitely don't think the management is prepared. (P3)"*
>
> *"Help places and needs were constantly shared on social media. I always looked at the lists there, looked at the needs and collected ...(P6)".*

It was also stated that the accounts with high recognition (accounts with more followers) in the social media were asked for help and the announcement of the needs in the earthquake area. In addition, it is thought that real information about the field can be reached through social media.

> *"I think, thanks to our people and our social media power, that place has turned into a gathering area and a shelter. Because after most people came there, we used social media very well. To make up for the deficients there. With the power of social media, many companies came to the field before municipal and state aid. There are many brands we have worked with before, brought tea, coffee and even filter coffee. There was a pizza company and they brought pizza. We delivered pizza in the area, at least for a little more motivation. (P9)"*
>
> *"There is a cooperation between people, mostly on social media, even those who are under the debris communicate via social media on the phone, and messages are sent saying that I am under the debris and please save me. (P1)"*

In the literature, processes such as post-earthquake recovery, rehabilitation and reconstruction are mentioned (Inzulza-Contardo, 2014). It focused on a short period of time, such as immediately after the earthquake and the arrival of needs. This period, which is stated as approximately 72 hours (French et al., 2019). Even if it's a short period of time, this is when people need help the most and organizational

deficiencies are felt the most. The people staying in the tents and working voluntarily in that area stated that they had organizational deficiencies in particular. Be unorganized was an issue that everyone especially complained about. It has been observed that urban policies could not be formed correctly and many problems arose from the lack of organization on issues such as food distribution and hygiene. It was seen that people solved the problems brought by the earthquake and pandemic with the organized use of social media. Interaction and communication are factors of the concept of resilience. Many people found the municipality's aid and other services not sufficient. The participants mentioned that the municipalities of different cities such as Istanbul, Ankara, Uşak participated in the aid supplies.

The participants were also asked how they felt about the earthquake and the pandemic living together. Feelings were coded as negative and positive. It was seen that all the participants had negative feelings such as hopelessness, unhappiness, desperation. Opinions of some of the participants on this issue are

> *"Despair, truly despair. We had a hopeless period. When there was a pandemic, did it end? there was an earthquake, will we be sick, how will we die? From the disease or earthquake? Will the building collapse on us? We are afraid, of course, between the walls of fear, anxiety, anxiety attacks. (P3)"*
>
> *"It affected people psychologically, they couldn't stay at home. Our home is where we always take shelter, but this time it is not safe at home. There is already Covid, there is disease outside, there is rain, and it was in a very bad period. (P5)"*
>
> *"For a long time, I could not get over the fear of an earthquake like this again. I had a fear over me while staying alone at home for a few days. There was a state of being on the alert. (P7)"*

For the other codes, especially social media has come to the fore. The fact that most of the supporting materials are obtained from social media shows that it has an important in this sense.

4. CONCLUSION

In the study, it has been revealed how important especially green spaces are for the city. It has been seen that the use of urban green spaces and the social and psychological meanings of these spaces for the citizens of the polycrisis have completely changed, especially in geographies where earthquakes should be considered as a possible crisis. It has been determined that these urban green areas, which are seen as resting and relaxation areas for the city, function as possible gathering, aid distribution and temporary settlement areas in crisis environments and become resilience spaces for the city. Urban green space designs should be reconsidered by considering the role of these areas in disaster situations. It has been seen that many problems arising from the lack of organization, earthquake and pandemic are solved through social media. Interaction and communication are factors of the concept of resilience.(Crowley, Donovan, & Elliott, 2012) In this context, we can say that the correct use of social media is effective in making cities more resilient.

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UNDERSTANDING THE IMPACT OF URBAN DESIGN TO ACHIEVING THE UN SDGS

Sebnem Hoşkara

Prof. Dr., Faculty of Architecture, Eastern Mediterranean University
sebnem.hoskara@emu.edu.tr

Özge Selen Koç

Research Assistant, Faculty of Architecture, Eastern Mediterranean University
ozgeselen.koc@cc.emu.edu.tr

ABSTRACT

The impact of increasing inequality and poverty between countries on spatial and social concerns has reached a level where it can no longer be ignored. Environmental and humanitarian crises, such as pollution, depletion of natural resources, and unemployment, have frequently been limited urban development.

All these negative effects harm the ability of cities to achieve sustainable development. The climate issue is one of the most noticeable damage and its global consequences have motivated a search for a comprehensive solution. Furthermore, various action plans and agenda recommendations have been developed around the world to address these challenges. These studies are the outcome of a strategic process that has evolved and expanded its scope from the report Our Common Future to the 2030 Agenda to improve the quality of life in a way that responds to environmental awareness, development strategies, technological innovation, and social structure change.

The existing research is utilized as a framework for examining how the 2030 Agenda and SDGs as sustainable assessment tools contribute to the development processes of cities. However, there is inadequate data to investigate the interaction of urban design dimensions and objectives with the SDGs and their targets, and this interaction has a vital role in sustainable urban development and thus the future of cities. Accordingly, through a thorough literature survey on urban design theories - i.e., dimensions and objectives of urban design, this research intends to answer the following research questions:

- How can urban design contribute to achieving SDGs?
- How should theories & approaches of urban design be re-shaped throughout the process of achieving SDGs?

Thus, the study, which is an initial step of ongoing research, will include a literature review of related written documents on sustainable development processes, goals, and urban design dimensions and objectives to analyze and evaluate the impact of urban design on SDGs while examining various examples of urban design projects relating to different sustainable development goals and their targets.

Keywords: 2030 Agenda, Sustainable Development Goals (SDGs), Urban Design, Urban Design Dimensions, Morphological Dimension

1. INTRODUCTION

The 2030 Agenda for Sustainable Development is a strategy for achieving prosperity while respecting the environment and its inhabitants. The 2030 Agenda is universal, inclusive, transformative, integrated, and centered on human rights. It is a comprehensive action plan for countries, the United Nations organizations, and other actors. The 2030 Agenda is a set of goals aimed at ensuring the prosperity of people and the planet. It offers new opportunities for the built environment to expand its priority and adapt itself to the future. The 2030 Agenda and its SDGs promote global peace, eradicate poverty in all forms and dimensions, and reflect the world's primary priorities in today's economic, political, and social environment. They are also a requirement for long-term developmental activities. The 2030 Agenda attempts to ensure coordinated and comprehensive sustainable development in all three dimensions - economic, social, and environmental. The agenda also highlighted expanding on the Millennium Development Goals' achievements and attempting to finish the unfinished work. The agenda's primary goal is to end poverty and hunger worldwide by 2030, as well as to address inequalities within and between countries; to form peaceful, equitable, and inclusive societies; to protect human rights and promote gender equality, and to ensure the planet and its natural resources are permanently protected. It has also focused on promoting circumstances for long-term, inclusive, and efficient economic growth, economic stability and equal opportunity for all, while considering different regional and national development levels and capacities. To achieve this aim, 17 Sustainable Development Goals were established, together with 169 associated targets, by developing a shared action plan on a comprehensive and universal policy agenda of unprecedented sizes that have not been done before.

As a consequence of encouraging the collaboration between various disciplines, the SDGs, which focus on people, planet, prosperity, partnership, and peace, generate more comprehensive outcomes. They attempt to create similar conditions and access for basic human needs such as hunger eradication and progressive expectations such as industry and innovation. However, in some cases, the participation of disciplines was not expressed enough. For example, there is a common misunderstanding that disciplines like architecture, urban design, and urban planning have only impact and responsibility on the achievement of SDG 11, which is related to sustainable cities and communities; however, these disciplines have an essential role in achieving all SDGs and their targets with a holistic perspective. From this point of view, the main aim of this research is to explore the part of urban design in achieving the SDGs and their targets. Thus, the paper will discuss how urban design can contribute to harmonizing three core elements of sustainable development: economic growth, social inclusion, and environmental protection. At the beginning of the 21st century, developments in technology and industry led to the deterioration of the ecological balance and the destruction of natural resources. Due to this rapid development, unplanned and uncontrolled growth increased, and the new settlements damaged the urban fabric, as well as historical, cultural, and ecological values and quality of life. In this context, urban design has emerged as a search for solutions to all of these issues. It can be defined as a process of making successful places for people, requiring consistency and stability between the disciplines of urban planning and architecture, including our entire living environment. The existing research is utilized as a framework for examining how the 2030 Agenda and SDGs as sustainable assessment tools contribute to the development processes of cities. However, there is inadequate data to investigate the interaction of urban

design dimensions and objectives with the SDGs and their targets, and this interaction has a vital role in sustainable urban development and thus the future of cities.

2. CONCEPT OF SUSTAINABILITY

Sustainability is a concept that encompasses social issues such as poverty and health problems, as well as environmental challenges such as climate change and biodiversity loss. It is concerned with making decisions about these issues. In terms of human progress, sustainable development should be considered a crucial step. The concept of sustainable development was introduced in the 1987 report "Our Common Future" by the World Commission on Environment and Development. The United Nations Conference on Environment and Development converted it into a comprehensive theoretical system with "Agenda 21" in 1992 and was recognized as a common approach in most countries. The Brundtland Report stated that poverty and unsustainable consumption and production habits were effective in bringing sustainable development to the agenda. In order to solve critical environmental problems and socioeconomic-based problems, the report combined development and environmental issues which called for the creation of a concept of sustainable development in order to develop joint solution proposals. In the report, sustainable development is defined as “a development that meets the needs of today without compromising the ability of future generations to meet their own needs” (UN, 1987: 15-17). According to the report, poverty is expanding rapidly, technology and social progress are limiting people's lives, and sustainable development will provide an opportunity to meet everyone's basic needs and fulfil desires for a better life as a solution proposal. Although sustainable development is defined in many different ways, it is considered as a method aimed at promoting awareness of society's environmental, social, and economic concerns and addressing needs in this direction. The outcomes of sustainable development are not always predictable in a certain order. It is a processed product, and through experiential learning, this process has formed a dynamic structure. For this purpose, it is a solution-producing approach to choosing the best available way that benefits everyone. The dynamic structure of sustainable development includes adopting and implementing sustainable development principles in all areas for different organizations, policies, operations, and people. The requirement for equality between other groups, sectors, and generations is at the core of the sustainable development approach.

Moreover, the concept of generational equality can also be assembled with a better expression. While emphasizing the importance of intergenerational equality, people belonging to different political, economic, social, and geographical contexts must have the same rights. The scope of the concept of sustainable development has primarily been focused on environmental issues and ecological concerns and gained increasing prominence as a source of inspiration for many kinds of research over time, and thus can be managed to answer the question of what are the dimensions of sustainable development. It is recognized that growth through sustainable development must be both an inclusive participatory and environmentally friendly process to reduce poverty, establish common prosperity for those living on earth and respond to human needs, environmental sustainability, human rights, and partnerships and continue to meet the needs

of future generations. As a result, the three key pillars of sustainable development were highlighted: economic growth, environmental management, and social inclusion. Although sustainable development encompasses all sectors of development, considering the impact of urban design on the environment and social behavior, it might be regarded as one of the essential tools for achieving sustainable development. The most recent attempt in this direction is the Agenda 2030 manifesto, which was adopted in 2015. The main theme of Agenda 2030 is “no one is left behind,” and in line with this purpose, 17 Sustainable Development Goals and 169 Targets have been set.

2.1 SUSTAINABLE DEVELOPMENT GOALS

Unlike the Millennium Development Goals (MDGs), the Sustainable Development Goals (SDGs) provide a more specific and comprehensive perspective on such problems and respond to the human and natural system needs from a broader point of view. In this regard, a comprehensive and integrative common understanding has emerged to answer these concerns. Thus, the SDGs have provided the opportunity to create a common language around five main themes (people, planet, prosperity, peace, and partnerships) that all countries and communities can use. The SDGs also provide a better connection and utilization of the economic, social, and environmental dimensions of sustainable development and an opportunity to initiate systemic change toward a more sustainable future. It has been predicted that the SDGs will have a substantial impact on policy, capital flows, and development policies since their publication. The aims of the agenda seem to be more comprehensive than those of earlier development initiatives because they consider the international community, including corporations, non-governmental organizations, and research institutions, directly responsible for achieving development. Thus, it has been observed that attaining these goals builds the framework for new partnerships between the business, public, and research sectors. After the adoption of the agenda, generally, researchers have been more focused on exploring, analyzing, and examining the SDGs and their interactions with other disciplines, as well as experience in implementation. According to Sachs (2012), to ensure sustainable development, a solid problem-solving network should be proposed that includes universities, companies, non-governmental organizations, governments, and, according to him, most importantly, the younger generation of the world. SDGs' inclusive and integrative approaches have been further developed. After the participation of different sectors and generations was mentioned, the involvement of different socio-economic groups also became increasingly important. Kumi et al. (2014) highlighted three main concerns in their work and aimed to use these concerns as a guideline for operational policies aligned with the SDGs. First, when it comes to poor communities, the focus should be on the pro-poverty rather than the traditional pro-growth. Then equality should be identified as a serious concern, and lastly, the concerns and problems of these communities should be responded to appropriate actions taken in this direction. The global SDG agenda and its impact on social roles and equity were underlined in Jayasooriya's (2016) study. According to her, the SDG agenda was critical in expanding the scope of social workers' responsibilities. Therefore, she argued that social workers' roles in terms of social and economic development, human rights, and environmental responsibility have to be revised. In summary, the SDGs will give a broader framework for addressing the socioeconomic division issues, providing equal access and

outcomes (Jayasooriya, 2016). Many studies have attempted to provide a comprehensive overview and integrated approach to implementing the SDGs. Accordingly, many different partnerships are required and Stafford-Smith et al. (2016) drew attention to the linkage between three main areas: sectors, agencies, and countries. According to the Future World of Science overview's sustainability practice, the 17 SDGs should cover seven categories in order to develop these links: financial; technology; competence; political integrity; partnerships; and the application of data, monitoring, and accountability in the field of data. On the other hand, Gusmao Caiado (2018) criticized the comprehensive review of the existing literature and the role of individual urban areas in achieving the SDGs. According to them, the differences in the needs and experiences of the urban space caused difficulties in achieving the SDG goals. They also emphasized the role of information technology in addressing SDGs targets, concentrating on aspects of sustainability science and information management, as well as their applications and linkages. As a result, the research recommended several methods to address some of the challenges affecting the implementation of the 17 SDGs, while focusing on the gaps in the field. In this perspective, by 2030, practically all issues are aimed to be addressed through implementing goals (17 goals), targets (169 targets), and indicators. When considering the 17 goals adopted by UN countries in 2015, it becomes evident that the majority of the goals and targets are directly or indirectly related to urban design strategies and concerns. The 17 goals of sustainable development are as follows (Figure1).

1. No Poverty
2. Zero Hunger
3. Good Health and Well Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation, and Infrastructure
10. Reduced Inequality
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life below Water
15. Life on Land
16. Peace, Justice, and Strong Institutions
17. Partnership for the Goals



Figure 1: Sustainable Development Goals, SDGs (https://worldslargestlesson.globalgoals.org/)

3. CONCEPT OF URBAN DESIGN

Urban design has been recognized as a significant field within the city planning and design professions at least since the 1960s. Urban design concepts and practices have progressed into a specialized and effective profession that merges planning, architecture, and landscape architecture. The classification of urban design is further complex by the wide range of activities that it incorporates, ranging from minor neighborhood improvements and design to large-scale development projects, community strategies, and even regional networks. Urban design is an important concept that requires interdisciplinary collaboration and should promote both physical and social integrity. Thus, urban design is generally conducted by groups of people with various specializations and ideologies. As a response to increasing health, housing, transportation, and other urban crises, modern urban design theory emerged in the late 1920s. The Congres Internationaux d'Architecture Moderne, or CIAM, was founded in 1928 by Le Corbusier and other architects and planners to examine subjects and models for contemporary, rational city development. Their criticisms were mostly philosophic and strategic concerns on what a city should be based on theory and assumption rather than an understanding of people's interactions with their surroundings. Unfortunately, large-scale urban regeneration and theoretical models failed due to a lack of human aspect and strict rules when new contemporary urbanism models were applied. Considering the neglected part of these theoretical urban design models, researchers such as Jane Jacobs, Edward Hall, and Lewis Mumford led to a discussion on the impact of the physical environment on community life. Gordon Cullen (Townscape, 1961), and others established that the combination of buildings, streets, and open spaces is more significant than single architectural monuments in shaping our perception of urban values. Then, Kevin Lynch (The Image of the City, 1960) and others introduced theories that allowed designers to conceptualize and visualize greater urban forms and landscape-scaled components. In the light of these 1960s and 1970s perspectives, research approaches and methodology established a strong base for urban design theory and practice. However, the main challenge was that

discipline was still viewed as an expert-focused practice. While the urban design was influential in transforming a wide variety of public realms into physical development, there needed to be a participatory, decision-making process in which the implications of physical design solutions could be examined about shared values and objectives. As a result, the role of urban design in the planning process has increased in recent years, emphasizing the necessity for interdisciplinary structured action for the future of cities. The influence of social variables in urban design should be examined to create human-oriented environments and improve existing ones. Urban design is a field of study that requires creating a strategy for a community and mobilizing all skills and resources to make that vision to life. The growth of the urban population and the diversification of individual needs through time, as well as the fact that these changes will continue in the future, have demonstrated the significance of the time dimension in the urban design process. The concern that cities will experience due to the high quality of life and living standards that will emerge in the coming years strengthens the importance of urban design. The significance of urban design in investigating and solving problems in cities is expanding in response to the continuing growth of cities, the rapid increase in population, and the continuation of development. The difficulties of the uncontrollability of cities caused by rapid urbanization are insufficient to respond to the methods used in urban design.

3.1 DIMENSIONS OF URBAN DESIGN

Cities are constantly changing as a consequence of expanding population and built environment day by day, and by responding to these changes, they create a development pattern. The idea of urban design has emerged to maximize people's living standards and conditions. When the process of urban planning is examined, the main aim of each pioneer is to raise living conditions and improve living environments. The basic principle of urban design results from this relationship between people and their meaningful environment. This section of the study categorized urban design into six dimensions according to Matthew Carmona's classification in his book Public Places – Urban Spaces (Carmona et al., 2013). These dimensions are components of a whole. When historical, social, cultural, personal, and physical structures are considered, they are divided into groups according to their characteristics (Carmona, Heath, Oc, & Tiesdell, 2010). For the ongoing research study, these dimensions of urban design are distributed in six main sections - Morphological dimension, Perceptual dimension, Social dimension, Visual dimension, Functional dimension, and Temporal dimension - with brief explanations and then matched with the SDGs.

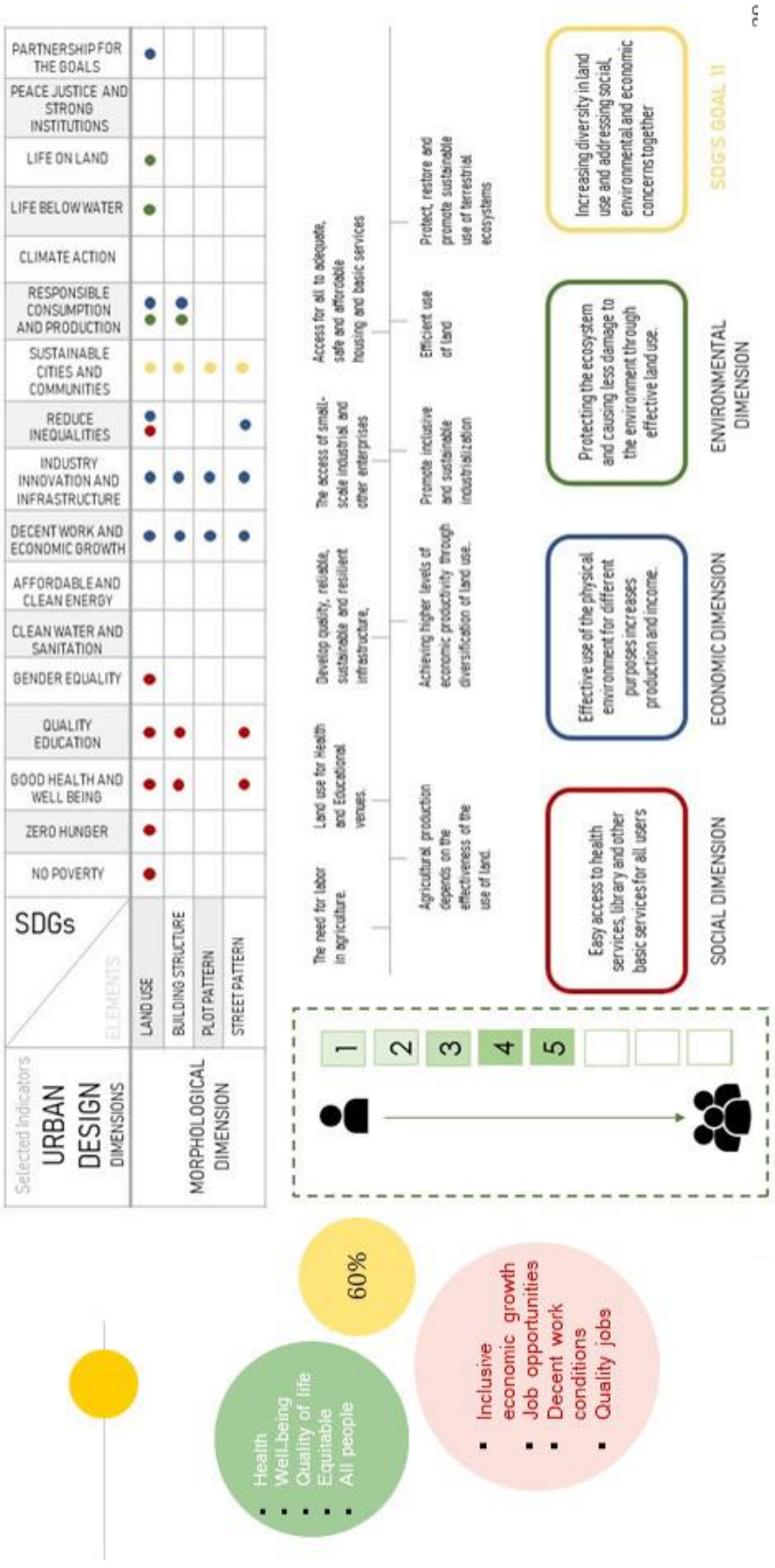
4. EVALUATION: MORPHOLOGICAL DIMENSION OF URBAN DESIGN AND SDGS

According to the urban design dimensions and their elements, it is aimed to determine the impact of urban design on sustainable development goals (SDGs) by examining the common features of urban design that are effective in creating a thriving city. The evaluation aims to understand if and how these dimensions and indicators meet and relate to the sustainable development goals. The research is ongoing, and at this point, within the limitations of this conference publication, we are only presenting the relationship of morphological dimension to the SDGs. The elements of the morphological dimension and 17 SDG targets were analyzed

through cross-concept analysis. In the end, the effect of the given urban design element on the sustainable development goals has been rated on a scale of 1 to 8. Thus, 1 represented the lowest, and 8 described the highest impact of urban design on SDGs (Table 1). The physical form development and change process, as well as their direct or indirect roles in achieving the SDGs, were analyzed in social, economic, and environmental frameworks.

The differentiation of the physical environment based on functions with high awareness promotes socio-economic development and significantly impacts the quality of life. As a result, it indirectly helps to reduce hunger and poverty. Furthermore, the conceptual variety of urban public spaces, as well as the expansion of urban libraries, health, and essential services in physical areas, will promote social awareness and provide the ground for developing healthy and educated societies. This identification and understanding in physical areas will minimize inequity between people and play a significant role in preserving the right to live in various creatures. In addition, addressing agricultural and industrial sites is necessary for the continuity of the social integrity and development process because it is critical in maintaining continuity for future generations, which is the most significant aspect of sustainability.

Thus, when the morphological dimension, which focuses on the change process of the urban form, and the relationship between SDGs, are examined, the following results have emerged. Goals with more vital social-economic considerations are more effective in the development and transformation of urban forms process. In this way, %60 collaborative effort can be noted while evaluating the relationship between the morphological dimensions and SDGs. Figure 2 shows the relationship between the Morphological Dimension of Urban Design and SDGs.


Selected Indicators
URBAN DESIGN DIMENSIONS
SDGs
ELEMENTS
MORPHOLOGICAL DIMENSION
LAND USE
BUILDING STRUCTURE
PLOT PATTERN
STREET PATTERN
NO POVERTY
ZERO HUNGER
GOOD HEALTH AND WELL BEING
QUALITY EDUCATION
GENDER EQUALITY
CLEAN WATER AND SANITATION
AFFORDABLE AND CLEAN ENERGY
DECENT WORK AND ECONOMIC GROWTH
INDUSTRY INNOVATION AND INFRASTRUCTURE
REDUCE INEQUALITIES
SUSTAINABLE CITIES AND COMMUNITIES
RESPONSIBLE CONSUMPTION AND PRODUCTION
CLIMATE ACTION
LIFE BELOW WATER
LIFE ON LAND
PEACE JUSTICE AND STRONG INSTITUTIONS
PARTNERSHIP FOR THE GOALS
The need for labor in agriculture.
Agricultural production depends on the effectiveness of the use of land.
Land use for Health and Educational venues.
Develop quality, reliable, sustainable and resilient infrastructure.
Achieving higher levels of economic productivity through diversification of land use.
The access of small-scale industrial and other enterprises
Promote inclusive and sustainable industrialization
Access for all to adequate, safe and affordable housing and basic services
Efficient use of land
Protect, restore and promote sustainable use of terrestrial ecosystems
Easy access to health services, library and other basic services for all users
Effective use of the physical environment for different purposes increases production and income.
Protecting the ecosystem and causing less damage to the environment through effective land use.
Increasing diversity in land use and addressing social, environmental and economic concerns together
SOCIAL DIMENSION
ECONOMIC DIMENSION
ENVIRONMENTAL DIMENSION
SDG'S GOAL 11
1
2
3
4
5
60%
Health
Well-being
Quality of life
Equitable
All people
Inclusive economic growth
Job opportunities
Decent work conditions
Quality jobs

5. RESULTS AND DISCUSSIONS

Urban design is one of the main contributors to social behavior, the global economy, and environmental management. Until recently, urban design applications have been mainly focused on four dimensions of sustainable development, which are environmental, social, economic, and cultural issues. However, as urban design ideas have progressed, it has been determined that these four elements are insufficient in the spatial formation process. They should be supplemented with participation, management support, and organizations at different scales. The findings of this study utilized a multi-step research technique to examine the 2030 Agenda's aims' impact on urban design strategies. This research contributes to the literature on implementing the 2030 New Urban Agenda. Also, it aimed to identify how the urban design objectives interact with the SDGs.

Communities, individuals, the economy, and the environment can benefit from urban design to achieve SDGs. As a result of the analysis, we can say that the potential benefits include: Improved public health increased social equity, increased land values, a more vibrant local economy, reduced environmental impact - vehicle emissions, and more environmentally friendly usage of non-renewable resources. For this reason, urban design has a decisive role in creating sustainable cities and increasing social awareness.

To achieve the Sustainable Development Goals, urban design theories and practices must consider the effects of changing needs and social structures and be shaped by the following factors:

A universal approach for more systematic knowledge development and application,

Identification of limits that cause a gap between urban expectations and actual practice,

Providing strategic focal points to address this knowledge gap.

Through these three factors, it has emerged that the differentiation between urban design practice and theory should be reduced and adopt a more comprehensive and unifying understanding.

Finally, we may say that developing integrated strategies at broader urban scales is seen as the most pressing need. Within any urban design scheme, the knowledge framework should adopt a systems perspective, including the SDGs and their targets – leaving no one behind.

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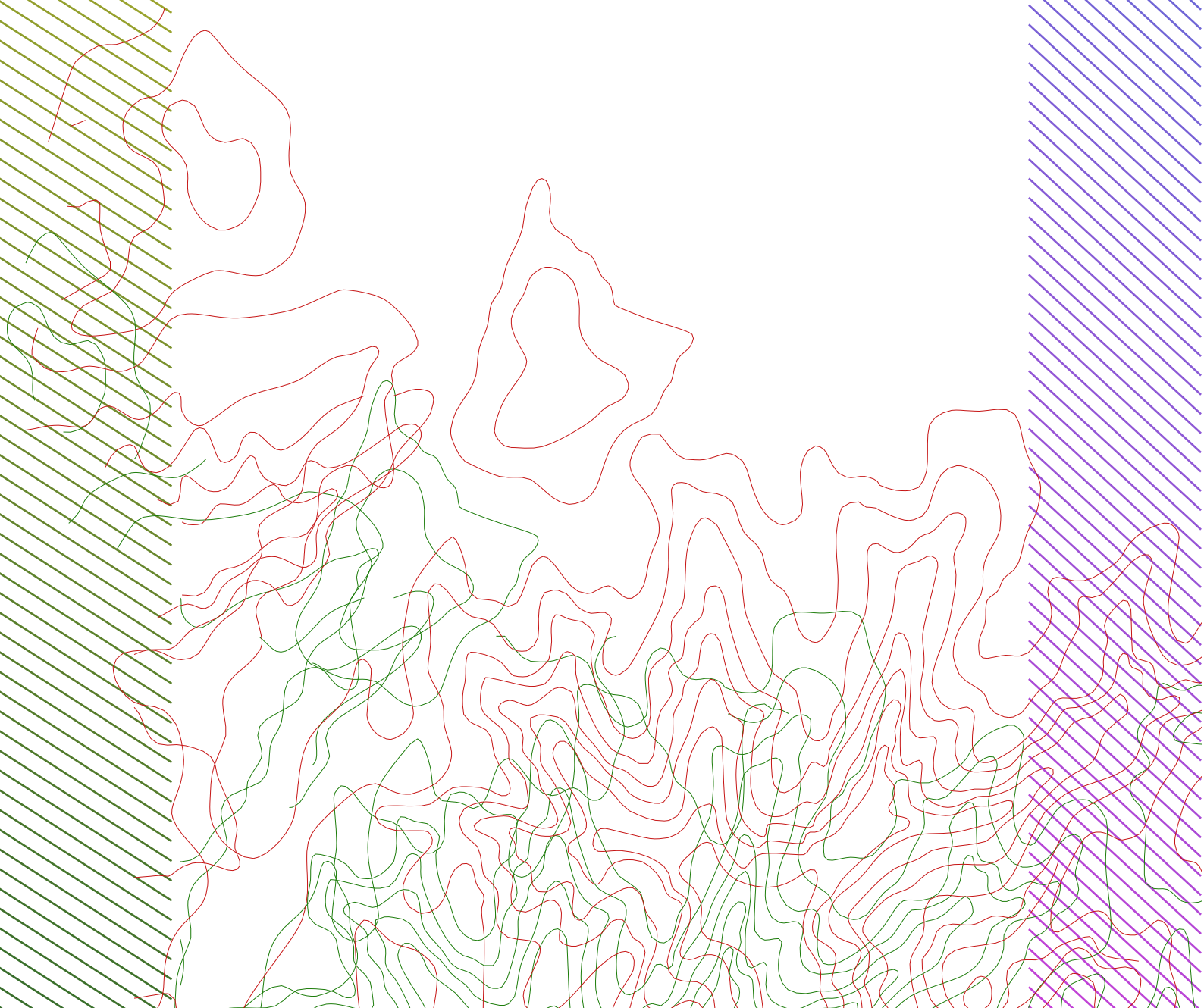
Session IV

New Tools, New Approaches and New Understandings



RETHINKING THE FUTURE OF URBAN DESIGN; AS A NEW INTERFACE, THE DIGITAL TWINS CONCEPT

Güzin Konuk

Prof. Dr., Konya Food and Agriculture University
Department of Interior Architecture
guzin.konuk@gidatarim.edu.tr

Navid Khaleghimoghaddam

Assistant Prof. Dr., Konya Food and Agriculture University
Department of Interior Architecture
navid.khm@gidatarim.edu.tr

ABSTARCT

Related to urban design, considering the users' expectations, and meeting their requirements are gradually neglected. In such a situation, city and planning issues standardize expectations with monotonous solutions. However, in the context of the smart city, it is necessary to review the problems by creating data-based solutions. Today, such environment and developments are defined as the 4th industrial revolution. The main problems or questions raised are how urban design could come across the new infrastructures such as artificial intelligence, cloud computing, robots, neuroscience, 3D-4D printing, and what kind of incentive responsibility urban design takes. It is necessary to create a design solution to face its psychological necessity. In this regard, brain research (mental process research) has become a contemporary subject, and by using experimental approaches, neurologists have physiologically started to investigate the process of perception. Therefore, it is believed that data incorporating neuroscience findings into the urban design provides a new way or perspective for urban design. In this context, by applying techniques such as virtual reality (VR), EEG, ERP, and fMRI it would be possible to visualize and record the activation of the brain areas along with the perceptional mechanism. So, such a situation provides the possibility to objectify the users' experiences and mental processes; also, it makes the possibility to measure the psychological impacts of the city on users. Thus, in designing the concept of the "city of the future" it would be the right approach to integrate the data obtained from the brain behavior with the urban design process and convert the relevant data to computer technology. The human brain and its uniqueness have an effective role in this process. In this important process 'digital twins' concept' and its role in urban design and the city, make it readable by mental images, by bringing it together with both brain systems and computers. In this context, computer learning algorithms can submit both formal and structural meaningful solutions. This research represents both computer approaches and spatial perception in transitional periods, integrating artificial intelligence by city-urban design-human scale. This research is trying to solve the relational cycle between virtual reality and visual reality, by real-world data and creating a new interface as a resolution.

Keywords: Virtual reality; artificial reality; cognitive psychology; new interface; digital twins concept

1. INTRODUCTION

Cities reflect our future. We are turning to technology today to scale our urban needs, and we are relying on technology-based approaches for the future in our environment, developing innovative and creative solutions to become "smarter." City and planning work is gradually forgetting all urban design requirements, standardizing expectations with uniform solutions, producing data-based solutions in the context of the "smart" city, and rescaling problems (Klaus, 2016).

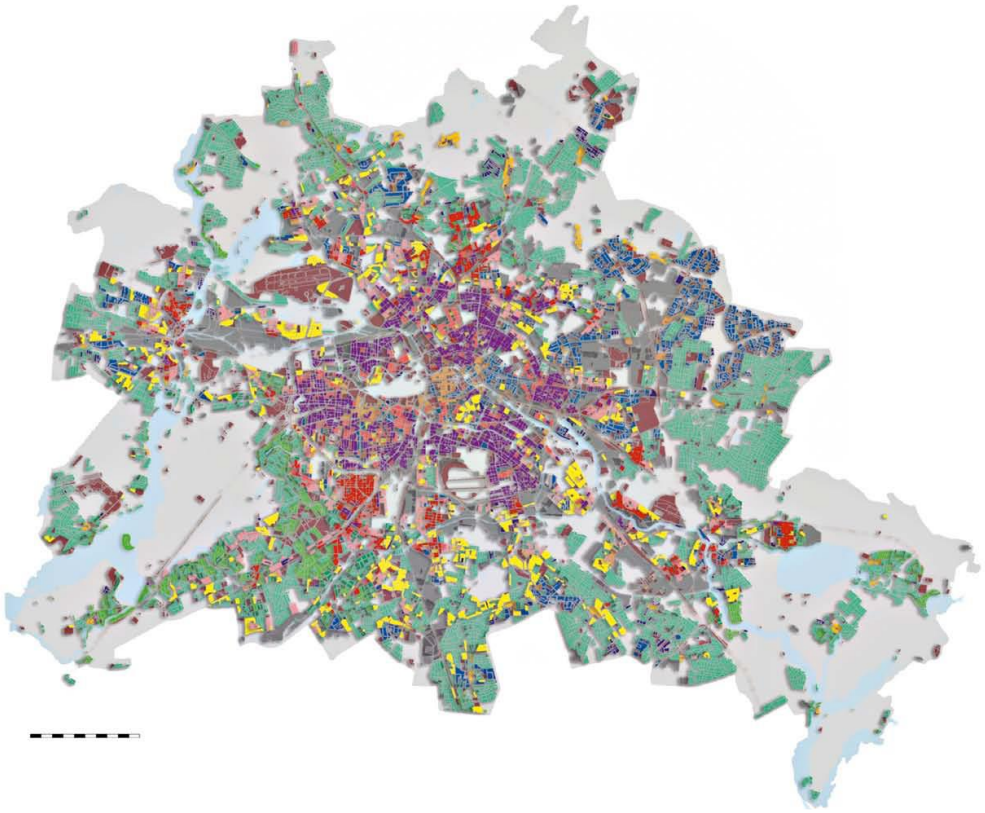


Figure 1. Berlin strategy, Berlin 2030 urban development concept
(Senate urban development and environment department)

All these developments and trends should not turn the environment in which we live, and especially our requirements, into a testing ground read-only based on digital data. Instead of turning our future into a new urban laboratory, we should be able to make sense of our cities by interrogating them with urban design and bringing people together. Today, all these environments and developments should re-evaluate this transformation phenomenon, which we define and structure as the 4th industrial revolution, with the trilogy of planning-design and urban dwellers, research, focus on innovations, and reorganize the spatial reflections of the developments (Mingallon and Mazorra, 2021).



Figure 2. Re-urban design based on digital data

Urban design and urban designers are key players in the answer to all problems. Urban design rethinks the livable urban environment, offers solutions that overlap with people to make it less fragile, and refines the way it reconfigures by using information technologies. For this new world trio, which is defined as digital-physical-biological, we inevitably must close or reduce the gap between scientific efforts and this triple structure in light of developments. The phenomenon of digital technological transformation, which we encounter in the 21st century, should also meet with a comprehensive new perspective in the field of urban design and add new dimensions to human-space interaction. Problem: how new infrastructures like artificial intelligence, cloud computing, robots, 3d-4d printing will meet urban design and how urban design will take incentive responsibility here. In addition, on the one hand, the question of how data technologies such as the Internet of Things, augmented reality, and virtual reality (virtual reality) are evaluated in the field of urban planning comes to the fore, on the other hand, solutions are worked out for the question of how the connection between the visual world and virtual reality should be solved. Just like the bridge, it builds between urban planning and architecture, the urban design project should be a bridge between the physical world and the digital world, defining this interface by deepening it.



Figure 3. Digital technological transformation in urban design

2. URBAN DESIGN; A NEW INTERFACE

This fragmented and separated information environment between the virtual world and the real world has negatively impacted the planning environment with digital developments and concepts. Planning and urban design have increasingly become soulless, mechanized, and mundane solutions. These proposed solutions mostly use computer technologies and make no effort to integrate with the real environment. This new theoretical perspective, defined as the "digital twin concept" (digital twins), seeks a solution to this fragmented unity in purpose (Qi et al., 2019).



Figure 4. Enabling technologies and tools for digital twin

Here, the digital twin of the real and virtual worlds, which forms a new interface with urban design, meets virtual reality in the smart urban environment and realizes the expected integration and creation of solutions. This paper explores how urban design will be a solution based on the discourse of "seeing is believing" with urban design. The result is an innovative view or solution that urban design can be an interface between the digital and the real world. The discourse presented; reads together the visual/visual dimension of urban design and its intersection with the expected digital/virtual environment (Mingallon, 2020).



Figure 5. Enabling technologies and tools for digital twin

What is to be proven is the dilemma of how the human brain perceives and analyzes the event. The concept of digital twins and the principles of urban design have been read together using computer technologies, and this dilemma has been merged into an innovative and scientific model of results. This research also provides an answer to the question of how to solve a cycle where real-time data and city visualization (visual reality x virtual reality) match virtual reality (Jiang et al., 2020).

3. REAL-WORLD AND URBAN DESIGN

3.1. URBAN PLANNING DIMENSION

This section presents new urban plans for the future in the phase of the relationship between urban planning and urban design. The aim is that the future view of the new city plans for the years 2030-2050 are highly digital and turn into simple representations that are dense in content but easy to understand. These plans almost resembled urban designs, and the plan visualizations evolved with the quality of digital designs. The examples of Helsinki, Prague, and Berlin are reflected in the designation of the schematic narrative and visual relationship.



Figure 6. Helsinki city plan, vision 2050

3.2. URBAN DESIGN DIMENSION

In this section, urban planning and its real-world (visual reality) are confronted with the digital world (virtual reality). The goal is to bring together principles of urban design with artificial intelligence (AI) and ensure that urban design is an interface. In this context, the principles of urban design and learning computer augmentation can be listed as follows (Walters et al., 2004):

1. principle of urban planning; access and movement Artificial intelligence meeting: raw materials/connections

2. urban planning principle; location; Meeting artificial intelligence; data management/logical orientation

3. urban planning principle; image and emotion **/** *Meeting with artificial intelligence:* visual impact

4. Urban planning principle; hash functions **/** *Meeting with artificial intelligence;* visualized modeling

5. *Urban design principle;* spatial awareness **/** *Meeting with artificial intelligence;* creating awareness

6. Urban design principle; spatial quality Artificial intelligence meeting; enhanced intelligence/prediction

7. Urban design principle; local context Artificial intelligence meeting; support systems tool/learning

The urban design process is the adaptation of the analytical analysis extensions of the urban design principles presented and developed by the human learning-based cultural accumulation to the computer-based learning process. This analysis reveals pattern-based automation.

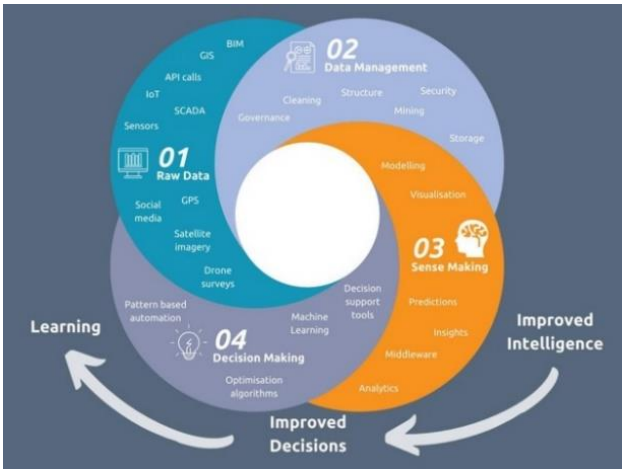


Figure 7. Urban design principles and learning-based computer expansions

3.3. HUMAN DIMENSION

The human brain and its functioning have gained new dimensions and developed rapidly with quantum physics and brain research of the 21st century. It has turned out that the phenomenon of being oneself is a learning dimension of the brain and therefore can be developed or controlled. The function of the human brain concerning space and environment (neural arc) has made the workflow of brain and neurons comprehensible, and it has been found that through association with space, commands not occurring in the human-space relationship, or commands that are dismissive, can be read by brain responses and computer technologies. In urban planning, the question of how individuals perceive the city has been answered with measurable methods. The question of how people perceive and formalize their environment is rooted in the connection between the visual world and the human brain as representation in the memory of "mental representation." Based on this explanation, visual presentations and semantic components provide the opportunity to compare both human perceptual presentation and digital artificial intelligence with advanced learning outcomes. In particular, Kevin Lynch's studies of the Boston cityscape are the most productive examples in this context. The computer image of the city with real-world and individual legibility (1960) takes us to new dimensions of urban design (Filomena et al., 2019).

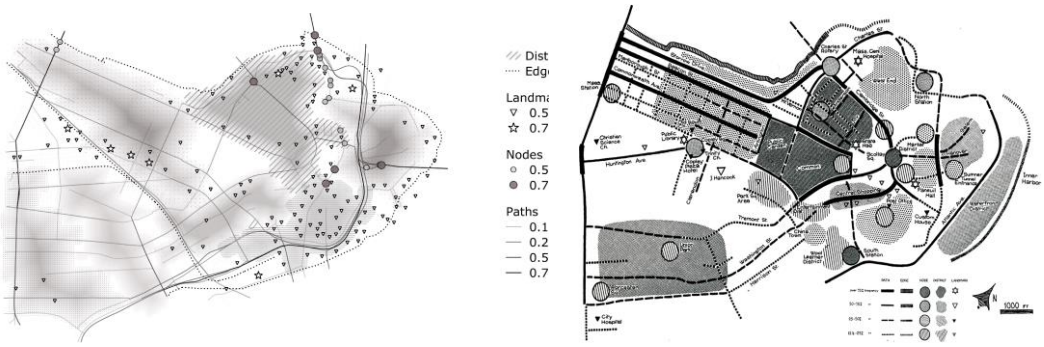


Figure 8. Boston city image

In this context, studies on urban navigation based on virtual reality (VR) have focused on investigating the factors that cause people to change their preferred spatial orientation in different environments and influence brain activation. The results of these studies showed that specific regions of the human brain (hippocampus, parahippocampal, frontal, temporal, etc.) are related to environmental information processing, spatial preference, and spatial orientation (Yang et al., 2021; Lin et al., 2015; Chiu et al. et al., 2012; Gramann et al., 2010). The brain functional examinations conducted at the urban studies have revealed that people use only one frame of reference (monument, tower, mosque, square, edges, corners, etc.) for their spatial preferences and directional choices. Indeed, these are the components that Kevin Lynch has noted concerning the image of the city (traces, edges, regions, nodes, markers) (Julian et al., 2018; Goeke et al., 2013; Riecke et al., 2008). Activation of the hippocampal region is commonly associated with navigation. However, the functions of this region also support spatial memory processes. From this perspective, the relationship between the sequential and episodic experience of the city and the formation of cognitive maps can be associated with both spatial and conceptual dimensions.

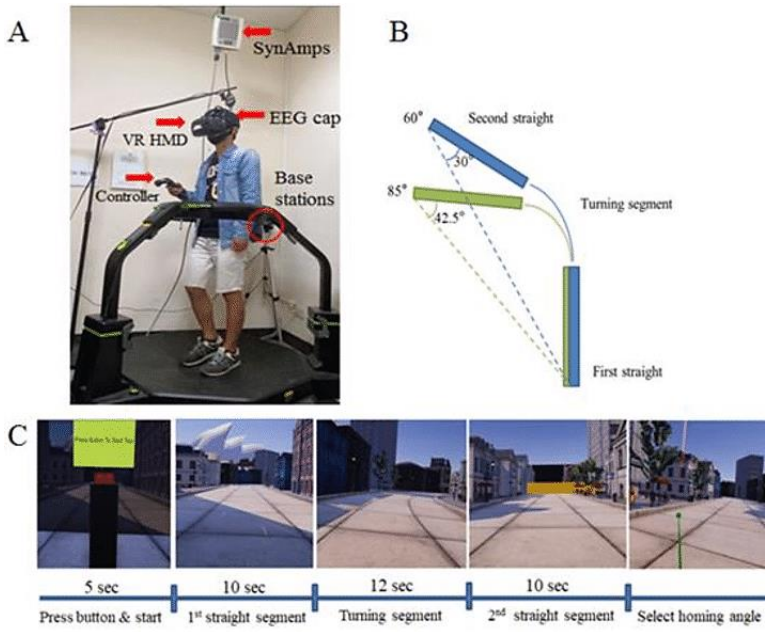


Figure 9. Urban design and VR

In studies of the city, it is very important to learn how the factors that influence the encoding and retrieval of environmental information are related to spatial memory and how neuronal activation contributes to spatial cognition. The human brain aims to fix objects in certain positions in space, minimizing the information that needs to be stored in memory and encoding spatial information. The human brain begins to learn target locations in a new environment and attempts to group the acquired information into specific clusters in terms of functions or semantic relationships. At the same time, these clusters are grouped into higher-level structures as cognitive maps.

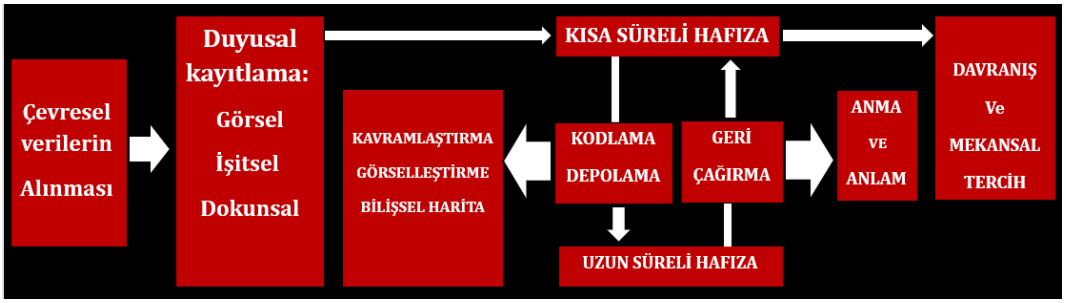


Figure 10. Brain perceptional process

If we study the brain's view of the city, we can learn how to simplify and store everything. In this case, data received from the environment is stored and retrieved by the brain in a three-step cognitive process. In the beginning, screening is performed, and the mind focuses on selecting the most important information. Therefore, some received information is transferred to short-term memory, where it is stored and retrieved. In this context, the mind classifies the additional information in a meaningful way and stores it in the files in the brain (Solso, 2002). Such a way of classifying and organizing data is called conceptualization. After this phase, the information enters long-term memory and is encoded and retrieved for as long as desired (Conway, 2001). In this context, it could be the right approach to consider this characteristic of the brain in the design of the future city concept, simulate it with Kevin Lynch's image analysis and analyze it with computer technology.

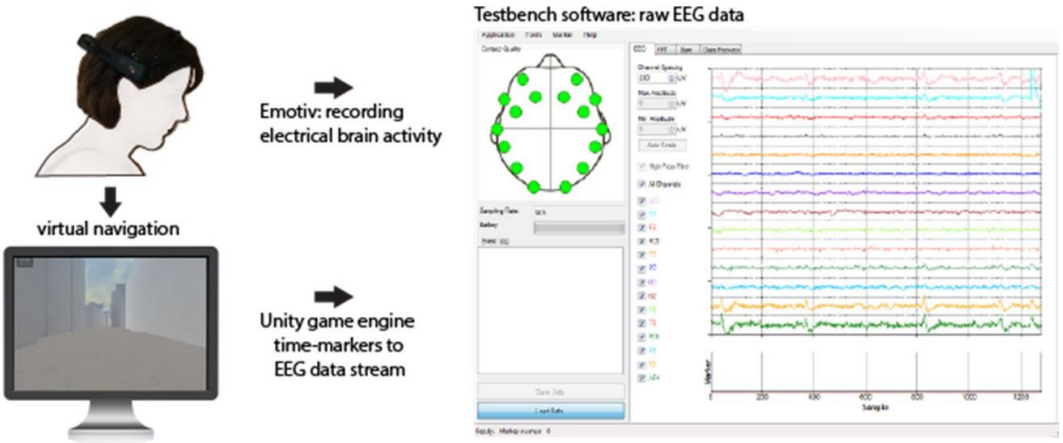


Figure 11. Measurement of brain responses (EEG) in urban space

The study of urban movement, navigation, spatial behavior, and urban memory through brain imaging techniques holds great promise for urban planners to realize abstract concepts. Advances in mobile neuroimaging technology (mobile EEG and fNIRS) suggest that this will soon be possible, and researchers are beginning to explore the technical challenges and solutions to turn environmental information into actionable data. Therefore, future research could focus on spatial behavior and experience with different environmental conditions. Such an approach opens new avenues for further studies in urban environments. It provides the foundation on which new hypotheses can be developed and the tools to control experimental conditions based on quantitative urban modeling in innovative neurophysiological virtual reality studies.

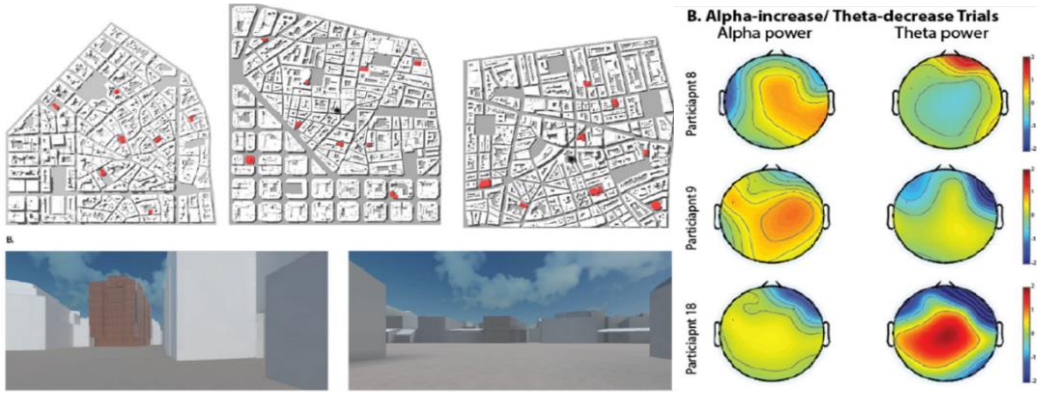


Figure 12. Brain stimulation (EEG) in urban space

4. CONCLUSION

It results that urban schemes are easily perceivable solutions for the design of urban plans. The plans have been simplified by artificial intelligence and are made consistent with the real world. In this relationship, urban design came to the fore and helped the process with visualization to create legible solutions. With legibility, the city can meet the urban design and the city. If the city and its plans can be read, if the readable plans have an urban dimension, then they can establish a relationship with the memory of the city dweller. It will therefore be sustainable if urban reality and the virtual world can be superimposed. It is determined that the existing or proposed urban pattern will be remembered based on shared memory. When the legibility and sustainability of visual and virtual data find their way as a memory into the shared memory, the digital twin worlds that we define as the concept of digital twins will be able to meet. The data of the computer learning algorithm is present when it embodies its representation in the individual memory. When the 3-dimensional index makes the information readable with the image, a better decision is made, and the success of converting the object into semantic data is achieved. Individual images are imaginatively created in memory and transformed into a social perception that can be mapped with digital technologies, urban planning, and urban design, successfully merging visual and virtual reality through their intersection.

Digital presentations manage the relationship between humans and the environment with a mental memory image that we can properly use in the context of urban design using computer learning algorithms. Urban planning is an important interface between the virtual world and the real world. It selects and presents the differences and similarities to be a solution in this forward-looking order of relations. Thus, it is useful for the citizens to distinguish them in their memories. This interpretable environment manages the human-environment relationship with perceptual maps. The human brain and its unique characteristics also play an active role in this process. In this important flow, the city and urban design can use the concept of the "digital twin" to merge both the services of the computer and the nervous system of the brain, making their future role legible with a mental image. The city of this three-part union; must succeed in the planning-design-human scaling so that the urban design processes the information related to the virtual and real world with a human-related index and at the same time, fulfills the interface task by transforming it into semantic information. With its research on spatial perception and its modeling approach, this research represents an inevitable part of the analysis of urban dynamics. In this context, computer learning algorithms can provide formal as well as structural and semantic solutions. This research uses both computational approaches and integrates spatial perception with artificial intelligence developments in the face of change.

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FROM DIGITALIZATION OF SPACE TO THE DIGITAL SPACE

Emine Yıldırım

Abdullah Gül University
musitect@hotmail.com

Burak Asiliskender

Prof.Dr., Abdullah Gül University
burak.asiliskender@agu.edu.tr

ABSTARCT

In this study, digital space interpretations through theorists from different disciplines such as Mitchell and Manovich, and the concept of transition from digitalized space to the digital space through bank architecture. With the inclusion of digital technologies in the space, hybrid spaces have emerged as a transitional form between physical and virtual space. These transformations in the space have reduced the need for the physical environment to interact with the user. Decentralized distribution channels and web 3.0 have important implications for the idea of virtualization of space. Considering both the distributed network protocol and the transaction structures of cryptocurrencies that do not need physical reality, it is observed that many leading banks and financial institutions have adapted their headquarters and branches to this transformation. It was found meaningful to examine the transformation in bank branches within the scope of the study as the area where the transformative effect created by the relationship between finance and technology can be observed the fastest in the user and the place. The digital interfaces of the space, which has been needed by banking transactions since the first periods of its history and shaped accordingly that banking transactions today, have been discussed and it has been tried to predict the way the space will be handled and design decisions in the future.

Keywords: digitalization, spatial interaction, bank branch, virtual reality, augmented reality

1. INTRODUCTION

The Technosphere of the Digital Age has created a new kind of Sociosphere. In the context of the Sociosphere, it is necessary to foresee the people of the future while creating a discussion ground for the spaces of the future. Digital transformation is important and opens the door to a brand-new era of human development. Big data, artificial intelligence (AI), the Internet of Things (IoT), cybersecurity and other digital applications will profoundly change systems of societal standards and values in similar ways to the previous development the invention of the printing press (550 years ago), and the technological and social confusion since the beginning of the Industrial Revolution (Jones, 2018). As algorithms become involved in daily life, autonomous vehicles and artificial intelligence have caused the question of "what is being human" to be addressed in a different context, for which different field of science and philosophy have sought answers for hundreds of years.

According to Toffler (1996), society continued its development in three eras. While the pioneer of these ages is the Agricultural Age, another is the Industrial Age and the third is classified as the Technology Age we are currently in. This developing new "wave" brings with its new regulations, from the way we do business to the way we interact with people, and offers us a new consciousness. Agricultural and Industrial revolutions until the Digital Age occasioned great social changes in their own time. For instance, with the Industrial Revolution, the use of public housing became prevalent, and the places where working and living were located in different parts of the city. This demonstrates a significant change in urban design after the industrial revolution (Toffler, 1996). With the technology revolution and globalization, production has no longer been done only on the workbenches and the working culture managed by computers has developed. Now, the dependence to the place has decreased and the scale of the city and space has moved to different dimensions. On the other hand, the developments brought about by the industrial era in material and building technology are seen as a critical step on the way to the transparency and dematerialization of the space. Subsequently, with the digital age, the dimensions of dematerialization and its effect on perception have increased. Referring to Toffler, who mentioned that the new age is more democratic, it can be said that space has also become more democratized in this age. As well as the potential positive effects of the third wave, Toffler (1996) refers the social state of mind and loss of selfness experienced in the transition from the second wave (Industrial Revolution) to the third wave (Digital transformation) later in the book. He explains this situation with the geographical and psychological spread of capital (imperialism), which Deleuze and Guattari (1983) define as schizophrenia, and the liquidation of existing meanings and beliefs.

The main question of the study is what does transform the bank space under the effect of digital technologies and virtualization of space. The aim of the article is to conceptually examine the digitalization of space with the effect of advancing technologies. By examining the digitalization process of the space; the circumstance of the space in the Digital Age will be understood: Its transformative effect on the society will be discussed and a conceptual design framework will be foreseen for the spaces to be designed in the future. The scope of the study is examining banking space design and interaction between actual and virtual space in the Digital Age.

2. DIGITAL TRANSITION

Digital technologies in the early 1980s changes society, economy, culture and almost every aspect of daily life. Broad definition of the digital was given in the study of Wang as follows; 'translate all inputs and outputs into binary structures of 0s and 1s, which can be stored, transferred, or manipulated at the level of numbers, or 'digits'(Lunenfeld, 1999; Wang, 2019). According to Cambridge Dictionary, "digital age" means "the present time, in which many things are done by computer and large amounts of information are available because of computer technology". As understood by the definition, most of things related with the computer technology and have entered our lives as an output of this age. Digital changing is important and opens the door to a brand-new era of human development. In the years when digital technologies began to develop, some theorists made accurate social predictions about the future from today. One of them is McLuhan's (1994)

perspective that defines as "The Global Village", the temporal and spatial distinctions lose their importance in the connected world, which is getting smaller with globalization and increasing the communication between individuals with digital tools. According to McLuhan, suitable spaces have begun to be designed in this era for interaction with the transforming human body with the change in technology. Similarly, with this new system, Meyrowitz (1985) states that the redefined relationship between physical space concept and the experience were disconnected in this period.

In web 1.0, where computer graphics are not developed, the user in the role of passive reader turns into a dynamic content producer whose focus is interaction with web 2.0. In web 2.0, which is defined as Web of Communication (Müller, 2010), Toffler calls both the producer and the consumer as Prosumer (Producer and consumer). The third generation of the World Wide Web (web 3.0) also known as Semantic Web. Data integration is the foundation of web 3.0. "Display only" data is transformed into meaningful information that software agents can identify, evaluate, and provide using metadata. In web 4.0, which is associated with Industry 4.0, machine learning and Internet of Things (IoT) concepts are related. For example, it is one of the first examples of web 4.0 that amazon.com recognizes the user and makes personalized recommendations in more than one visit. The transfer of this online functionality to the physical world is expected to be one of the most critical developments of web 4.0 (Patel, 2013). In addition to computers, it is possible to communicate and perform transactions through the Ubiquitous Computing Network, which enables simultaneous interaction with mobile tablets, phones and other electronic devices in daily life, anytime and anywhere. In the context of Müller's (2010) connection between the generations and technologies of the web and the body, the medium turns into an extension of the body with web 3.0. Web 4.0, which is categorized as Always On, ensures that data can be continuously received and processed with face recognition and retina recognition technologies (Figure 1).

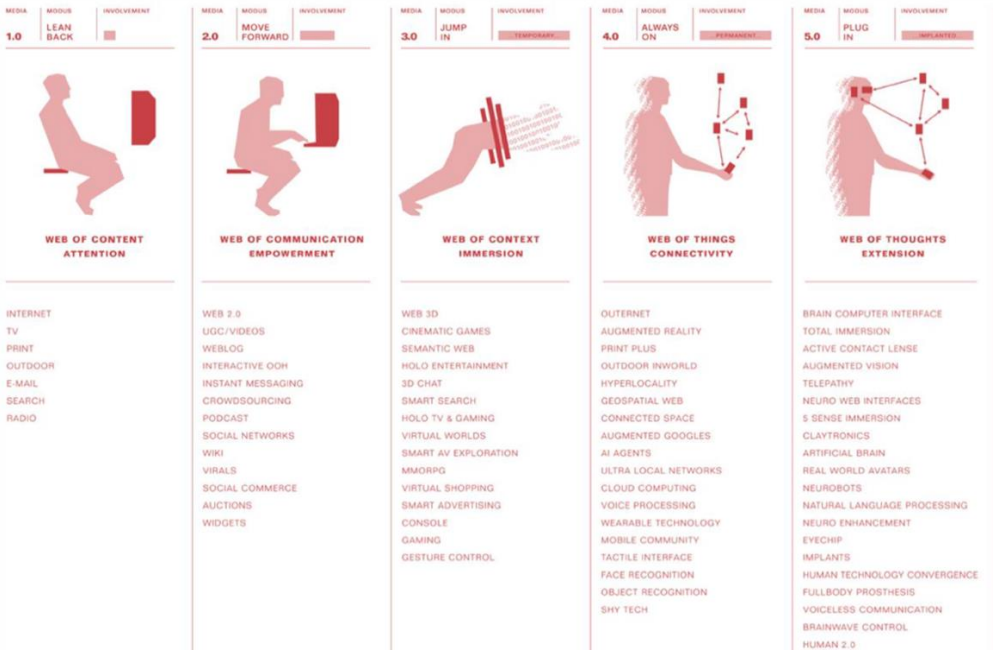


Figure 1. The relationship between new technologies and the body extension (Müller, 2010; Kut, 2013)

Currently, the web is emotionally neutral and web 5.0, in other words Symbionet web, allows users to interact with the avatar created by neuro technologies that detect their emotions and respond with real-time facial expression. With the inclusion of the Internet in social life, society has turned into a "network society" as defined by Castells (2013), and information has taken on a digital form. Digital information has created a new definition of culture, and this digital culture is a concept formed as an extension of culture in response to the needs of the new age caused by modernism and capitalism (Gere, 2002). It is emphasized by many social theorists that today's social life and culture, which is also shaped by digital communication forms, will experience a more effective transformation than the social and cultural transformation that occurred with the industrial revolution in this new age. For instance, Toffler (1996) states that people who have been connected to the land for 10,000 years, broke away from the land with industrialization, changed their cultural structures and basically adapted to the new factory working order; moreover, he indicates that the family structure, education style and social structure have been transformed in this direction in order to ensure harmony.

Developments in digital technologies have enabled the creation of virtual environments, and the concept of virtual reality (VR) and augmented reality (AR) has been put into practice. Virtual reality is defined as a communication component that takes place in an artificial environment produced by a computer and in which humans are included as a part of this system (H. Regenbrecht & D. Donath, 1997; Vatansever, 2019). According to P. Milgram and F. Kishino, Augmented Reality (AR) is often confused with Virtual Reality (VR), but it is possible to characterize AR as a type of VR. Both manipulate the experienced reality, but their relationship to the real environment is different. In AR, as in VR, the user views the environment through a device, but while VR offers a fully synthetic environment, AR provides the opportunity to experience the virtual in the real environment of the primary image. AR is a technology that enables the articulation of virtual elements such as pictures, models and sounds on the real world. It is thought of as the middle ground between the virtual environment and simultaneous presence (Milgram & Kishino, 1994). Augmented reality is defined as taking digital or computer-generated information and tactile sensation and superimposing them in real environment, regardless of picture, sound or video. Although visual sense comes to the fore on the basis of this technology, current developments can be used to increase all senses technically (Kipper & Rampolla, 2012). According to Azuma (1997), AR doesn't completely change reality. combines physical and virtual objects through interaction within the framework of reality.

2. DIGITAL TRANSITION OF SPACE

The usage of digital tools in architectural design has led to the transfer of existing approaches and then to a means of thinking differently. Traditional methods have left their place to experimental and experiential architecture. The Sketchpad the first computer graphical interface designed by MIT professor Ivan Sutherland in 1962 as part of his doctoral thesis. According to Sutherland, human-computer interaction, which is reduced to written communication, is accelerated through graphic drawings and a new field is opened. The effect of digital technologies on the experience of space has been realized with the physical integration of technology

into the space. With this integration, the space, which started to become digital, has turned into a digital space with mobile technologies, touch systems, augmented reality, mixed reality systems, etc. that are included in our daily life. Humans have now become able to experience space even without physical space. In the past, the centralized body and the body's needs to the physical space have been broken with the exclusion of the body with information technologies, the decentralization of the physical space and the new space experience thanks to the widespread information networks formed by the interface and interaction technologies (Kut, 2013). The digitalization of the space, which started with the articulation of hardware and software technologies, has started to transform into a new digital space, where technology is no longer just an add-on but begins to define the space itself. In that point, spatial boundaries are blurring. The boundaries of social space have become blur with electronic communication tools such as telephone, computer and radio. The boundaries are blurred as the physical medium is no longer needed to connect with the digital medium. This uncertainty will become even more uncertain with VR, AR and MR technologies in the future.

The traditional relationship between physical space and sociality, which was quite evident before electronic media, has changed with the Third Wave. Meyrowitz (1985) defines this as the transition to the era of "spaceless". In this age, the role of physical distance in new communication systems and human relations has been greatly reduced. In this age, it is argued that the goal of architects in the production of space is no longer just to place the digital installation of electronic devices, but rather to imagine and create the digital environments that are desired to be experienced (Mitchell, 1996). What does it matter? Why should we care about this new kind of architectural and urban design issue? Mitchell addresses his questions primarily from an economic and political perspective. He says that it is necessary to understand what is going on in order to ensure the continuity of the architects as the determining active subject on the character and content of the space, the city and even the society. If the transformation is understood, alternative futures can be envisioned and opportunities for designers to resist, organize, plan and design are created.

Ubiquitous computing network are an important element in the emergence of augmented space. Manovich (2002) named this new type of environment as Augmented Space and briefly defined it as covering the physical space with variable dynamic information. Manovich was giving the news of the return to physical space and body with the concept of Augmented Space to the discussions of virtual-reality dilemma, disembodiment, and separation from physical space (Manovich, 2002; Kut, 2013). Revealing the phenomenon of new space surrounded by electronics and visual transmission of information, Manovich emphasizes the necessity of considering the design of this new digitalized space as a fundamental architectural problem. As Manovich (2002) states, at this point where technology comes in its relationship with space, is space reduced to a physical support surrounded by digital technologies? Or are we facing a new spatiality where knowledge and experience become fluid in physicality by transforming the static structure? Augmented space, which acts as a bridge between physical and digital space, allows for new spatial interaction and experience.

Hybrid spaces are defined by Adriana de Souza e Silva as mobile spaces that are constantly connected to other users and environments by the Internet and portable devices, and formed by their mobility. Silva (2006) underlines that hybrid space is conceptually different from mixed reality, augmented reality, augmented virtually or virtual reality. According to Toprak (2019), without the traditional distinction between physical

and digital spaces, when there is no longer a need to go outside the physical space to connect with digital environments, a hybrid space is formed, the boundaries between digital and physical spaces are blurred. Especially portable devices, interfaces have allowed us to experience virtual space in actual space. Physical and virtual space is no longer without dialogue due to the structures of mobile devices that make it possible to use the internet anytime, anywhere. Always being online blurs the distinction between actual and virtual space. The hybrid space is constituted by a portable device connected to the Internet, by the user who is constantly moving outside. Augmented spaces, created with digital technologies integrated into the physical space; virtual spaces that do not need physical space created entirely in virtual interfaces; and hybrid spaces, which created through portable wireless technologies have been included in the architectural literature. The spaces of the future will consist of interconnected intelligent components that are aware of human existence, can communicate, evaluate and act.

In Figure 2, the new spatialities created by the interaction of augmented space, virtual space and hybrid space with physical space-virtual space are schematized. According to the graphic, interaction with physical space and digital interfaces is associated with augmented space. Virtual space is formed by the interaction with virtual space in physical space and by interaction with digital interfaces and virtual space without the need for physical space in today's technology. Hybrid space, on the other hand, creates similar interaction graphics with augmented space and virtual space graphics.

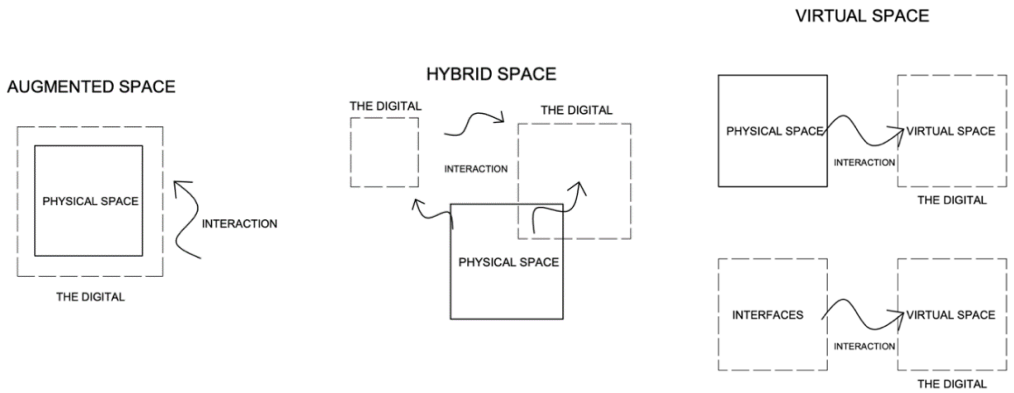
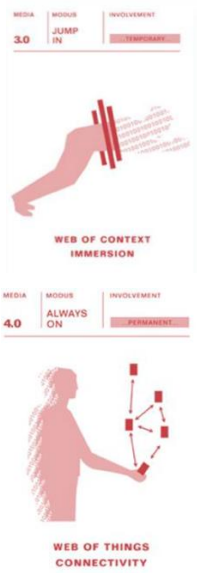
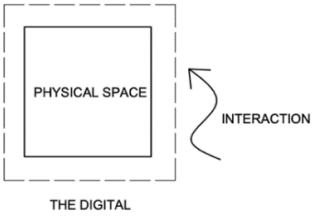
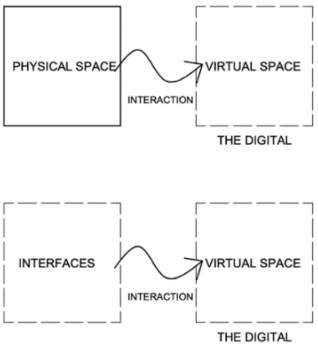


Figure 2. Interaction graphics of augmented space, virtual space and hybrid space respectively

Benedikt (1992) describes this space as a niche space between the virtual and physical worlds. According to Schmitt (2001), architecture in 2010 will inevitably be divided into three: physical, virtual and hybrid. Architecture has become more dynamic with spaces formed by the combination of technology and mental space (Augmented Space, Virtual Space, Hybrid Space). Although the structure of the physical space still does not fully allow for the types of spaces discussed, it is predicted that the defined space situations, in which technologies have digitized the physical environment by integrating it, have been able to fully break away from the physical reality with invisible technologies, and a transition to a new space state without a definite shape and material will take place in the future. In this way, the spaces of the future will be able to meet the mental needs of the user as well as the physical needs.

Table 1. Augmented and virtual space graphics and relation with web classification

			Relation with Müller's web classification	Space graphics
Manovich	"New spatiality that knowledge and experience become fluid in physicality by transforming the static structure."	Augmented Space		
Mitchell	"Sace is no longer just to place the digital installation of electronic devices, but rather to imagine and create the digital environments that are desired to be experienced."	Virtual Space		

In the theoretical framework, Manovich and Mitchell's inquiries, determinations and predictions were associated with the development classification of the web during the digitization of space (Table 1.). The reason for this is to accurately predict the impact of people's interactions in the digital environment on their daily lives, public space, and the buildings that make up the built environment. In particular, individuals who have become more active with Web 3.0 have become content producers as well as consumers. With the contribution of these developments in the digitalized space of the human being at the center of the design, their interaction with the space is increasing and humans can actively include the space in his daily life. With the development of Web 4.0 and 5.0 and its inclusion in space design, the need for physical space will decrease and the concept of virtual space will move to a more consistent and meaningful point in practice than its current situations. For this reason, virtual space has been associated with web 4.0 and web 5.0, which will follow starting from web 3.0. Space can be experienced, especially if the web is always on and plug-in, and the communication with technology and thoughts as well as emotions are included in this interaction.

Digitalization Of Bank Branches

Since human relations are also important in banking, they still need physical bank structures to communicate closely with their customers. Banks closely monitored the changes that occurred throughout history and adapted quickly. While adapting the technology to their operations and branches, banks took the customer to the center. Today, many banks are trying to adapt digital technologies to their branches. The spatial structure changing continues to transform with technologies such as face recognition, online video wall art installation etc. which are being used by banks today. With the integration of digital technologies into the branches, bank branches digitalization has started. Changes brought about by these technologies integrations in the space are analyzed morphologically and shown with a time-chart (Figure 3). The selected technological examples are based on literature studies and field observations.

Atanasoff-Berry Computer (ABC) is claimed as an early "digital computer" in the Encyclopedia Britannica. The first digital computer was built in England in 1943. With the invention of digital computers that create the basis of other technologies, the finance sector has started to experience a magnificent change with the whole World. The transformation examples as follows: the back office disappears as the banking services and storage areas execute in the back office at the branches disappear with the use of computers. With this transformation, the existing space has disappeared and new space design necessity has emerged for the use of computer technology. In 1939 Luther George Simijan invented the Bankmatic automated teller machine (Hayashi et al., 2003) but in the scope of digitalization concept, online ATMs were based. Technology advanced ATM system was dated in the early 1970s (Hayashi et al., 2003). According to King (2019), when the first teller machines were launched in the 70s, in-branch tellers were used to helping customers. Referring to the views of Kamel (2005), ATM technology has increased the efficiency of the community, which lead to decreasing costs, and enhancement of quality to customer services. In the branch reviews, it is seen that ATMs lead to different alternative designs in bank architecture design. With the aim of 7/24 service, ATMs are located on the facade of the bank in order to provide services even if the bank is closed. In addition, individual

ATM terminals are located within the bank and without being connected to the branch are also observed. Structurally, it can be divided the ATMs into two; the front screen part which serves, and the rear part where the storage is provided. Tablets have enhanced customer-facing business processes, such as face-to-face counselling processes in the banking industry (Nueesch et al., 2014). The use of the tablet which known as GRIDpad created by Jeff Hawkins (Walker, 2011) and manufactured by Samsung, in banking dates back to 1989 (Judd, 2017). However, as of 2009, the developments in tablet technology have created the new generation tablets that we use in branches today (Fujioka, 2013). The tablet has caused both functional and appearance changes in the space. Ivan Sutherland presented the very first theoretical idea of Virtual Reality in 1965 (Kim et al., 2009). As claimed by Kim et al. (2009), Virtual Reality or also known as Virtual Environment is described by Sutherland (1962) as: "Make that virtual world in the window look real, sound real, and respond realistically to the viewer's actions". VR technology has been developed with web-based 3D graphic software and motion sensors. Distinctive service experience is provided to customers in areas created specifically with virtual reality technology. As stated by Liao et. Al (1999), the virtual banking system is presently in the forms of "ATM, phone banking, home banking and Internet banking". Since then, VR technology started to enter branches. This technology caused both functional and appearance changes in Branch design.

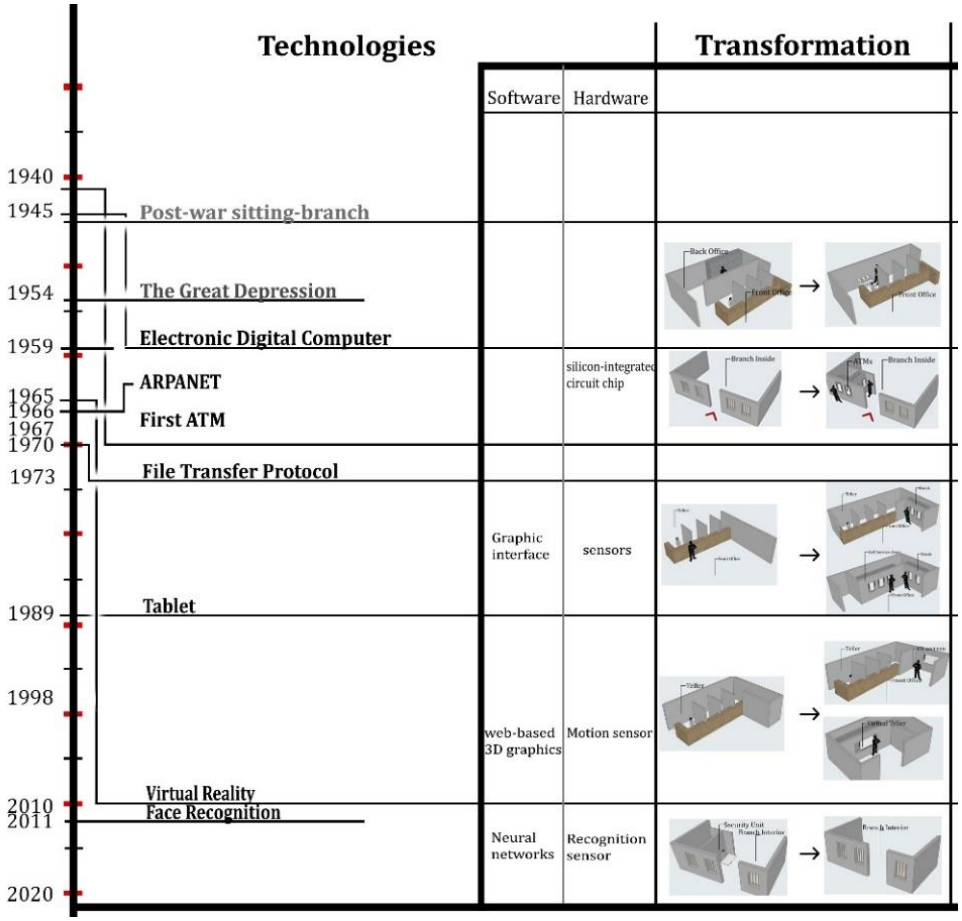


Figure 3. Digital transition of bank space between 1940-2020

Some studies show that the role of the branch must change in the future to survive. As a result of technology adoption diffusion and pressures resultant from shifts in consumer behaviour, if branches do not adapt the new design challenges, it will be seen the business model for such made completely unsustainable from a cost-benefit perspective. Many transactions that take place in banks are cancelled today or if they can be done through digital channels, this will reduce the need for a branch. According to King (2019), traditional branches will inevitably disappear unless they significantly change their operational practices. In the Branch Transformation in the Digital Era study conducted by Danny Tang (the Leader of Channel Transformation for Banking and Financial Markets at IBM) in 2018, new banking distribution channels; In terms of its experience-based flagship, sales and relationship with the customer, Satellite is classified as digitalization as self-service and mobile banking. In new service models, a shift from staff-assisted to self-service is observed as the branch becomes digital. However, these changes may not find immediate response in the customer experience. For example, with technologies such as interactive kiosks and virtual wires, customers can get support from staff who are not there to perform transactions within the branch.

Digital Bank Branches

Academic and sectoral studies show that the banking system has been digitalized to a great extent (Jatic et al., 2017). For instance, in 1997, one of the U.S. Federal Reserve economists highlighted that banking had evolved into the most IT-dense sector in U.S. (Cortada, 2007). This evolution was seen not only in the U.S. but also in each developed country around the world at the same time. However, while the transformation has started, many banks are still in the early stages of this transformation (Felländer et al., 2018). With the development of the internet, digital computer systems, block-chain (a system in which digital records of goods or money are digitally recorded and the transaction trace can be tracked) technologies, the definitions, usage methods and forms of money and banking transactions are changing. Until today, computer technologies are already used in the financial sector in the processing of transaction information, remittance, online payments, etc. used to perform transactions. With the turn of the millennium, banking channels have disintegrated and customers have begun to carry out their banking transactions through different channels. King (2019), predicts that in the future, banks will become even more embedded with digitalization and will be focused on experience and communication under the leadership of technology.

In the era of digitalization of money and transactions, banks focused on digital transformation not only reducing the number of branches and turning to internet banking, but also designing their existing branches and newly designed ones in accordance with digital innovations. The interior design of the new generation bank branches is more dynamic and this dynamic effect is emphasized by the lighting. The façades have wide spans and a store feature since the modern period architecture. In the new branch design, the counters between the customer and the teller are completely shifted to designs called “conversation bars”. It turns into more flexible spaces. With the digitalization of money, money exchange and other banking transactions have started to shift to digital channels. Digital interfaces in branches are used by the user to perform transactions directly in most branches, and this enables the individual to interact with the space and surfaces.

Just as the passive user in Web 1.0 became active with Web 2.0, people started to take an active position in the space with the digitization of the space. Space now interacts differently with each user and their experience and gains meaning.

One of example is the digitized branch of Credit Union, which opened in Rexburg. In this branch, there are a visual conference room, interactive kiosk and even a 3D printer corner. In addition to all these, the Rexburg innovation center makes their branches beyond the banking sector where the technology will be experienced. With the internet pages that allow digital branch navigation and reference to the physical space in the digital environment. Firstly, a 3D model of the branch is displayed on the bank's website. Branch entrance does not differ much from standard branches. Instead of the teller, there are two virtual teller kiosks at the entrance. For banking transactions, the user can individually conduct his own transactions by using the digital wall, member media workstation. In addition to banking transactions, the other most important feature of Credit Union's branch in Rexburg is that it creates a technology experience center for its customers. 3D printer and virtual reality experience spaces were created in the branch (Explore Rexburg Innovations Center in 3D, 2022).

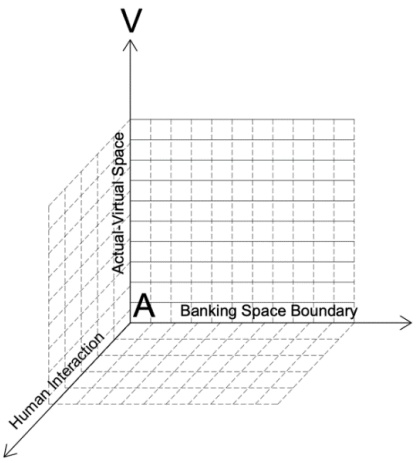
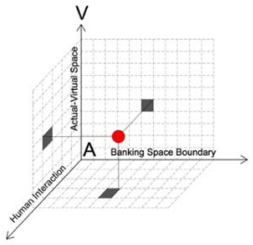
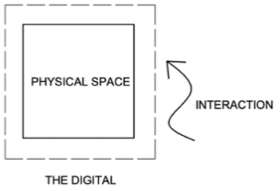
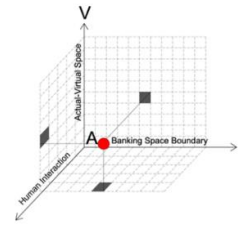
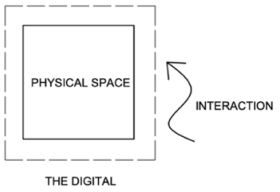
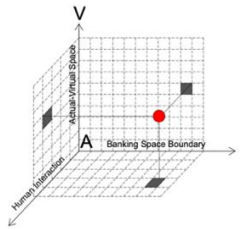
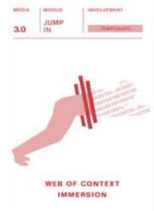
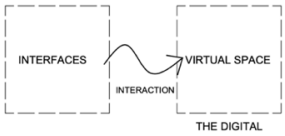
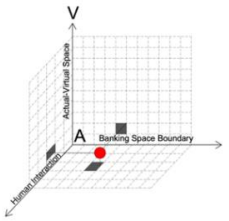
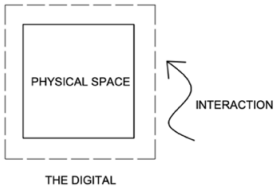
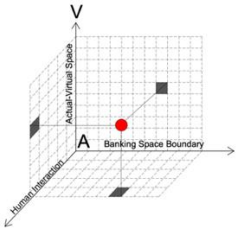
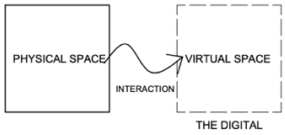
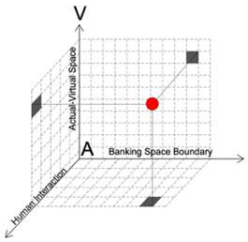
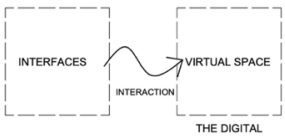


Figure 4. Proposed three-dimensional taxonomic framework for classifying

A 3D plane was created to examine the digital transformation of space and its relationship with space boundaries and human interaction (Figure 4). One extension of the 3D plane is actual-virtual space, the other extension is human interaction, and the third extension is the bank space boundaries. At the intersection of these planes, new technological elements in the space are examined. The actual-virtual plane defines the space situation from physical space to virtual space, applications, and transition to digital interfaces. Banking space boundary shows the transition of bank space boundaries with digitalization. In other words, whether a limited physical space is still needed for banking transactions with this new technology is being examined.

In the table 2. the selected technological examples are associated with Müller's (2010) web 2.0, 3.0, 4.0 and 5.0 classification. In the context of Müller's (2010) connection between the generations and technologies of the web and the body, the medium turns into an extension of the body with web 3.0. Web 4.0, which is categorized as Always On, ensures that data can be continuously received and processed with face recognition and retina recognition technologies. Currently, the web is emotionally neutral and web 5.0, in other words

Table 2. Digital technologies and bank space classified by 3D plane

Digital wall			
Interactive Digital kiosk			
Application Interface			
Virtual Conference Room			
Face Recognition			
Virtual Reality			

Symbionet web, allows users to interact with the avatar created by neuro technologies that detect their emotions and respond with real-time facial expression. For example, digital wall has been associated with web 2.0 user-internet interaction in terms of user-space interaction. With the digital wall, the user has switched from passive interaction to active interaction. Existing space provides relation with humans with actual space which is covered by digital technologies. Interactive digital kiosk, virtual conference room and robot greater also show 3D graphics feature similar to digital wall and are associated with web 2.0. Application interfaces, face recognition and virtual reality technologies are located further away from the origin and closer to the virtual space in 3D graphics. Human interaction also increases with this virtuality and the blurring of the bank space boundaries.

Today, the digital wall, interactive digital kiosk, virtual conference room and robot greater which form the intersection of physical space and digital space, are associated with web 3.0 and web 4.0 in the foresight of the future, and it is predicted that the interaction of the user with the space will increase with the support of technology and the transition from physical space to virtual space will increase. Application interfaces, face recognition and virtual reality are associated with web 3.0, 4.0 and 5.0 in the foresight of the future. The effect of these technologies on the space in the future is predicted to increase the hybrid characteristic of the space and to establish a space interaction with the technology which embedded in the body and space, anytime and anywhere.

3. CONCLUSIONS

Changing production and consumption patterns depending on the developing technology, digitalization and globalization in the information age have created today's consumer society. Cities and spaces designed as a result of this were designed to serve consumption due to the market conditions of capitalism. Space production has changed in direction with both the demands of the changing conditions of daily life and their demands on the production of space, especially after the post-industrial capitalist mode of production. The individual of the consumer society has begun to be defined as a Prosumer, that is, both a producer and a consumer, with web 2.0 and web 3.0, where interaction has become widespread. This new user profile interacts more with the space with digital technologies. The spread of this interaction has been realized with the digitalization of the space.

In the Digital Era where the individual is placed in the center, the space sometimes turns into only an interface under the influence of digital technologies; sometimes, it has been observed that mixed space designs, including physical, virtual and hybrid, needed for the new virtual environment. At this point, space analysis has been made for two different definitions as digitalization of space and digital space. Digitization of space can be defined as the integration of new technologies into space every day. The digital space, on the other hand, is considered to be the effect of the space on people, whether it is completely virtual or the individual's creating a new experience area with a virtual environment. Hybrid spaces are formed at the intersection where actual and virtual lined. Hybrid is actually defined as the product of mixing two or more different things. In the literature within the scope of the study, the hybrid space is described as digitally eclectic with the

combination of both technology and physical space and it is seen that as the space that occurs when people communicate with other people and their environment. With the transition of money to the electronic system, changes have started to be observed in the bank spaces, and the bank has taken a more flexible form. The bank branch is now more of a place of experience than just a place for banking transactions.

As a result, the interaction and space boundary terms, which emphasized on all this conceptual framework, are examined in the actual-virtual space in 3d plane. With the virtualization of the space, the interaction with the user also increases. Especially in the future, with the semantic feature of web 3.0, this interaction and digital space relationship will gain more importance for the designer.

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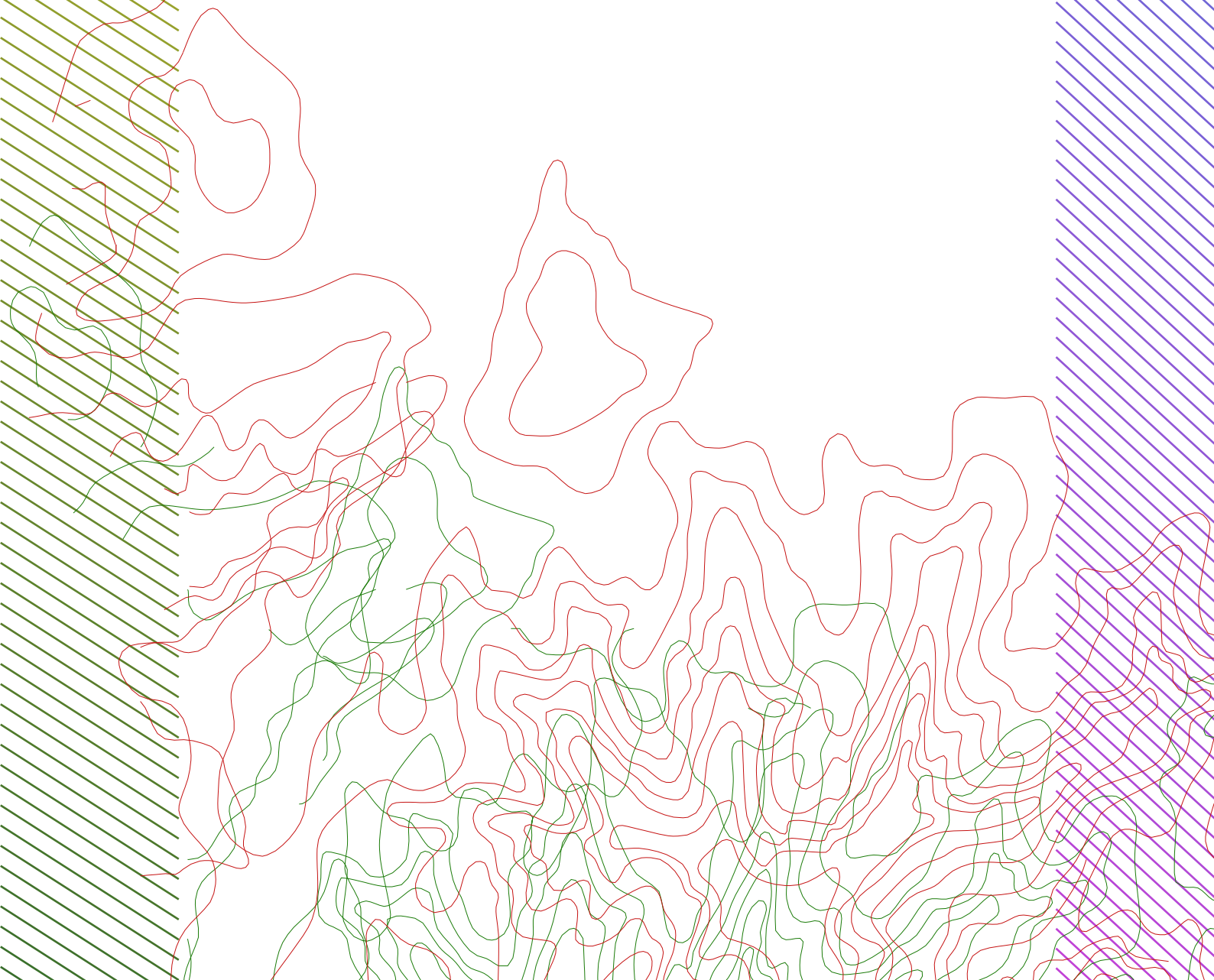
Session V

New Tools, New Approaches and New Understandings



NEW APPROACHES IN DESIGN OF SPACE IN ITS RELATIONSHIP TO WASTE

Aysegul Didem Ozdemir

Ph.D., Urban Planner, Terreform UR
dekosg@gmail.com

ABSTRACT

Municipal solid waste generated in the world is 2.01 billion tons annually and it will increase to 3.40 billion tons by 2050 according to the World Bank. It is also projected that solid waste-related emissions will generate 2.6 billion tons of CO2 by 2050. Economic and social progress based on the use of nature's resources creates more and more waste. Cities playing key role in global economy are the largest consumer of resources. Therefore, how cities operate and are designed have a great role for a sustainable future. This paper is about waste in relation to urban design research. In the first part it focuses on new approaches in the relationship between the production of waste and production of space. Related concepts determined through literature survey are classified as definitions; waste and urban space; disposability and obsolescence; circularity and are discussed through the examination of selected case studies. In the second part, the New York City (Steady) State "Waste Not" project of Terreform UR which is the investigation of the creation of a system without waste, is presented as case study for an urban design research project. Findings reveal that definition of the realities and different types of waste is crucial. This requires an analysis approach looking at waste by considering the processes such as recycling of urban space, obsolescence in city. A world without waste requires designing closed loop systems and here lies great opportunities for research and innovation for the future of urban design.

Keywords: Zero waste; urban space; urban design; cradle-to-cradle; circular cities.

1 INTRODUCTION

The amount of municipal solid waste generated in the world is 2.01 billion tons annually and it is projected that global waste will increase to 3.40 billion tons by 2050 according to the World Bank (Kaza et al., 2018). Waste being released to the environment and waste management activities are among major global climate impact sources. Openly dumped and burned waste and waste collection, separation, treatment, transfer and disposal activities which applies to all waste types (i.e. municipal solid waste, commercial and industrial, construction and demolition, hazardous) produce greenhouse gases and consume energy (UNEP, 2010). In 2016, 5% of global greenhouse gas emissions were generated from solid waste management and it is

projected that if no improvement is done solid waste-related emissions will generate 2.6 billion tons of CO2 by 2050 (Ijjasz-Vasquez, 2018).

Economic and social progress based mainly on the use of natural environment and its resources created more and more waste leading to environmental degradation. United Nations Sustainable Development Goals, Goal 12: Responsible Consumption and Production, aiming to do more and better with less therefore preventing economic growth damaging the environment addresses this issue (SDG Goal 12).

Within the framework of Goal 12 circularity is considered key in climate change mitigation regarding waste reduction. Transition to circularity requires transformation of the way we design, produce and use products as well as our industrial, food and energy systems. Cities are key actors in this transition.

Cities with dense populations and as centers of economic development generates pollution and waste. More than half of the global population live in cities which is estimated to be 68% in 2050. Playing a central role in global economy cities are the largest consumer of resources.

Recent trends of urbanization are expected to lead to high levels of materials use in cities. Cities represent almost two-thirds of global energy demand, produce up to 50% of solid waste and are responsible for 70% of greenhouse gas emissions. Considering the projection that by 2050, more than half of the global population will live in urban areas it is quite certain that cities will continue to play a key role in reducing waste and at the end eliminating it (OECD, 2021).

As a result of this importance of cities recent global movements are concentrated on sustainable development in urbanism. Moreover, United Nations Sustainable Development Goals includes a goal on cities and urban development; Goal 11 which is defined as “make cities and human settlements inclusive, safe, resilient and sustainable” addresses sustainable cities.

Taking into account that cities play key role for a sustainable future, how they operate and designed have even a greater role today than was ever in history. In accordance with sustainable development goals countries are adopting circular economy, architects, urban designers, landscape architects, engineers are focusing on the inquiry for sustainable solutions for a better future for humanity.

In the light of these conditions and with the concern on the importance of eliminating waste in cities this paper is about waste in relation to urban design research. It is comprised of two parts. In the first part it focuses on the new approaches and new directions in the relationship between the production of waste and production of space. The aim is to present new directions in the definitions of waste and in waste research related to its role in the production of urban space. My argument here is that there is a great potential for research in this subject for urban design discipline and this potential has to be considered and utilized by researchers in the field.

In the second part, the New York City (Steady) State “Waste Not” project of Terreform UR is presented as a case study for an urban design research project focusing on zero waste in cities. The project is the investigation of the creation of a system without waste recognizing the importance of waste as a global issue. The goal is

to set an example for the complexity of the issue and to emphasize the importance of interdisciplinary approach in such project.

2. NEW APPROACHES IN RELATIONSHIP OF WASTE AND URBAN SPACE

Waste and waste management is central to the design of cities however it is mainly understood and approached as a technical problem. In the search for a future where there is no waste in cities, no matter how this vision appears as a utopia, it is important to understand and study its role in the production of urban space. With the centrality of waste in the design of cities recent inquiry in this subject is focusing how urban systems can be designed in order not to produce waste in the first place. With these in mind this section includes new approaches in the definitions of waste; in the definitions of waste in its relationship to urban space; and circularity in cities.

2.1. DEFINITIONS

Any research begins with asking a question for the definition of the problem. Therefore for the subject of this paper the answer to the question 'What is waste?' is important because how waste is defined will determine the path of a specific research. It is seen that new approaches and new directions in the definition are aiming to deepen the concept of waste instead of seeing it as a technical problem only.

Any action related to waste requires a clear and intentional definition. Depending on the aim of the action, definition of what we are dealing with determines the process. For example, waste management focuses on waste as a material to be disposed, in nature waste of a process is resource for another process, for recycling industry waste is a resource. Recently the size and the urgency of the global waste problem have led to an inquiry for a deeper and wider understanding of the concept of waste and issues related with it.

The dictionary definitions of the word waste commonly include unnecessary use, bad use, excess use, unwanted materials, unwanted ground. The concept of waste most of the time is associated with value loss; a material or a land that looses its value for its owner. However recent developments and research highly concentrated on the waste as resource which created new directions in research with new approaches of intervention.

2.1.1. DISPOSABILITY

Considering the fact that increasing amounts of waste is connected to the levels of consumption the concepts that need to be clarified first are disposability and obsolescence. The culture and daily habits of today's modern societies are outlined by these terms. (Slade, 2007) Mass production rapidly created changes in behaviors of people forming Disposable Culture. Today the term 'wasteful humans' in most literature related to waste research is found to describe that the desire to luxuriate and to waste is part of human nature.

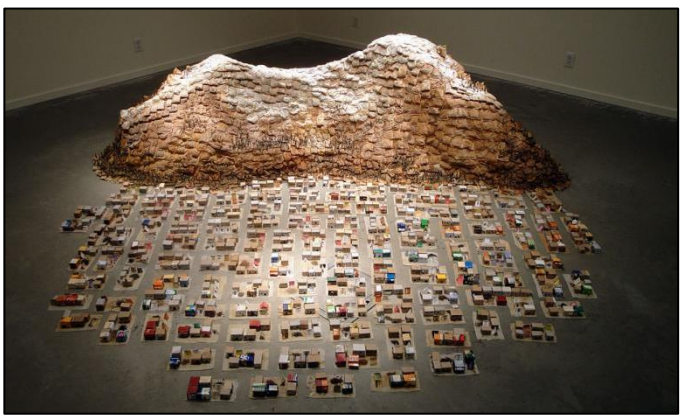
However, an experiment called "Rubbish Topographies' shows that the most common definition that 'humans are inherently wasteful' is not true and it was consciously created in 1956 (Liboiron, 2011).

Case Study: Rubbish Topographies

Rubbish Topographies is a landscape made of donated trash. It is an installation by Max Liboiron in Touchstone Nelson: Museum of Art and History and offers a different view on our relationship to the environments in which we inhabit.

For the installation people were asked to send the artist clean, dry tea bags as raw materials for an art installation (Figure 1, Figure 2). The pile of tea bags and cardboard show how much garbage we make but the project itself symbolizes something further. Every tea bag was saved, dried, and delivered to the artist by family, friends, friends-of-friends, coworkers, and even strangers from around the world.

The project meant to be the justification that people do mind and care for their waste when there is an opportunity to reuse it and it is a quantitative testimony of that. Rubbish Topographies as stated by Max Liboiron is an effort to look at the systems of waste rather than individualize and moralize trash practice (Liboiron, 2011).



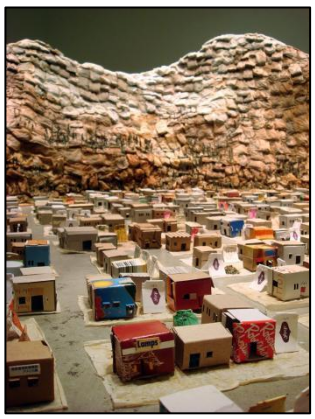


Figure 1., Figure 2. Rubbish Topograpies (Liboiron, 2011). (https://discardstudies.com/2011/05/29/humans-inherently-wasteful-or-good-stewards-and-why-this-title-misses-the-point/)

2.1.2. WASTE

Remembering the definition of waste as unwanted material of any type, a study by Robin Nagle in Brooklyn Dead Horse Bay in New York provides a different approach to materials that are considered as waste.

Case Study: Brooklyn Dead Horse Bay

Dead Horse Bay is a small body of water in Brooklyn which was named because of the horse rendering plants located on the former Barren Island. In the late 1850s, Barren Island was the site of the largest dump in New York City. In 1936, urban planner Robert Moses evicted the entire island population to make way for Marine Park Bridge (Murray et. al., 2018).

The area is now a national park, under which nearly a century's worth of the city's waste and the homes of former inhabitants is buried. With this it has a historic character subject to protection but the site is heavily scavenged (Liboiron, 2013).



Figure 3. The removal of anything from a Dead Horse Bay National Park site is prohibited under federal law in USA. (Lehrer, 2015) (https://www.wnyc.org/story/dead-horse-bay-garbage-heap-or-treasure-trove/)

Robin Nagle states that because all what is coming to the surface is garbage, people go there to scavenge which creates a definition problem. (Figure 3) What people bring home from Dead Horse Bay actually are the remains of the lives of the people who were displaced. Dead Horse Bay shouldn't be defined as a place where one gores to scavenge garbage but it is an archaeological site, which presents valuable material to learn about ourselves and to respect the lives of the people who were displaced by the politics of 1950's (Nagle and Liboiron, 2016).

Dead Horse Bay makes us to rethink the concept of waste. For New York City the artifacts that come into surface in Dead Horse Bay contain a great body of information on the lives of the people, their habits, cultures and consumption habits. Which makes reconsider if waste is more than something that we live behind, something that we want to avoid. There is a lot of information in waste composition of any community.

2.2. NEW APPROACHES IN THE DEFINITION OF WASTE IN ITS RELATIONSHIP TO URBAN SPACE

As seen in the previous section the issue of waste can embody various and broad concepts. On the subject of this paper for the definition of waste in its relationship to urban space main criteria are scale and visibility.

2.2.1. THE ISSUE OF SCALE: MUNICIPAL VS. INDUSTRIAL

Different types of waste are produced at different scales. When we talk about waste in general, we talk about household waste and municipal solid waste which is considered all the waste that is produced. However, this is very small portion of it because the majority of waste produced in the world is industrial. Municipal Waste generally includes household waste and sometimes construction and demolition waste. And this is 3% and the rest 97% is industrial waste. As seen in the graphic (Figure 4) vast majority of the waste actually is Industrial Solid Waste (Liboiron, 2014).

Although this graphic shows the percentages for USA and needs to be updated still represents the issue of scale when it comes to waste characterization. There is a need of clarification regarding when we talk about waste management what we are talking about may be a very small portion. It is needed to clearly define which portion is addressed and to consider how much changes in individual, household and municipal levels will add to the solution of the general problem of waste. For this reason, in research, problems of definition may appear and it is of critical importance to categorize and define municipal wastes, household wastes, industrial wastes.

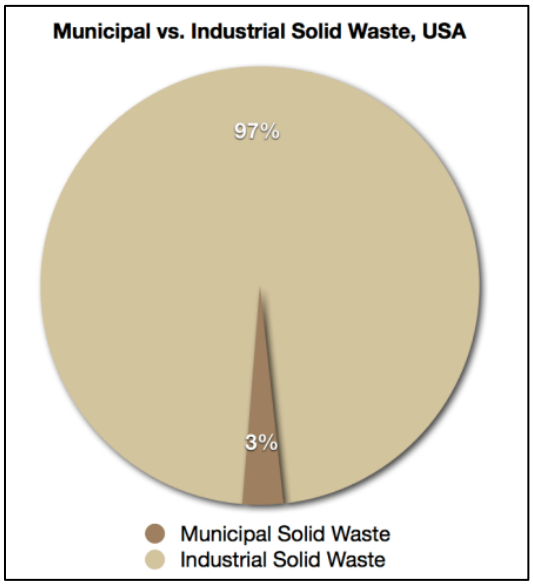


Figure 4. The ratio of Municipal Solid Waste vs. Industrial Waste (Liboiron, 2014) (https://discardstudies.com/2014/02/10/solutions-to-waste-and-the-problem-of-scalar-mismatches/)

2.2.2. THE ISSUE OF VISIBILITY

Where does waste go? Waste once it is produced and disposed it goes away to material recovery facilities, recycling plants, waste-to-energy centers, composting and landfill. Actually, it doesn't go away, it becomes invisible, it goes to urban blind spots and these are urban spaces that are considered as disposable. In most cities around the world these are the neighborhoods where minority and low-income communities live.

Case Study: Mapping Waste When Waste is Invisible

Transnational movement of waste, waste moving between continents, being shipped where, what types is one of the most challenging issues related with waste. MIT Sense Lab's Trash Track project is one of the mapping projects which have sought to visualize the circulation of waste.

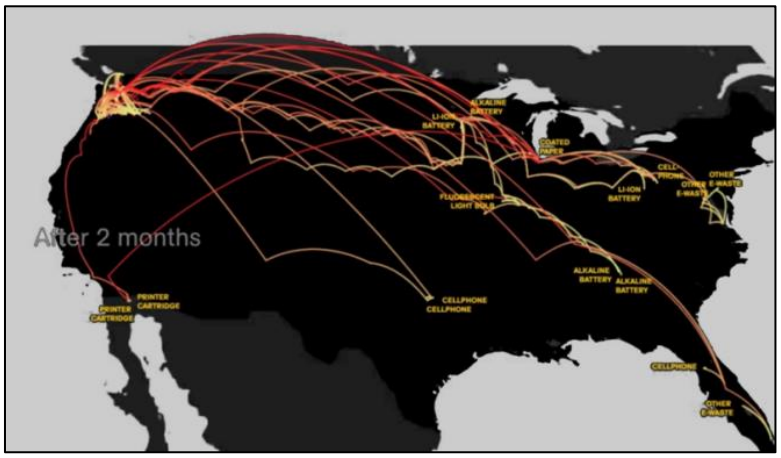


Figure 5. After two months trash tracking, it was discovered that most of waste stayed relatively local, but electronic and hazardous waste (Liboiron, 2014). (https://publiclab.org/wiki/mapping-waste-when-waste-is-invisible)

MIT Sense Lab's Trash Track project uses hundreds of small, smart, location aware tags: a first step towards the deployment of smart-dust - networks of tiny locatable and addressable micro electro mechanical systems. These tags were attached to different types of trash so that these items can be followed through the city's waste management system, revealing the final journey of our everyday objects in a series of real time visualizations. (Figure 5) After two months, it was discovered that most waste stayed relatively local, but electronic and hazardous waste moved to other locations in the United States. (MIT Senseable City Lab)

2.3. NEW DIRECTIONS AND NEW APPROACHES IN WASTE RESEARCH IN ITS RELATIONSHIP TO URBAN SPACE

Remembering that production of waste is the end result of the processes of consumption economy, solutions and technologies have been developed for the sound collection of waste categories; for effective recycling, reusing, composting. Most recently the main concern of these studies is how to use waste as a resource in order to create circular systems. All the effort that is being made to solve the waste problem effects how buildings, cities are designed and how communities are organized.

Consumption economy not only produces waste material wise it also causes people being thrown-away, buildings being rebuild and neighborhoods becoming derelict within the processes of planned obsolescence, and even the whole city becoming obsolete.

New approaches regarding the waste in its relationship to urban space includes concepts such as wastelands, waste landscapes, obsolescence of urban space, designing circular systems.

2.3.1. WASTELANDS

Wasteland as a barren or uncultivated land can be an arid desert, the swamp etc. The concept given in this definition is that waste land is the hostile land given by nature, a landscape that refuses to be domesticated.

Waste land as an ugly often devastated or barely inhabitable place or area presents the concept that it can be a toxic testing ground, the strip mine, deserted military installation, the industrial plant grown and fallen into ruin. This is a landscaped created by culture.

In history wasteland appears as swamp, as mountain and as forest which are created by nature. Today wasteland stands as one of the most critical issues for landscape designers, architects and urban planners regarding rehabilitation and reclamation of post-industrial sites (Palma, 2016).

Going back to the definition of waste including unwanted ground, the role of design in the definition and reclamation of wastelands is critical. Wasteland improvement apart from adding to the need of land presents opportunities for social and economic transformation as well.

Different definitions give the parameters of the type of space that is being dealt with. Such as 'unused' meaning the lack of activity which will be different for government officials and for informal users. Therefore it is important to be clear in location and in categorization such as derelict, vacant, unoccupied which will determine the urban design approach and the mode of intervention (Wasteland Twinning, n.d.).

2.3.1.1. URBAN WASTELANDS

Urban wastelands can range from brownfield to vacant lots. Common characteristics cover not having official use, being temporary, being located in urban areas and being found almost in every city. They were generally once cultivated lands and became encompassed in the city by urban sprawl, or former residential, industrial or service areas, involved in urban renewal or located in shrinking cities. The main issues that arise in the reincorporation of urban wastelands are their informal residents, biodiversity that they include and their planning (Giardinelli, 2018).

Case Study: Wasteland Twinning

Wasteland Twinning Network is an independent, international network of artists and researchers exploring the uses and functions of wastelands in cities. It applies the concept of 'City Twinning' to urban wastelands aiming to form a network for parallel research and action. (Figure 6)

The project is founded on the concept that wastelands holding a unique and valuable role in the future of humanity as we seek for more sustainable models of living. Urban wastelands support inner city biodiversity, provide carbon sinks, improve hydrological attenuation, provide open space and represent freedom from the controlled built environment. (Wasteland Twinning, n.d.)

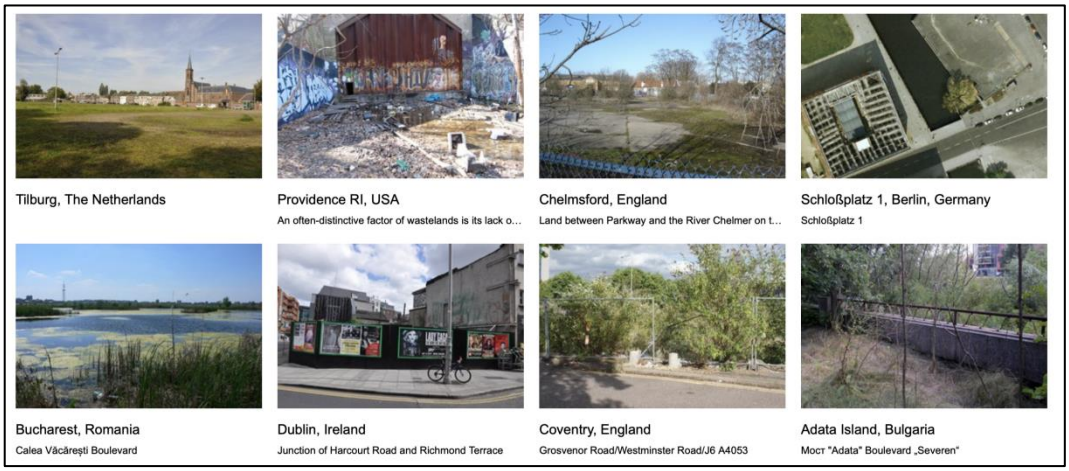


Figure 6. Wasteland twinning sites included in the project range from Germany, to Australia, to Indonesia (Wasteland Twinning, n.d.). (http://wasteland-twinning.net/about/)

2.3.1.2. INDUSTRIAL WASTELANDS

Industrial wastelands are areas of land which is no longer usable for cultivation or for any other purpose after having been the site of an industrial plant. (GEMET, n.d.)

Case Study: Hunters Point Naval Shipyard

Located in San Francisco, Hunters Point Shipyard presents a good example for sustainable brownfield development. Brownfields are considered as wastelands because environmentally they are lands filled with waste or degraded through pollution and economically they are considered waste because they are unproductive.

Hunters Point Naval Shipyard site was filled with waste and radioactive contamination, a land that is created through debree and waste (Figure 7), and remediated by the navy. It was redeveloped by development company with 10.000 units, commercial, and parks. Sustainability and green design being the key components of the design, the aim for the project was to turn it into an eco-friendly neighborhood what is commonly called as modern wasteland improvement. (Figure 8)

One of the main issues in brownfield redevelopment projects is the question: Is clean up really a clean up? In Hunterspoint homes were built but owners are prohibited to plant under because underground is still filled with toxic waste. The clean up actually is waste reduction and minimized risk.

Another issue that needs to be taken into consideration that redevelopment projects create their own waste and communities living nearby are affected. In Hunters Point people were affected by trucks loaded with contaminated land passing their neighborhood, they become sick from the dust during the construction work. With this Hunters Point Shipyard development is also a good example for Waste Land Improvement project with toxic effects.



Figure 7. From Prelinger Archives [Photograph] Hunters Point Shipyard jammed with ships, 1957. (https://www.foundsf.org/index.php?title=Hunter%27s_Point_Naval_Shipyard)



Figure 8. Hunters Point development plan, open space network plan (Lennar/BVHP, 2007). https://sfocii.org/ftp/uploadedfiles/Projects/HPS-Phase1-OpenSpace-Streetscape-Masterplan.pdf



Figure 9. Radioactive testing in Hunters Point. (Dillon, 2016)

Hunter Points Shipyard represents also a good example that in these types of wastelands cleaning the land is impossible, but it still is the main framework for brownfield redevelopment projects. Hence the brownfield redevelopment and cleanup projects are normal part of the urban processes today. As development companies use these toxic sites as opportunity it is crucial to recognize that creating landscapes like this is a form of environmental violence.

In these projects the cleaning of toxic materials, and in Hunters Point case radioactive waste bring the environmental injustice in the forefront (Figure 9). Military waste is a subject of transnational environmental violence and in this project it is seen that redevelopment project continues the violence through waste clean up and redevelopment (Dillon, 2016).

2.3.2. WASTE LANDSCAPES

The concept of waste landscapes covers geographies of waste management and geographies of dirt. A dirty place is a place that is not clean and besides being wasteful it is a place that is unproductive (Tejada, 2020).

Case Study: Geographies of Trash



Figure 10., Figure 11. From Geographies of Trash, active landfills comparison. (Ghosn, 2015)

The project focuses on the geographic scale of waste systems and takes geographical quality of waste based on the fact that its management, its transport, it's disposal creates new geographies. This is a project that aims to respond to the motivation of designers to examine environments that go beyond the individual building and to address the problems that once considered the domains of engineering and regional planning.

Waste management networks and infrastructure are designed to operate invisibly and Geographies of Trash represents the banished material and spaces of garbage. Representing the waste disposal system in Michigan (Figure 10, Figure 11) it proposes strategies of trash transformation in territorial grid. The project seeks to bring trash into public view, public consciousness, and public controversies in four sections: Construct, Represent, Form and Assemble.

This research on the geographic dimension of trash argues that future strategies for the disposal of our waste should do more than seek technological solutions. The examination of the infrastructure of waste management and their spatial arrangement rather than simply technologies of garbage disposal, identifies unexplored sites of trash processing where architects, urban designers can intervene. It is a proposal for using architecture and design to reverse the trend of erasing trash from the view and bring it into the public realm visually (Ghosn, 2015).

2.3.3. OBSOLESCENCE OF URBAN SPACE

In the city the process of becoming obsolete results structures being demolished because of their outmoded mechanical systems, or insufficient rentable space, or a stylistic expression that is not wanted anymore. (Bierig, 2016) Obsolescence in the city appear because of new inventions, current changes in design, technological development, improved process of production, change in use or end-user demands, climate change. The results are loss of value and/or buildings and urban spaces becoming less desirable and less useful (Butt, 2015).

The first appearance of obsolescence in the city goes back to the office-building speculation era in the beginning of 20th century in Chicago and in New York. The process started effecting cities in building scale and in neighborhood scale. Manhattan's 20-story Gillender building, demolished in 1910 after a mere 13-year existence. It was replaced by a larger and more profitable structure—a process then becoming widespread in major city centers. The whole Boston's East End neighborhood became 'obsolete' due to perceived deficiencies in its housing stock (Bierig, 2016).

Planned obsolescence one of the key mechanisms of consumption culture applies to built environment as well. The tendency of replacing new materials with existing ones still continues to exist in the society as the representation of economic growth. As in material obsolescence solutions for obsolescence in the city include reuse and sustainable design.

2.3.1.1. RECYCLING URBAN SPACES

Recycling of spaces instead of creating new ones is an approach that is becoming more common and it can be found in a wide range of spatial typologies from small patches to small corridors, simple actions to intense public projects (Rethinking the Future, n.d.).

Many industrial sites are being demolished in order to make room for buildings that can more easily contain information and customer-oriented services. However, a new trend has been emerging named creative bottom-up recycling of vacant properties instead of demolition and reconstruction (Dolezal, 2015).

Case Study: Folly for the Flyover

The temporary installation under the A12 motorway, Hackney Wick, UK, in 2011 (Figure 12, Figure 13) presents an example of architecture creating monumental moments that shift perspective, engage communities, and induce change. Built-in a voluntary team effort using reclaimed material and involving over 40,000 people, the public entertainment venue was successful in drawing participants, performers, and audiences through the summer of its presence. What's more, it had unearthed the potential in this forgotten urban space which had afterward been employed as a public space for the local community (Rethinking the Future, n.d.).





Figure 12., Figure 13. Folly the flyover in Hackney Wick, by ©assemblestudio.co.uk (Rethinking the Future, n.d.). (https://www.re-thinkingthefuture.com/architects-lounge/a1288-recycling-urban-spaces-15-under-flyover-projects-around-the-world/)

2.3.4. CIRCULAR CITIES

Circularity in cities requires designing ecosystems: systems of both ecology and economy which will be channeling both the flow of people and the flow of resources. The question is can we design waste in this systems approach and what is the importance of design in producing less waste. (Carrier, 2016)

To design a city for waste needs three fundamentals: 1. Garbage is not a pile of something that is seen on the street. It's something that moves. 2. every piece of the system is connected to the next. 3. Integration: Garbage collection has two parts that are very different. The front end and the back end. (Quirk, 2018)

As circularity is considered the basic in dealing with waste problem circular cities where the application of 'cradle-to-cradle' approach in urban scale gains crucial importance. A circular city is the city that produces no waste at all, it is a city that operates by the principles of nature's laws where a waste of a process is the material for another process. In Europe cities like Amsterdam, Rotterdam, Copenhangen, Florence, are leading the way in the transition to circular economy.

Case Study: Kalundborg Symbiosis, Denmark

The industrial symbiosis project at Kalundborg, Denmark (100 kilometers west of Copenhagen, population of approximately 15,000), is a model of environmental sustainability where a waste from an industry turned into a resource for use in one or more other industries (Figure 14, Figure 15). The Kalundborg experience shows that cooperation among different industries in the use of waste increases the viability of the industries. At the same time, the demands from society for resource conservation and environmental protection are met (National Academies of Sciences, Engineering, and Medicine, 1997).

The project is a partnership between several public and private companies in Kalundborg, Denmark. They developed the world's first industrial symbiosis with a circular approach to production in 1972. Their operation benefits both the environment and the economy. The partners by working together and exchanging material, water, and energy streams between them they increase resilience and economic gains, while reducing the environmental impact and expenses (European Union, n.d.).

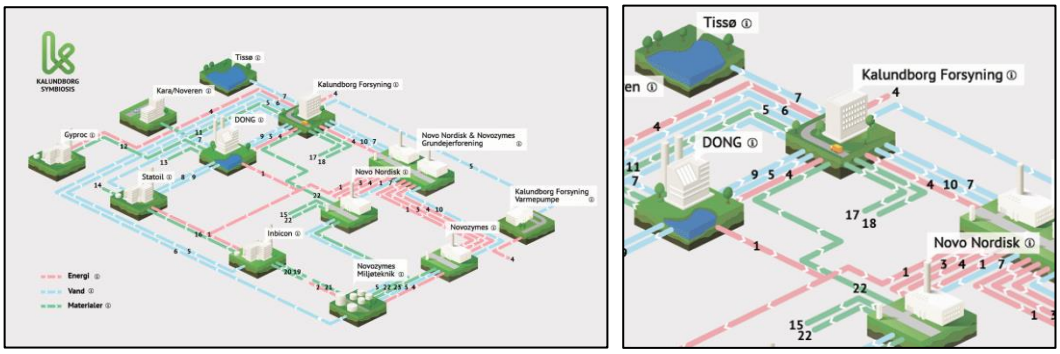


Figure 14., Figure 15. Kalunborg Symbiosis, Denmark. By National Academies of Sciences, Engineering, and Medicine, 1997. (https://doi.org/10.17226/4982)

2.3.5. WASTE MANAGEMENT AND URBAN DESIGN

New directions of ideas and practices in the design and construction of space are inquiring ways of integrating waste management facilities into urban spaces. This necessitates redesign and gradually reintroduce waste management facilities in the urban fabric.

The question here is how to bring back the presence of waste within the design of public space, city and territory? To begin with, the answer to this question brings the need to develop an integrated approach. Therefore, for a sustainable solid waste management it is essential to create a circular urban metabolism in which waste is considered as a resource (Saveiro, 2018).

Case Study: Collection - Zero Waste Design Guidelines NYC

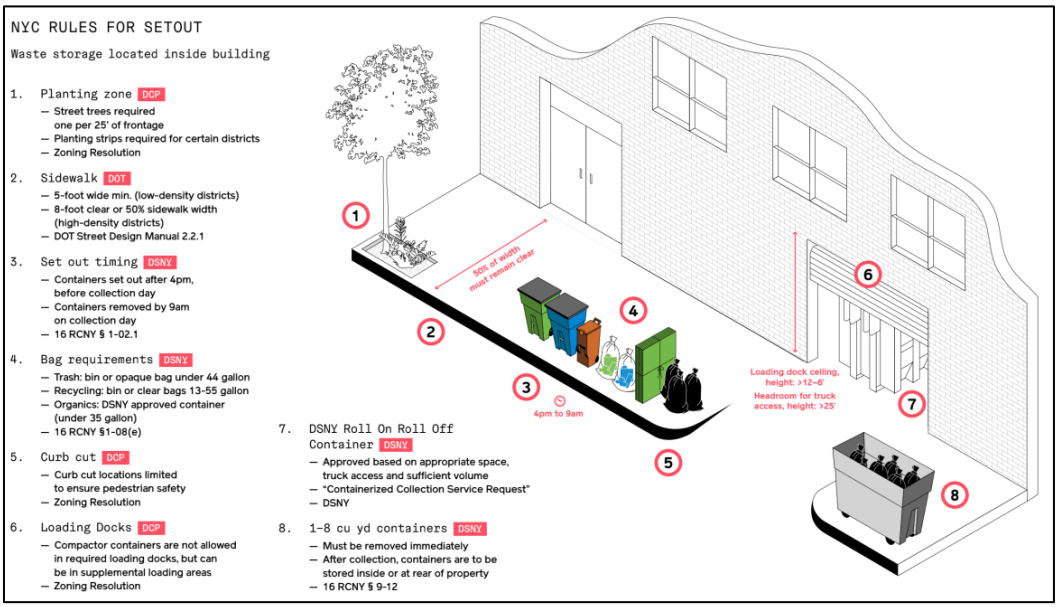


Figure 16. Zero Waste Design Guidelines NYC: collection & urban design.
(AIA New York City Center for Architectrure, n.d.)

The Zero Waste Design Guidelines of New York City (Figure 16) address the crucial role that the design of the buildings and the city play in achieving circular material loops. The guidelines are developed in two chapters: building design and collection and urban design.

First chapter, 'Building Design' contains guidelines for planning for separation, movement and storage of waste in buildings. The aim is to facilitate the separation of different materials such as organic waste, textiles and e-waste. A waste calculator is created as a tool to help designers calculate the volumes of all the streams that need to be captured and managed (AIA New York City Center for Architectrure, n.d.).

Second chapter, 'Collection and Urban Design' includes guidelines for planning for waste collection on streets. In New York City one of the main problems with waste is that it is moved out of buildings in bags, stacked on sidewalks and tossed by hand into trucks. Their temporary presence is the reason that collection was left out of street design. But how bags are set out and picked up from sidewalks and streets effects the quality of urban life and the amount of waste diverted. What is developed is consolidating waste in facilities shared by buildings or neighborhoods to expand the adoption of best practices beyond new construction (AIA New York City Center for Architectrure, n.d.).

3. NEW YORK CITY (STEADY) STATE 'WASTE NOT' PROJECT

The New York City (Steady) State project is an inquiry to answer the question: can New York City become self-sufficient within its political boundaries? The study seeks to imagine a self-sufficient New York City. The project is both a thought experiment and an inventory. In particular, it examines the way in which New York

can achieve independence in producing and managing its food, air, climate, water, waste, energy, building, movement systems, and manufacturing.

The first book of the study with the title 'Homegrown" focuses on food and food systems. It is a design proposal and collection of essays on the limit and logic of self-sufficiency in the realm of urban food systems.

In accordance with the vision of NYSS project the "Waste Not" volume of this study (Figure 17) beginning with New York City imagines a world without waste and it is an inquiry for the ways of which this image can be realized.



Figure 17. Inside Sims Recycling Facility in Brooklyn, New York. (Personal Archive Aysegul Didem Ozdemir)

As Michael Sorkin phrases;

> *"At every level, the steady state seeks to close its loops by attending to the tail of the process, by effectively cutting it off. One of the most durable aspects of the membrane proposed to bound the city is that it will be impervious to waste, that is to materials and effects that cannot be introduced into the environment without deleterious effect. Most fundamentally, this means the creation of a system in which there is no waste."* (Sorkin, 2015).

The project focuses on changing consumption habits that are based on disposability, on the creation of products and practices that induce a looping, "cradle to cradle" approach, and on the potential morphological changes in the city that will be the outcome and support for this vision.

Looking systematically at New York City's styles and outputs of waste the research includes understanding waste chain from up and from down: seeking to clear streets from piles of garbage bags, ways to eliminate the need for landfills and disposal, how to end the toxic processes of extraction, manufacture and delivery and how to radically reduce the destructive "externalities" of the global net of negative production.

The research is conducted in two stages: Waste and Waste Not. The first stage 'Waste' is the research of current state of waste with its all aspects. The second stage 'Waste Not' is the stage of the proposal for a system where there is no waste.

The first stage, the investigation of existing conditions includes the analysis and assessments of the nature of the processes that produce waste; disposable culture and obsolescence; definitions and types of waste;

definition of waste management; current waste trends; global waste amounts and management; waste in the United States; New York City waste including the amounts generated, characterization of waste stream, waste management system of New York City, issues such as health, environmental justice, greenhouse gases; laws, programs and plans in New York City related with waste and its management.

The second stage includes the analysis of existing technologies, best practices, new approaches, new understandings which will inspire the potential morphological changes in the Waste Not city. It is the investigation for the design of the city imagined which will be impervious to waste, in which materials and effects cannot be introduced to the environment without deleterious effect. The search for the creation of a system with no waste in which the vast system of disposability that lie behind the current consumption habits of the society is ended. The 'Waste Not' city is aimed to operate according to the "cradle to cradle" approach which is the idea that everything we design and produce must be either of extreme durability or conjured for ready transformation, for reincarnation as another form of utility that requires minimal supplementary inputs to achieve. To realize this, solutions aimed to be proposed in two sections first demand side and supply side in building, neighborhood and city scale.

4. CONCLUSION

Generation of waste worldwide continues to increase contributing to the production of greenhouse gases. According to the World Bank data 3.40 billion tons of waste will be generated by 2050 if no improvement is done. The enormous amounts of waste in cities stands as a great challenge creating environmental, social, technical and design problems.

Cities are the main generators of waste because largest consumption of resources take place in cities. Considering the projection that more than half of the global population will live in cities by 2050, causing the main environmental problems of today most certainly cities have a key role for the solution of these problems.

United Nations Sustainable Development Goals, Goal 11 addresses sustainability of cities and Goal 12 addresses sustainable production and consumption. Given the general framework by these goals sustainable solutions in cities related with waste are focusing on developing circularity and transition to circular economy. This means that everything that we produce materials, objects, buildings, spaces be durable in the first place and secondly so that an output of a system to be an input for other or many other systems. Indeed architects, urban designers, landscape architects, engineers are focusing on research on sustainable solutions for a better future for humanity.

Waste and waste management is mainly understood as a technical problem and the common perception misses the centrality of waste in design of cities and the role of urban design in the solution of waste issue. Recent approaches and research in the discipline of urban design focusing on how cities, urban systems can be designed in order not to produce waste is becoming more and more prevalent.

As any research begins with asking a question, within the context of the aim of this paper which is introducing waste in relation to urban design research, to be clear in the definition is the key because the approach in defining waste will determine the path of the research. The analysis of new approaches and new directions in the definition of waste reveal that considering the existence of problems of definition, it is crucial to materialize the problem, the realities, and different types of waste. Clarification and definition of more invisible areas of waste such as industrial waste, transnational movement of waste should be taking into account as well.

In addition, the context of the concept of waste is not limited with being a material, an object, a person, a building and an urban space that is not desired anymore and wanted to get rid of instead it is a resource which presents great potential for new uses. The process of buildings, neighborhoods, urban spaces becoming obsolete needs further exploration in their intersection with material obsolescence. Therefore, conducting research on waste in its relationship to the production of space requires an analysis that looks at waste beyond materials that produce pollution, it should also involve the consideration of processes such as recycling of urban space, planned obsolescence in the city.

The levels of consumption that we are facing in today's societies reflects on the built environment as the whole concept of the city being thrown-away, old cities becoming obsolete and loosing their cultural value for the society. Therefore, an inquiry of the impact of the obsolescence of the built environment on public health, practices of dwelling and future design practices present a vast field of research for urban design.

The concept of waste in its relation to urban space includes issues such as waste lands, waste landscapes, obsolescence of urban spaces and its effects, circular cities for the solution of the problem and integrating waste management in urban structure.

An urban design research focusing on waste needs to consider the complexity of the issue. The interdisciplinary approach in such research is of great importance. The creation of a system without waste should be the one that both sides of the problem is solved. Demand side solutions where the production and consumption is balanced and supply side solutions where a closed loop system is created with the implementation of 'cradle to cradle' approach in cities. In that sense the relationship of production of waste and production of space is an issue that presents a great potential for urban design research which needs to be taken into consideration.

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MERGING SPATIALLY AND SOCIALLY VULNERABLE: LEFT-OVER SPACES AS CRITICAL INFRASTRUCTURE FOR ELDERLY IN IZMIR

Aysu Gürman

Research Assistant, Yaşar University
aysu.gurman@yasar.edu.tr

Hazal Ertem

Research Assistant, Izmir Institute of Technology
hazalertem@iyte.edu.tr

Koray Velibeyoğlu

Prof.Dr., Izmir Institute of Technology
korayvelibeyoglu@iyte.edu.tr

İpek Akpınar

Prof. Dr., Izmir Institute of Technology
ipekakpinar@iyte.edu.tr

ABSTRACT

The social exclusion of the elderly with the Covid19 pandemic crisis calls for an alternative infrastructural system in addition to the commonplace of physical infrastructural needs referring to a new social positioning in urban design. Considering the city's need for social inclusion of the elderly, the study aims to merge leftover spaces as the spatially vulnerable spaces and the elderly as the socially vulnerable group in the investigation of the social role of urban design. In cities, leftover spaces are excluded from public life, isolated for the long term, and vulnerable to change and become a part of everyday life. The redesign of leftover spaces to open public spaces provides a social and physical environment where the public life of the elderly can unfold. In leftover spaces transformed to open public spaces near their homes, the elderly, who have restricted outdoor activity due to their physical and social inabilities, have the chance to encounter and interact. Considering their confinement to home and social exclusion with the COVID-19 global pandemic, the redesigned leftover spaces may enhance the physical health, psychological well-being, and life quality of the elderly in their everyday life. In this regard, the redesigned leftover spaces can contribute to sociality by providing social infrastructure for social connection. The opted methodology is both to conduct a literature review on left-

over spaces and critical infrastructure, and to make in-depth interviews with the elderly in Bilge Çınarlar Healthy Aging Center where people from Karşıyaka, İzmir over the age of 60 have the opportunity to socialize, spend quality time and realize their always postponed hobbies. This paper fulfills the lack of research studying the integration of leftover spaces and the elderly with a highlight on the concept of critical infrastructure.

Keywords: Left-over space, critical infrastructure, elderly, vulnerable, Izmir

INTRODUCTION

Getting the Age-friendly City award in 2012, Izmir acts as a national magnet attracting the elderly population nationwide due to the high quality of life that it offers to its citizens. As the elderly's social exclusion during the Covid19 pandemic crisis has accelerated in Turkey as well as in Izmir, the city unveils the need to set up an alternative infrastructural system referring to a new social positioning in urban design. Besides the current crisis of the Covid19 pandemic in all areas of urban life, the seven-magnitude earthquake in the city in 2020 followed by the increasing number of summer fires due to the heat waves accelerated by climate change in 2021 indicates a new social and design conceptualization that goes beyond standard infrastructural and physical needs. The above-mentioned critical issues unveil the need for urgent strategy and action to play a decisive role in the future scenarios of Izmir. To what extent can a new language and system be set up? How far can tangible and intangible issues be projected and designed?

In light of these questions, this study examines critical social infrastructure to gather elderly people and leftover spaces in the city of Izmir. First of all, it reconsiders 'critical infrastructure' as a social one. In planning, critical infrastructure systems are usually studied as physical infrastructure safety by disregarding social and sustainable critical infrastructure systems. However, critical infrastructure systems are necessary services to ensure the safety and well-being of the society and continuity of fundamental functions such as the economy. In this regard, this study contributes to the gap in the literature on studying critical infrastructure as a social infrastructure. Therefore, it is valuable to probe the role of the designer in cities that are constantly subjected to changes in the external forces exerted on them such as the current COVID-19 health emergency, the global economic downtown arising from the pandemic, the abrupt increase in social, economic and racial inequality, etc. Besides, designers should develop a mission for the management of urban policies with the collective action of all different parties by investigating urban spaces and their users with their potential and limitations in the built environment. Secondly, in the framework of critical infrastructure, the study investigates the 'left-over spaces with the elderly'. Focusing on the otherness of the elderly as well as left-over spaces in the built environment, the study brings socially and spatially vulnerable together in the investigation of the social role of urban design. This enhances the inclusion of the elderly as socially vulnerable and left-over spaces as spatially vulnerable in everyday life. With the above-mentioned two steps, the study aims to explore the potentiality of left-over spaces as critical infrastructure for the elderly in which social activities are initiated or enhanced. In other words, although studies on the elderly, critical infrastructure and leftover spaces take place in the literature separately, a combination of these concepts is a deficiency, and this study aims to deal with this gap by combining these terms.

MATERIAL AND METHOD

Reclaiming 'left-over spaces' as niches of 'critical infrastructure' for the elderly in Izmir has the potential to become a strategy for the urban issues at the stake. Within the scope of our study, the opted methodology is, firstly, to conduct a literature review on left-over spaces and critical infrastructure, and, secondly, to make in-depth interviews with the elderly in Bilge Çınarlar Healthy Aging Center, Karşıyaka-İzmir to figure out their awareness of left-over spaces and needs in their near environment. Bilge Çınarlar Healthy Aging Center offers courses in 16 different branches, from painting to pilates, from cooking to tango, where people from Karşıyaka over the age of 60 have the opportunity to socialize, spend quality time and realize their always postponed hobbies. Many social and cultural activities are organized in the center, which operates on a membership system. The qualitative data to be obtained from the questions will be included in this study without the aim of extracting statistics. The sample questionnaire is listed below:

1. How is your day going? What are the necessary, optional, and social activities you do?
2. How do these activities determine your daily roaming and sightseeing route?
3. What kind of places do you come across on this route? (Ex. Park, beach, open space, buildings, shops, etc.)
4. What kind of open and closed places do you use to socialize? Why do you prefer this way?
5. Has this preference changed after the pandemic? Has your frequency of use of open space increased?
6. Are there any left-over areas near your home that attract your attention?
7. Are there any left-over areas on the routes/roads you use in your daily life that draw your attention?
8. How far from your home do you use a left-over space when it becomes available?
9. What kind of space would you prefer to use in these left-over areas? Would you prefer an open space or an indoor space? Why?

This study may give a broader understanding of the reconceptualization of leftover spaces in the built environment for the elderly in Izmir, in Turkey, and in general.

DEFINITION OF LEFT-OVER SPACES

In the theoretical conceptualization, 'left-over spaces', in its common sense, refer to unintentionally constructed voids whose presence is unplanned in both the urban planning process and everyday life. According to their surrounding built environment, they may remain spatially and socially isolated for a long term or be vulnerable to change and be a part of social life. Left-over spaces are not possessed, controlled, and used by people for a certain period. Thus, the lack of care and time are two important concepts to explore the potential of left-over spaces (Alanyalı, 2003). In this regard, the integration of left-over spaces into everyday life may provide activities that are restorative or regenerative by design. This study may extend beyond the matter of 'design' issues on an aesthetic and physical basis. The dimensions of biological or

physical, psychological, and social health needs of the elderly should be interacted with within the critical infrastructure systems for a better quality of environment improving their both physical health and psychological well-being.

The concept of left-over space appears in different forms and names in the literature, and many definitions are made by different researchers to meet the concept (Table 1). This semantic confusion shows how broad the concept is. The definitions of the left-over space, which started to be defined from the 1950s to the 1960s, have been defined over and over again in the axis of developments in different cities over approximately fifty years.

Özeren (2012) explains that many terms are meeting the concept as follows:

> *"The concept of urban left-over space has definitions that vary from country to country, and in some cases from region to region. The reason for this is the fact that cities have their dynamics. These dynamics can be explained by complex patterns such as laws and regulations, the ratio of the area covered by urban built areas to the surface area of the city, the population and carrying capacity of the city, the model, and the expectations of the citizens, to diversify the definition of urban leftover spaces."*

Trancik (1986) first defines lost spaces as "the undesirable urban spaces that need redesign- antispaces, making no positive contribution to the surroundings or users. They are ill-defined, without measurable boundaries, and fail to connect in a coherent way" (p. 3-4). The examples of lost spaces are: "the base of high-rise towers or unused sunken plazas, parking lots, the edges of the freeway, that nobody cares about maintaining abandoned waterfronts, train yards, vacated military sites, and industrial complexes, deteriorated parks and marginal public-housing projects" (Trancik, 1986; p. 3). From a postmodernist point of view, Trancik (1986) explored the emergence of lost spaces in cities as a result of the increased automobile-dependent circulation system, open space approach of Modern Movement architects, functional separation of uses (zoning policies), urban renewal practices, privatization of public spaces, the dominance of private over public interests, and the abandonment of industrial, military and transportation sites. He highlighted how these causes had created the dilemma of modern urban space losing the value of traditional urban open space. Berger (2006) has a similar approach to Trancik's views in his book "Wasting Land in Urban America" and states that the social, technological, and economic dynamics of the modern city give rise to left-over spaces (Villagomez 2013).

All in all, the city has become a collection of functional parts consisting of left-over spaces. The deteriorated urban integrity in the city results in the lack of spatial integrity in everyday life. According to the surrounding built environment of left-over spaces, they may remain spatially and socially isolated for long terms or be vulnerable to change and be a part of social life. Garde (1998, p. 201) asserts that marginal spaces are specifically significant for the elderly and children because of their restricted outdoor activities adjacent to their homes. At that time, it is valuable to question the potential integration of left-over spaces into the city both spatially and socially considering the target user group.

Table 1. Synonymous concepts of left-over spaces are shown with their definitions and source chronologically.

Concept	Definition	Source
Lost Space	"… lost spaces are the undesirable urban spaces that are in need of redesign-antispaces, making no positive contribution to the surroundings or users. They are ill-defined, without measurable boundaries, and fail to connect in a coherent way" (p. 3-4).	Roger Trancik, 1991
Terrain Vague	"The relationship between the absence of use, of activity, and the sense of freedom, of expectancy, is fundamental to understanding the evocative potential of the city's terrains vagues. Void, absence, yet also promise, the space of the possible, of expectation. (p. 12)"	Sola Morales, 1996
Cracks in the City	"The term crack is used … as a metaphor for the fractured discontinuities encountered in the physical and social context of American cities. Cracks are the 'in-between' spaces—residual, underutilized, and often deteriorating—that frequently divide physical and social worlds. (p. 1)"	Loukaitou-Sideris, 1996
Marginal Space	"In today's cities, marginal spaces are produced in segments. While each of these segments has a function, when combined they generate distinct patterns of a singular open space between buildings and the street … In addition, the design of the buildings and their size, shape, and placement on site often produce leftover areas that add to these open spaces" (Garde, 1998, p. 201).	Ajay Garde, 1998
Vacant Land	"Vacant land includes not only publicly-owned and privately-owned unused or abandoned land or land that once had structures on it, but also the land that supports structures that have been abandoned, derelict, boarded up, partially destroyed, or razed" (p. 2).	Bowman and Pagano, 2000
Left-over Space	"Left-over space may briefly be defined as space that is not possessed by people" (p. 11).	Ela Alanyalı, 2003
Indeterminate Space	Indeterminate spaces "… are spaces left out of 'time and place' with regard to their urban surroundings, mainly as a consequence of rampant deindustrialization processes and the 'shrinking' city" (p. 503).	Groth and Corjin, 2005
Dead Zone	"Indicating that the zone is one of death is to indicate that no communication, information or negotiation can exist between it and us" (p. 211).	Doron, 2006 (as cited by Frank and Stevens, 2007)
Loose Space	"… the activities that make a space loose are different from the primary, intended ones (or occur in the absence of them)… Loose spaces allow for the chance encounter, the spontaneous event, the enjoyment of diversity, and the discovery of the unexpected" (p.4).	Frank and Stevens, 2007
Spaces of Uncertainty	The space of uncertainty is the margin that is not officially or definitively occupied. It has the potential to become a public space providing diverse meanings to public life. This makes margin a highly open-minded space redefined through temporary uses.	Cupers and Miessen, 2002

CRITICAL INFRASTRUCTURE

Critical infrastructure is a concept seen since the 1990s. It gains importance after big human-made and natural disasters such as the 9/11 terrorist attacks and some hurricanes in the US and Europe. They have an important role in the functionality of cities and societies. Setola and others (2017) indicate that the main idea of critical infrastructure is that there is a negative impact on society when they are disrupted. On the other hand, there is no common definition of critical infrastructure. In a general definition, critical infrastructures are assets or systems which are "vital" to keeping the social and economic functions of society (UNISDR, 2017). Rinaldi and others (2001 p.12) indicate that;

> *"These infrastructures, which affect all areas of daily life, include electric power, natural gas, and petroleum production and distribution, telecommunications (information and communications), transportation, water supply, banking and finance, emergency and government services, agriculture, and other fundamental systems and services that are critical to the security, economic prosperity, and social well-being of the nation."*

Therefore, critical infrastructures are necessary to ensure the well-being of society as well as its continuity of them. The concept mainly relates to natural and human-made disasters although the starting point of it is terrorist attacks. It has developed according to natural and human-made events in cities. The current and new event is the Covid-19 pandemic, and it gains new perception to critical infrastructure debates.

Critical infrastructure sectors may vary according to different reports and policy papers. Generally, nations focus on technical sectors such as energy, water supply, transportation, etc. However, there are new trends that emphasize green and social infrastructure. It is important to understand the capacity of communities and soft capital such as people and knowledge taken placed in the literature (O'Sullivan et al., 2013). McShane and Coffey (2022) focus on community hubs as a critical social infrastructure, and they emphasize that they have gained attention during the pandemic. In addition, green infrastructure is discussed in the scope of critical infrastructures. Derks and others (2020) study forests as critical infrastructures during Covid-19. They indicate that there is a need for open space because of the shutdown policies of nations. As seen, the Covid-19 pandemic causes new needs and perceptions in terms of critical infrastructures.

For example, considering the increasing usage of forest areas and its effect on the well-being of individuals during the pandemic, it was observed that they may be a critical infrastructure in line with Derks and others' study. From this point, leftover spaces can also have a critical infrastructure potential as public and open spaces. On the other hand, as mentioned, the elderly as a vulnerable group have suffered from the pandemic, and they are the most affected social groups in each country. Therefore, new socializing areas may become a critical infrastructure to ensure their well-being in cities, especially urban areas. In addition, it can be considered an open and public space for the elderly. For this, a study was conducted on the use-practices of left-over spaces as a socially critical infrastructure for the elderly. Social infrastructure refers to the networks of spaces, facilities, institutions, and groups that create affordances for social connection (Latham & Layton, 2019 p.3).

On the other hand, Yarker (2019) explains why aging people need social infrastructure in three ways:

> "Face-to-face interactions are the building blocks of all public life and for older people in particular they are vital for building the social networks that help protect against social isolation.
>
> A diversity of social infrastructure helps older people to have these face-to-face interactions and develop different types of relationships.
>
> Policymakers, businesses, and communities need to start thinking differently about social infrastructure and widen thinking on what spaces in our neighborhoods can contribute sociality".

Correspondingly, leftover spaces are reconsidered as a potential of increasing social connection among the elderly. Especially, the pandemic has negative effects on the elderly in terms of social isolation. The face-to-face interaction among them and with other people in cities has decreased dramatically. On the other hand, the rarity of social infrastructures for the elderly is another reason why they were isolated. In Turkey, they can socialize in a few centers for the elderly or in parks. During the pandemic, the importance and response capacity of social infrastructure has been seen (Yarker, 2022).

In light of these new studies, leftover spaces have the potential to become a critical social infrastructure for the elderly. They have the potential to transform a socializing space that meets the needs of the elderly. In addition to this, they have a response capacity for crises, especially like the covid-19 pandemic which affects people's social life. This study is conducted to search for the socializing needs of the elderly and how leftover spaces' potential can create useful spaces for the elderly.

RESULTS AND DISCUSSION

The interview is conducted with 9 elderly who are participants of Bilge Çınar Healthy Aging Center. As mentioned, there are 9 questions in the scope of this study. The interviewees answer 8 questions while any of them answer the question "How far from your home do you use a left-over space when it becomes available?".

In general, many elders are confined to their homes, and the possibilities in which they come together, communicate, and socialize are reduced from everyday life with the COVID-19 global pandemic. They complained that they started to experience many problems both psychologically and physically with their confinement to their homes. According to interviews, even after the lessening of the pandemic restrictions, they said that they stay at home when they don't go to the Bilge Çınarlar Healthy Aging Center. Thus, we could not obtain data about the spaces they come across on their daily route. The reason for staying at home was shown as the lack of places where they could spend time, walk and socialize in their near environment. For example, due to their need for walking, four elderly using the tramway to go to the center prefer walking from their home to the tram station. They especially highlighted their intention to choose to walk under trees.

In the scope of the first question, interviewees indicate that their necessary activities cover the time that they spend at their homes. On the other hand, their social activities consist of the center. They mostly come to the

center to meet their social needs. The second question focuses on "activities determine the daily roaming and sightseeing route". These answers generally include their transportation modes. Four of them prefer to walk to the center while three of them use the trams. Two interviewees do not prefer to answer this question. The third question asks about the places on their daily routes. However, only one interviewee prefers to answer these questions, and she/he indicates that she/he decides the route according to green areas. The fourth question emphasizes places where they socialize. Four of them answer this question and they generally prefer the center to socialize. Three of the interviewees prefer open spaces, on the other hand. As mentioned, the pandemic has had many negative impacts on the daily life of the elderly. Therefore, there is a question to find out how their daily practices are influenced by the pandemic: "Has this preference changed after the pandemic? Has your frequency of use of open space increased?". Two of the interviewees indicate there is a decrease in usage of outdoor space during the pandemic, two of the interviewees mention their need for open space usage has increased and two of them say that before the pandemic, they use open spaces. The sixth and seventh questions are about the left-over spaces. They ask for the existence of left-over spaces near their homes and on their daily routes. However, most of them do not prefer to answer these questions. The reason for this may the fact that they are not aware of the existence of any left-over spaces in the city.

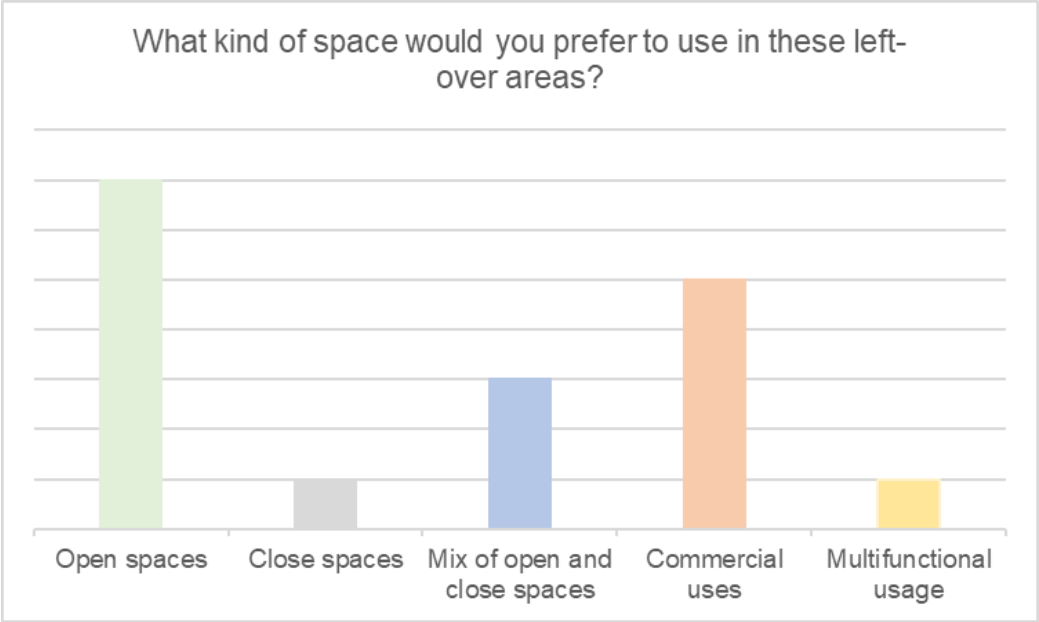

Figure 1: The answer distribution of the last question in the questionnaire.

According to the last question of the questionnaire aiming to detect the possible functional transformation of left-over spaces, the preference of the elderly for the function of the left-over spaces varies by their socialization activity. Respectively, they want to socialize the most in open spaces, spaces with commercial uses (i.e. tea gardens owned by the municipality, cafes, etc.) mix of open and close spaces, and close spaces, and spaces with multi-functional uses. They prefer close spaces for the climate conditions. They indicate that close spaces may be more appropriate because of the climate of the city. For example, interviewee 8 indicates that "there is a need for close spaces for the winter", and interviewee 3 adds that "close spaces may be more

useful also in summer". This shows that the pandemic affects their preference for socialization in open spaces. They want to have spaces appropriate for their age and motility. Another valuable contribution that comes from the interviewees is that "there should be multi-functional spaces such as kindergarten, library, or activity spaces in the left-over spaces".

CONCLUSION

In conclusion, left-over spaces have the potential to be considered not only as a physical infrastructure but also as a critical social infrastructure in the context of the well-being of the elderly in everyday life in cities. One of Yarker's (2019) explanations for critical social infrastructure is that policymakers should consider social infrastructure differently and they should think of them as socializing spaces. Correspondingly, in the context of İzmir, policymakers should reconsider social infrastructure, and they should conduct analysis and studies on identifying critical social infrastructures. However, they should both focus on traditional social infrastructures such as education and health, and a new perception of social critical infrastructure like Yarker mentions to respond to emergency and unexpected conditions.

As a future scenario in İzmir, left-over spaces can be transformed into spaces for the elderly to integrate into everyday life. Considering the issue of motility for elders, they may prefer going and using spaces transformed from left-over spaces for themselves near their homes. The reason behind this is their restricted outdoor activities adjacent to their homes. At that point, it is significant to understand their needs and preferences in cities.

The interviews conducted for the study show that elderly people need space to avoid social isolation considering their motility. Although the majority prefers open spaces to socialize, other external factors are decreasing their quality of life such as weather conditions. Therefore, semi-closed and closed should be considered as a potential in left-over space designs.

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RETHINKING CRAFT NEIGHBOURHOODS AS AUTHENTIC URBAN PLACES FOR PRODUCTIVE CITIES OF THE FUTURE: THE CASE OF GALATA

Yeşim Hafize Desticioğlu

Research Assistant, Özyeğin University
yesimdesticioglu@gmail.com

Gülçin Pulat Gökmen

Prof.Dr., İstanbul Technical University
ggokmen@itu.edu.tr

ABSTRACT

Neoliberal restructuring has affected cities worldwide, accelerating the fact that the service sector has taken the place of the manufacturing sector in city centres. Therefore, developing alternative urban policies to capital-oriented neoliberal ones is necessary, promising cities an equal, sustainable, and resilient future. This article focuses on the problems with current urban transformation policies implemented in the old city centre. It discusses a new urban space approach based on the concept of "authenticity" as a solution for maintaining traditional small production in three craft districts in Galata, Istanbul.

Urban discourses that are produced by a politician or an institution and spread by highlighting communication channels are a suitable field to apply the Critical Discourse Analysis method. Considering urban discourses and urban history together has revealed that urban discourses create a fictional reality for implementing urban policies. Furthermore, it has been determined that today's discourses, in which Galata is defined as a tourist, art, and culture centre, ignore the existence of workshops in the region. While this situation strengthens the perception that the workshops do not belong there, it creates displacement pressure on the crafters. For this reason, making the productions in Galata visible through semi-structured interviews, drawing plans, sketching, and mapping is an essential part of the research. Then, three craft districts, Perşembe Pazarı, Şişhane, and Kuledibi, were analysed according to economic, cultural, spatial, and functional changes. These changes are discussed and explained one by one. As a result of these, suggestions were developed in order to sustain these authentic urban places.

Keywords: authenticity; right to the city; urban discourse; craft neighbourhoods; Galata

1. INTRODUCTION

Neoliberal restructuring has been affecting the whole world for around half a century. Nevertheless, various researchers have criticised the effects of neoliberal policies on cities. Within the scope of this research, three criticisms are particularly emphasised:

1. The invisibility of production in cities and the transformation of cities into consumption centres has caused the gap between thinkers and producers.
2. The city's capital-oriented transformation often violates the Right to the City and is exclusionary for disadvantaged groups.
3. Cities restructured by neoliberal urban policies are similar and lose their unique features and characters.

Developing alternative urban policies to capital-oriented neoliberal ones is necessary and promising for cities' equal, sustainable, and resilient future. It is possible to devise a strategy that highlights the original production of neighbourhoods by reconsidering urban space with the concept of authenticity. Something that is authentic means that it is basically "real, not a copy" (URL1). Zukin (2010), who uses the concept in urban studies, states that due to the similarity of cities, people avoid copied and fake urban spaces and are interested in genuine and authentic neighbourhoods to establish a sense of belonging.

As crafters are small producers, they need to cooperate with other crafters in the production process. For this reason, they usually work in clusters in certain places in cities. When craft neighbourhoods are examined in the historical process, it is seen that they prefer to be in the city centre for a variety of reasons, namely access to different sectors and a wide range of customers, diverse workforce potential, and infrastructural advantages. However, in today's urban policies, it is seen that crafters in city centres are not included in capital-oriented transformation projects, and they are tried to be displaced.

Based on the question, "How can sustainability of craft neighbourhoods in historic city centres, which are under pressure of transformation, be ensured?" this paper aims to reveal the problems in current policies and develop a new urban policy approach based on the concept of authenticity.

2. METHOD

"Space is not a scientific object removed from ideology or politics; it has always been political and strategic" (Lefebvre, 1976, p. 31). According to Lefebvre (1976), although objective evaluation methods, including network analysis, construction density, path analysis, and program content, are scientific methods developed for understanding space, they are not sufficient to comprehend the complex structure of a space. However, the critical analysis may explain how and with which strategies a space is formed. Moreover, a critical discourse analysis method is frequently used in urban studies to examine the relationship between space and ideology.

Critical Discourse Analysis (CDA) was first used in the journal, Discourse and Society, published by van Dijk in 1990 (Wodak, 2013). CDA is accepted as a sub-branch of discourse analysis. CDA emerged to determine the

ideology in the discourse and evaluate it within that context. Kress (1996), being against the fact that discourses of a group or an institution put pressure on others over time, intends to contribute to equality by deciphering the inequality in social life and revealing the effects of discourses by analysing texts defined as cultural objects. Thus, urban discourses produced by a politician or an institution and spread by highlighting communication channels are suitable for applying the Critical Discourse Analysis method.

Istanbul is a unique city that still hosts craft neighbourhoods in its historical city centre. After 1980, manufacturing workshops in Galata - an old city centre in Istanbul - had started to be relocated to the industrial sites outside the city limits of that period. Many demolitions took place in this manner. Although the manufacturing ecosystem in Galata was severely damaged in this process, craft production continues to this day. Craft production still ongoing in this authentic urban space makes Galata a potent subject to study craft neighbourhoods.

After studying the production history of the region, Galata was further analysed through urban discourses. Five discourses from newspapers within the last 70 years, "Nationalism Discourse," "Globalisation Discourse," "Nostalgia Discourse," "Touristic Galata Discourse," and "Beyoğlu the Heart of Art Discourse," were examined. It has been understood that the production in Galata has been pushed into the background with the current discourses. Foucault (1987) argued that the sources in discourse analysis are books, archive records, and news. Cities, architecture, buildings, and even objects inside buildings should be included. According to Foucault, discourse consists of the total of the relations between this whole material world and language. Therefore, other tools were also used to unveil the discourses and make the field's production visible. These tools are interviewing, plan drawing, sketching, and mapping.

Semi-structured interviews were conducted with the crafters who continue to produce in the region. The first meetings were held December 3 - 20, 2020, in Perşembe Pazarı; March 16 - 18, 2021, in Kuledibi; April 2 - 14, 2021, in Şişhane. The interviews continued in all three regions between May 31st and June 11th. A total of forty-nine people were interviewed, including thirteen crafters and two artists in Perşembe Pazarı, seventeen crafters in Şişhane, and seventeen crafters in Kuledibi.

It has been investigated whether a solidarity life is specific to craft neighbourhoods by asking whether they establish a relationship with the environment during the production process. First, the crafters were asked who their masters were to test the pre-knowledge that the crafters' profession had been carried over from the Greek and Armenian masters. Second, to understand whether current knowledge can be transferred to the future, it was asked whether they had apprentices. Third, the designer-crafter network was explored by asking whether they had collaborations with the designers. Finally, it is analysed how the masters used their workshops, constructed the space, and how the production spaces related to the street. As a result of the analysis, the sub-regions original features were revealed, and suggestions were developed in this context.

3. THEORETICAL FRAMEWORK

3.1. CRAFT AND CRAFTERS

"Craft" is defined as the work which requires skill and is produced by hand (URL1, URL2). The definition and the scope of craft have changed over time. The concept of téχnē (techne), which means "carpentry, building mastery" or "art, mastery in general" in Ancient Greek (Nişanyan, 2020, p. 872), offers a much broader richness of meaning than the present-day definition of craft. Heidegger (1998) considers the concept of techne as bringing something into existence, revealing something that did not exist before due to a production process. Concept of revelation in Heidegger's philosophy can have two meanings: producing a concrete product and being in an intellectual activity such as philosophy. In this meaning, techne includes "mind arts", "fine arts", and handcrafted productions.

While arts and crafts were united in Ancient Greece, the boundaries between them crystallised with the Renaissance. Sennett (2019) explains the emergence of this dichotomy with the story of Cellini and the golden saltshaker that he made for King Francis I of France (Figure 1). Having an intellectual background beyond the function and being unique, this shaker had been considered an artwork, and Cellini as an artist. Cellini was distinguished from other crafters by "authenticity," a concept that the medieval guild ignored. However, the craft is not just the repetition of the same production. According to Sennett (2019), the learning ability of the hand is one of the two prerequisites for the development of skill in a craft, and the other prerequisite is imagination. The theorist states that a good crafter can develop his problem-solving skills only due to the dialogue between bodily practices and mental activities.

Another critical feature of the crafters' profession is the transfer of implicit knowledge to the next generations. The knowledge produced in the crafter's workshops cannot be written down but passes from hand to hand; the mind and memory of the hand keep the knowledge. Both the knowledge of the hand and the knowledge of the mind are the keys to a good product.



Figure 1. Cellini's golden saltshaker (URL 3).

3.2. CRAFT NEIGHBOURHOOD

Groups that make similar products in the city settle close to each other, and this behaviour is defined as "clustering" (Florida, 2003). Porter (1998) states that clustering provides an excellent advantage for small businesses. By establishing cooperation with the others in the cluster, these businesses can act as large firms without losing flexibility.

Different expertise is often needed in the production process of a crafter product. This need has caused the cooperation of the crafters and their adoption of a production model based on material and knowledge exchange (Kaya and Yağız, 2011). Therefore, crafters prefer to work together and form crafter clusters. Another condition that triggers the formation of these clusters is that the crafters who produce the same work keep up with the market by observing each other (Ökten and Evren, 2013b). Clusters formed by crafters are called market, bazaar, or, more recently, a crafting neighbourhood (Kaya and Yağız, 2011; İngin, 2019; Ökten and Evren, 2013a).

It is possible to discriminate between two types of spaces in craft neighbourhoods. One of them is the workshops next to each other, forming a line in the streets, while the other is the inns, clustering vertically and horizontally (İngin, 2019) (Figure 2). Inns have played an essential role in commercial life, allowing traders and crafters from both eastern and western origins of professional cultures to meet and transfer information (Isin, 1995). Streets connecting the inns and the workshops, which still maintain their quality of meeting spaces, are also in the scope of the production area. The main reasons for this situation are the small size of the workshops and the fact that some stages of the production are more suitable for open space.

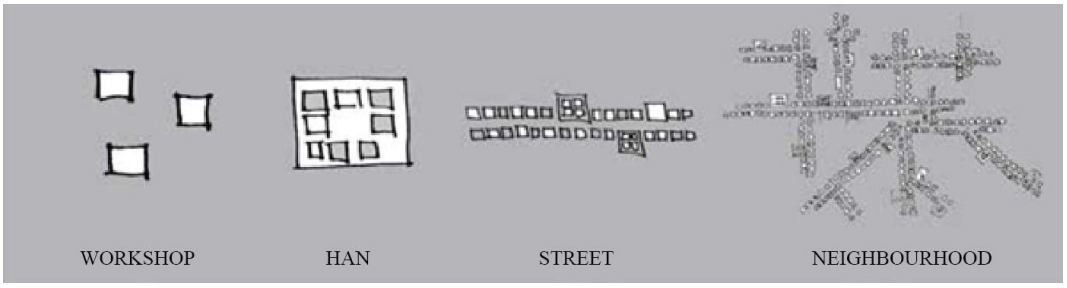


Figure 2. Spatial organisation of the craft neighbourhood (İngin, 2019).

In the craft neighbourhoods, the production tradition has its roots in the guild culture. Lopez (1971) defines the guild organisation as "a federation of autonomous workshops where the owners (masters) normally make all the decisions and provide for the support received from the lower ranks (journeymen, paid assistants or apprentices)" (Lopez 1971; as cited in Sennett, 2019, p. 78). According to Sennett (2019), the primary purpose of the guilds is to maintain the technical knowledge because the economic power of the crafters is based on the "knowledge capital."

For Faroqhi (2017), there are many commonalities between the guilds of medieval European cities and that of the Ottomans'. Therefore, a general definition of the craft organisation can be made, and the Ottoman, Western, and Central Europe guilds can be considered subgenres. For instance, in both guilds, the number of

people who practice the profession and to whom the profession can be transferred is limited. Again, the products are inspected, and punishment is applied in an unfair situation (Figure 3).

The city centres developed rapidly with the Industrial Revolution and gained a critical position in international economic relations (Tatlıdil, 1992). Since the accumulation and transfer of capital are concentrated in these regions, the sector with the highest competitive power is located in the city centre (Turut and Özgür, 2018). Having a key place in the market until recently, crafters also prefer to be in the city centre due to the opportunity to access different sectors, various workforce potential, infrastructural advantages, and ease of access to customers (Ökten et al., 2012). While neoliberal urban policies and service sector-oriented transformation of the city centre cause crafters to move away, it also causes the original features of the craft neighbourhoods such as production style, solidarity culture, production network, and production heritage to disappear.



Figure 3. The parade of crafters (left), penalties given by the guild organisation that used to be applied by exposure to the public (right) (Işın, 1995).

3.3. AUTHENTICITY

The state of being authentic is used as a descriptive quality in many fields, from industrial objects to artworks. Ulukan (2004) states that while industrial objects are represented whether they are "authentic" or "real" by banderols or serial numbers, in the field of art, the concept of authenticity is used to describe the original

works of the artist. As for architecture, the concept of authenticity is associated with the historical document quality of the building. According to Ulukan (2004), using the architect's technique or copying an architectural element that belongs to a building does not harm the work's authenticity. However, as in the Zeus Altar example, which was moved from Bergama to Berlin and exhibited in a museum, the work was taken from its original environmental texture, making its authenticity controversial.

Although it is handled in different art branches in different ways, the concept of authenticity is equated with reality, and inauthentic works are called fake and imitation. A similar approach is seen in urban studies. Lefebvre (2015) defines *pre-industrial cities* as works of art (*ouvre*) and emphasises their specific values. According to the author, the city itself has become a commodity with industrialisation. The city is now "nothing more than a cultural object of consumption for the tourists, for the aestheticism which is thirsty for spectacles and picturesque" (Lefebvre, 2015, p. 120) (Figure 4).

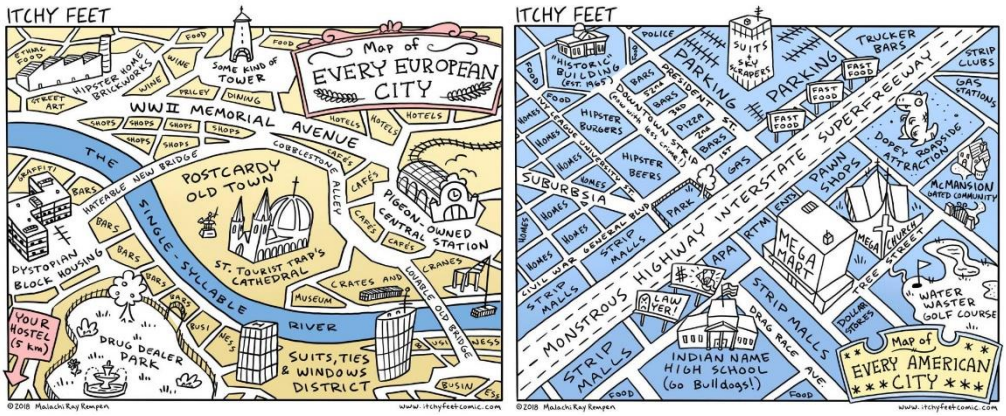


Figure 4. Caricatures criticising the similarity between European and American cities (URL 4, URL 5).

MacCannell (1999) explains the marketing of authenticity in cities with the concept of "staged authenticity." The author states that fictional authenticity surrounds the cities, and the tourists' search for authenticity has to fail. Stating that tourists seek authentic places with the desire to contrast with their daily lives, Urry (1990) defines this situation as the "tourist gaze": "Tourist is a kind of contemporary pilgrim who seeks authenticity in other 'times' and other 'places' away from daily life" (Urry, 1990, p. 8).

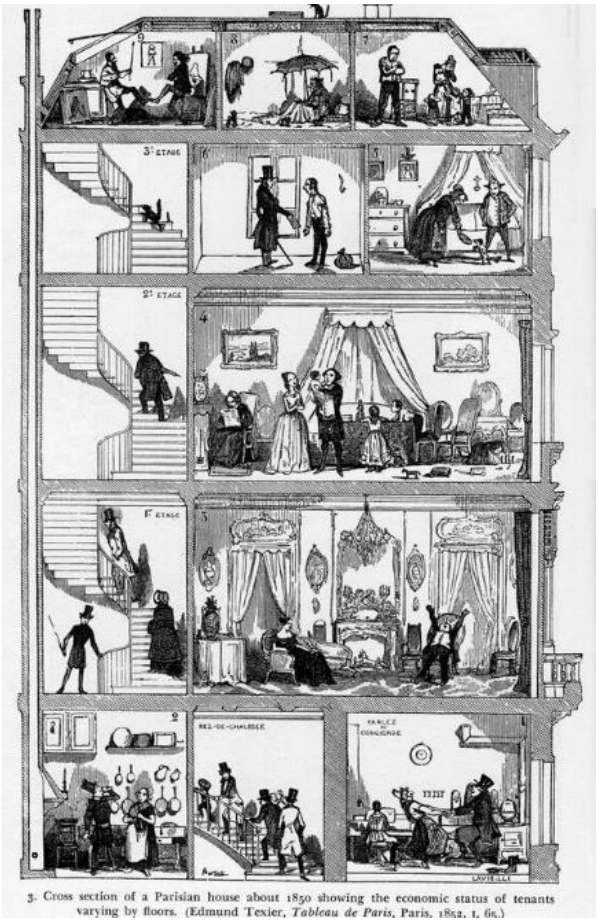
Zukin (2010) states that authentic urban spaces are not only built for touristic purposes, but the same strategy is also followed in residential districts. For him/her, due to the similarity of cities, people avoid copied and fake urban spaces and develop an interest in genuine and authentic neighbourhoods to establish a sense of belonging. Zukin (2010) states that the contractors, investors, and technocrats are aware of this interest. Therefore, they brand the diverse regions to attract the attention of middle-class citizens. At the end of the process, the region's authenticity is destroyed. It is also stated that, considering the places where gentrification is done through authenticity, authenticity turns into an element of oppression for the lower and lower-middle class, who can no longer afford to live there. However, the author adds that "synthetic authenticity" was created and marketed by adding some features to some neighbourhoods later on. On the

other hand, Zukin (2010) sees authenticity as an opportunity for new demands for the city's right, which can be turned in favour of the group trying to be displaced. According to the author, a disadvantaged group can claim the Right to the City by asserting to be authentic.

3.4. THE RIGHT TO THE CITY AND THE CITIZENS

The French philosopher Lefebvre first used the concept of "the right to the city" in 1968. Lefebvre (2015) considers the concept as the right to urban life and defines it as the right of all people to access the city and benefit from its social opportunities.

Many theorists like Lefebvre, Sennett, and Castells refer to the 1871 Paris Commune to explain the concept of the city's rights. It is possible to say that there is a consensus among the theorists that Haussmann's process of rebuilding Paris triggered the Paris Commune. As emphasised by the researchers, homogenisation of the city and centre-periphery dichotomy are seen as fundamental problems in discussions of the Right to the City (Figure 5). The Paris Commune, in which the groups excluded from the city centre with the homogenisation had struggled for the city they lost, is a significant turning point in the search for urban democracy and the Right to the City.



3. Cross section of a Parisian house about 1850 showing the economic status of tenants varying by floors. (Edmund Texier, *Tableau de Paris*, Paris, 1852, I, 61.)

Figure 5. Cross-section of an apartment block in Paris before the homogenisation (URL 6)

Like the Haussmann plans, another development activity was given as an example in the discussions of the city's rights. This activity was carried out by the planner, Robert Moses, who worked in critical positions in New York from the 1930s to the 1960s. However, unlike in the Haussmann period, an urban consciousness was formed in this period. The critics of the activist journalist, Jane Jacobs, were highly influential in forming this consciousness. Jacobs (2009) states that the broad highways, which were opened within the scope of Moses' developmental activities, and the suburbs, which she defined as "unidentified," killed the city (Figure 6). Stating that different business lines, functions, buildings from different periods, and people from different classes should coexist in a neighbourhood, Jacobs emphasises the importance of hybridity.

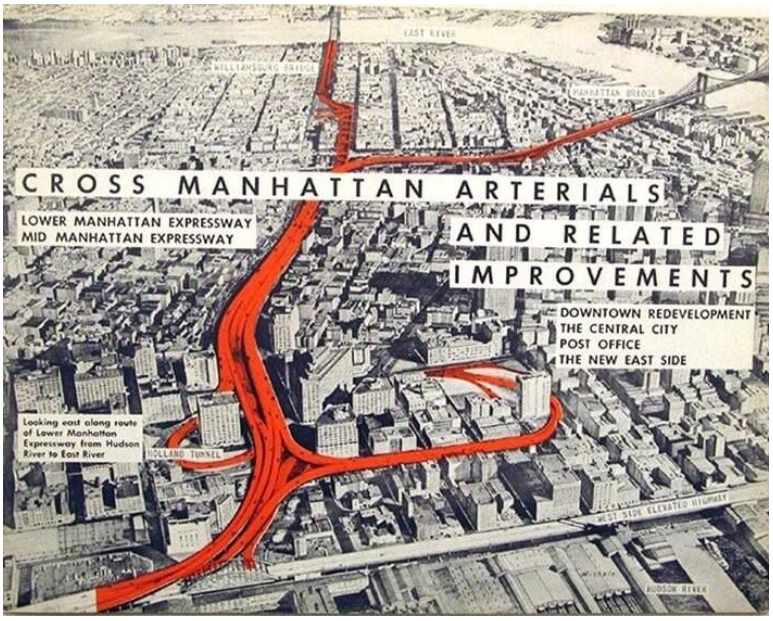


Figure 6: Poster showing Robert Moses' failed highway plan (URL 7).

Zukin (2010) defends the idea of hybridisation put forward by former urban researchers such as Jane Jacobs. However, she also considers the threat of gentrification. Unlike Jacobs, who appeals to the planners for a just city, Zukin (2010) argues that the planners left ineffective compared to the technocrats in the transformation of the city. Therefore, according to her, it is necessary to develop urban policies supporting life in the region to recover the gentrifying regions. Similarly, Sassen (2014) defends that cooperation with technocrats is necessary to protect the Right to the City. Pointing out that the leading group that transforms the city is the capital owners, she claims that the search for the Right to the City can be achieved by the sanctions that will restrict the capital owners.

Developed in parallel with the discussions on the Right to the City, the concept of urban rights emerged from an approach advocating that the problem should be handled within the framework of human rights and discussed based on legal validity. Within the framework of the urban rights defined in the text of the 1992 European Urban Charter, it is aimed to develop alternative solutions to urban problems by developing urban policies together with municipalities and local governments (Ertan, Akkoyunlu and Ertan, 2013). Following this study, the 1994 European Charter for Women in the City, the 2000 European Charter for the Protection

of Human Rights in the City, the 2004 World Charter for the Right to the City, the 2006 Montreal Charter for Rights and Responsibility, and the 2008 European Urban Charter II were studied.

Some of the urban rights defined by the European Urban Charter are as follows: multicultural integration, harmonisation of functions, participation, economic development, inter-municipal collaboration, and equality (URL 8).

3.5. SPATIALISATION OF DISCOURSE: URBAN DISCOURSE

Urban discourses produced by politicians are used to make a convincing future scenario, fictionalised for the urban spaces planned to be revitalised. Through the redefinition of discourses in the past, the past-future relationship is established, and a fictionalised reality is created (Tomruk, 2010). However, unlike the fictionalised reality, the transformation of the city in developing countries like Turkey is organised by ignoring the region's current situation and its habitants to adapt to the political and economic conditions on a macro scale (Yalçıntan et al., 2014). The writer states that the discourses on urban transformation projects are used to legitimise the process.

Baudrillard's *Simulacra and Simulation*, published in 1981, criticises the new reality created by representations distributed by the mass media. This work provides a convenient conceptual ground to discuss urban imaginaries. The dictionary defines *simulacrum* as "the appearance that wants to be perceived as reality" (Baudrillard, 2011, p. 7).

Based on Baudrillard's conceptualisations, it seems possible to consider urban discourses as simulacra and the urban imaginaries distributed by the mass media and internalised by the society as a kind of hyperreality. For example, the project "Tarlabaşı 360", with the motto "tastes like a neighbourhood," uses the traditional figures of the neighbourhood in the advertisement posters. The economic power of these figures, such as flower sellers and greengrocers, could not afford to live in that area. In this way, the project created a neighbourhood simulation (Figure 7).

In conclusion, it is possible to state that the urban discourses whose subject of an object is the city and its inhabitants play an essential role in the production of the city.



Figure 7. Advertisement posters of the project Tarlabaşı 360 (Doğrucan, 2017).

4. THE CASE OF GALATA

Galata has transformed under the influence of both the internal dynamics and the decisions made from the upper scale. The historical pattern in which spatial and social transformations are intertwined has allowed us to understand today's texture.

The port's existence has affected the formation of the craft culture of the region. In line with the maintenance and repair needs of the ships arriving at the port, it is seen that crafts had developed. These crafts were blacksmithing, reel making, sailing, fishing nets, rope making, and hooks. With the establishment of the shipyard in the 15th century, the production environment became more vital. Eldem (1992) states that until the 18th century, the production and trade in the region were concentrated in Perşembe Pazarı, and wooden housing was dominant outside this area. In the 18th century, due to the increasing commercial density and Muslim population squeezing the non-Muslim neighbourhoods, the residential area began to overflow towards Pera. In the 19th century, although the service sector gained importance, it is observed that the production continued and even diversified. Galata became an area where European goods were sold in this period, and innovations were followed and produced simultaneously. The functional distribution of Galata at the beginning of the 20th century is shown in Figure 8. As a result of the industrialisation policies implemented in the 1950s Galata, where the housing rate was already gradually decreasing, the work intensity increased in the region, transforming the area into one of the three significant central business districts of Istanbul.

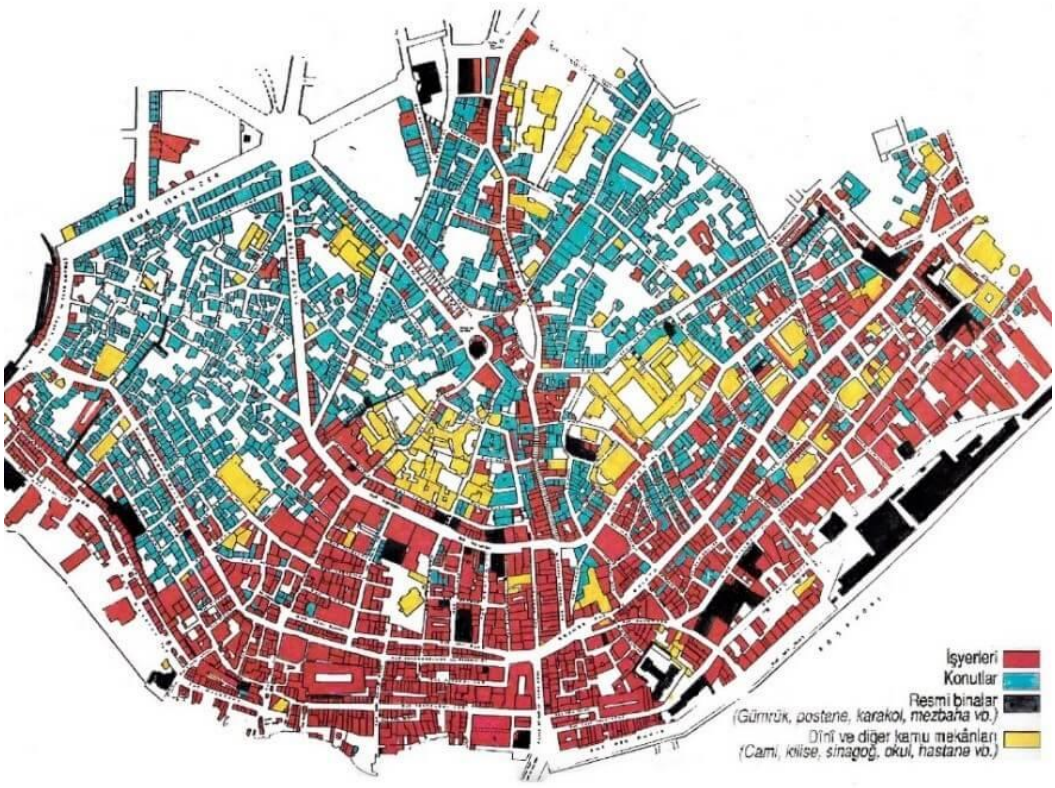


Figure 8. Functions in Galata at the beginning of the 20th century (Eldem, 1992).

Non-Muslim crafters also played an essential role in developing crafts in the region. Following the conquest by the Ottoman Empire, a substantial Muslim population settled in the region, and the cosmopolitan structure remained in the region until the 20th century (Akyol, 1996; Eldem, 1992; Mantran, 1995). However, after the abolition of the capitulations with the 1923 Treaty of Lausanne, adoption of the Wealth Tax Law in 1942, relocation of embassies to Ankara, and establishment of Israel in 1948, Turkish nationalism gained even more importance. With the emigration of the Jews during the Menderes period, "September 6-7 Events" took place. As the minorities left the country and the city, the cosmopolitan structure of Galata was almost utterly destroyed (Akin, 1998).

After 1980, the deindustrialisation of the Golden Horn, destructions in Tarlabaşı and Perşembe Pazarı, the production function in the region decreased. With the restoration projects around Galata starting in the 1990s, the touristic identity of the region was strengthened. Therefore, the district gradually turned into an area that the artists preferred. Soytemel and Şen (2016) state that gentrification in Galata became visible by the year 1995. With Istanbul becoming the European Capital of Culture in 2010, the region hosted many exhibitions and festivals, accelerating the cultural transformation process.

In order to understand the economic transformation in Galata, research was conducted with Murat Güvenç at Kadir Has University Center of Istanbul Studies in 2020. With this research, street lengths and average market values were tabulated, and the average market value for each year was found by the normalisation method. Obtained values were divided into seven groups (Figure 9).

Some regional differences are observed in the maps created due to the research. While the market value of the Perşembe Pazarı region was above average in the year of demolition in 1986, it was determined to be average in 1995. In 2005, 2015, and 2020, the streets outside Tersane Caddesi felt below average. These data show that Perşembe Pazarı has turned into a collapsed area. While it was below the average in 2005, the area's market value between the Galataport project and Perşembe Pazarı increased from 2015 to 2020. This increase can be evaluated as the impact of megaprojects on the environment. Moreover, it was observed that the market value of Yüksek Kaldırım Caddesi increased one more level between the years 2005 and 2015, which can be explained by the fact that the street has turned into a touristic route.

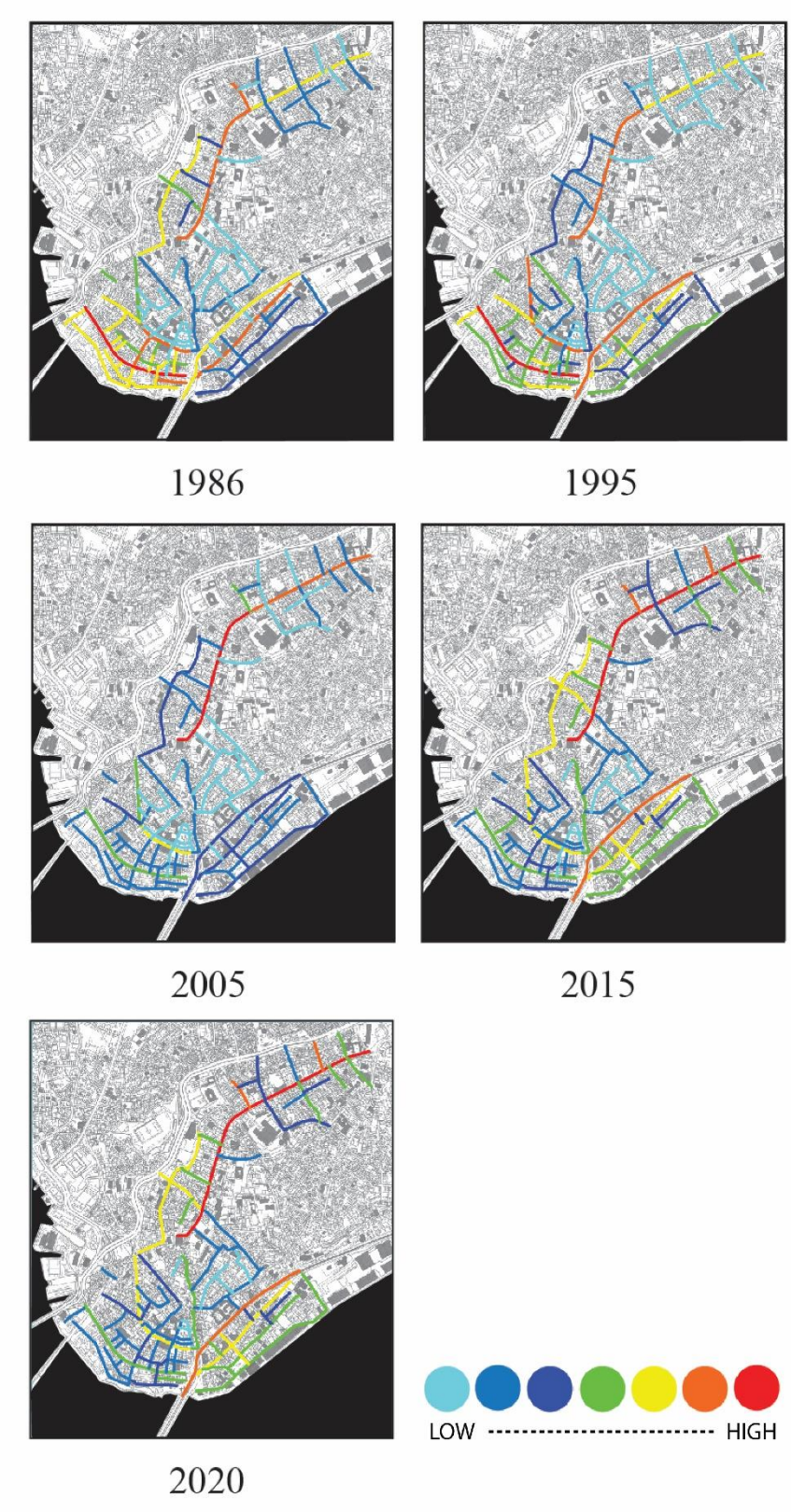


Figure 9. The transformation in the market values of lands in Galata.

4.1. GALATA UNDER THE INFLUENCE OF URBAN DISCOURSE

The discourses affecting the Galata from the beginning of the Turkish Republic to the present have been researched. Five highlighted discourses are studied in the events that changed the region's character and formed a turning point. In the wideness of the studied period, the continuity of all the national newspapers was not ensured. Therefore, the prominent newspapers of the period were referenced. İstanbul Ekspress, Hürriyet, Yeni Sabah newspapers, and İller ve Belediyeler magazine are studied for the city development activities through the 1950s' nationalist discourse. On the other hand, Cumhuriyet, Hürriyet, and Milliyet newspapers are studied for the post-1980 discourse of globalisation and regular, sterile cities. Cumhuriyet newspaper for nostalgia discourse; Cumhuriyet, Hürriyet, Milliyet, Radikal and Vatan newspapers for the touristic Galata discourse; Milliyet and Beyoğlu newspapers for the discourse of “Beyoğlu, the heart of art” are also studied.

It has been revealed that discourses were produced by the administrative staff, which can be called transformative actors. They are produced under the economic and political situation of the period and play an essential role in the City's transformation. For instance, the nationalist discourses gained strength after 1950 and had an important place in the development of Istanbul. Prime Minister Menderes takes the stage as the actor of the period. It is seen in the newspaper news that Menderes personally followed and directed the city development process. Menderes' depiction of Istanbul's development as "a matter of motherland" shows that the development activities are involved in political decisions. In the 1980s, when the City was reorganised to integrate into the global economy, Istanbul Metropolitan City's mayor's discourses came to the fore. When the news titled "We will clean the Golden Horn" and "The Golden Horn is like the Thames" is studied, Mayor Dalan's political attitude beyond ecological concerns, an attitude that tries to get closer to Europe, draws attention (Figure 10).

Today, the transformation of Galata continues with the discourses of "touristic Galata" and "heart of art." Discourses may create a reality over time and are reproduced by the exposed audience. For example, a chandelier manufacturer in Şişhane said, "This is a touristic place; we should not be here anymore. It is important to develop; you cannot improve by standing still. We must leave so that this place can flourish." (quoted from the author's interview in the region) shows the reflection of the discourse circulating through the media in the City.



Figure 10. Collage of headlines.

4.2. GALATA AS AN AUTHENTIC URBAN SPACE

Craft clusters are not only gathered in certain parts of the City but also combined within themselves, depending on the type of production and the intensity of trade and production function. For example, there are three craft clusters in the Galata region with different characteristics. One of them is the Perşembe Pazarı region specialises in electrical tools, hardware, machinery, and spare parts. The other is the Şişhane region of lighting, and the third is the Kuledibi region of wood and metal processing, although it has decreased in popularity.

Forty-nine people from three regions were interviewed. The interviewees are thirteen crafters and two artists from the Perşembe Pazarı region, seventeen crafters from the Şişhane region, and seventeen crafters from the Kuledibi region. The interviewed workshops' locations and the regions' boundaries are shown in Figure 11. In addition to the interviews, the relationship among the workshops - inns - streets is observed and photographed. There are also plans, section drawings, and perspective sketches made to determine the daily life of the craft neighbourhood, together with the function and visibility of the production.

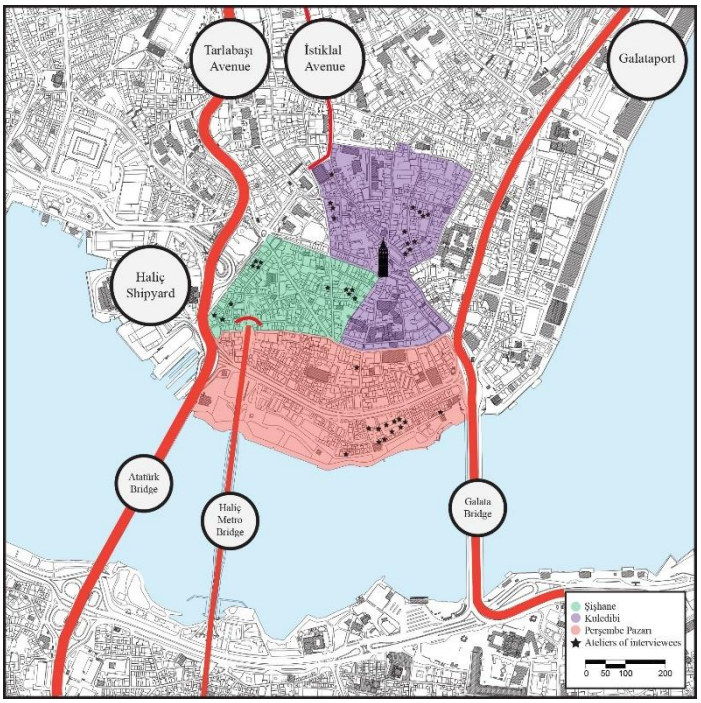


Figure 11. Craft clusters in Galata.

4.2.1. ECONOMICAL BACKGROUND

Based on the interviews, it is possible to say that there are various advantages of producing in craft clusters recognised by the citizens. The first advantage is that the region is a training and development area for newcomers. A new crafter, included in the network of relations established by crafters both with each other and with customers, can thus create a customer network. Furthermore, the crafters stated that the region is

an attraction point for customers, as Perşembe Pazarı and Şişhane have known for many years. Therefore, there is an intense business circulation. Another advantage is the cooperation opportunities provided by close sectors being together. Perşembe Pazarı is specialised in electrical tools, hardware, machinery, and spare parts, while Şişhane has many workshops for lighting elements and spare parts. This positioning provides the opportunity to access most of the production items nearby. Functions such as turning, revolving, spinning, and ironworking in Kuledibi also interact.

When the crafters were asked about the features distinguishing their products from mass production, the answers varied depending on the product types. In areas that do not require design, the answers include these: the robustness of the product, the fact that a smaller number of products can be produced there (unlike the factories), the opportunity to go beyond the factory standards in dimensions, crafters controlling the production at every stage, and the feeling of trust brought by face-to-face communication. Also, crafters cooperating with designers are aware of the handicraft's value to the product. Able to contribute to the design development due to their technical knowledge, the crafters state that the designer can participate in the production process. Moreover, the problems that may arise during the process are solved together. In this way, it is possible to continue the design process until the final product is produced, rather than producing a finished design.

4.2.2. CULTURAL BACKGROUND

Most of the interviewed crafters spent their apprenticeships in this region, too. When the masters were asked to describe their masters, Armenian and Greek names were frequently mentioned, and their contributions to the profession were also mentioned. Today, very few non-Muslim masters continue to produce in the region. Master Levon, a 78-year-old brass crafter, conveyed this tradition with these words: "Of course, if a child were to learn an art, it would be given to an Armenian or Greek master; if he were to learn a trade, he would be given next to a Jewish master" (Figure 12).



Figure 12. Master Levon with former apprentices who are current partners.

Except for the musical instrument producers in Kuledibi and the crafters in the electrical workshop in Şişhane, the crafters mention difficulties finding apprentices. The difficulties are generally explained by the length of the compulsory education period and the delayed apprenticeship period, or that young people prefer desk jobs to being involved in such productions. Another reason is related to the fact that the machines used by young people in technical high schools are different from those used in craft workshops. The tools used in the workshops are perennial machines, and therefore, a large part of the process consists of a manual workflow. However, students studying in technical high schools cannot adapt to the production processes in the workshop because they learn to use digital tools. In addition, many crafters mentioned in the interviews that the tool they used was old. Although they did not invest due to economic reasons and thought that their work would end with them, it was observed that they renewed and developed their tools in line with current needs.

Besides, there are also positive developments regarding transferring knowledge to future generations. The Istanbul Development Agency realised the project "Master Work Beyoğlu" within the Financial Support Program for Creative Industries in 2015. In this project, selected masters in the Beyoğlu region with students from high schools and universities did produce together. In addition, it was stated that within the curriculum of the education programme carried out in the Department of Industrial Design at Istanbul Bilgi University, there is another collaboration: Students who are expected to produce their designs in workshops every year also work as apprentices in them for a while. The crafters seem satisfied with this process. Communicating with young people who will come to the market as designers in the future will contribute positively to the establishment of potential business networks. However, the crafters participating in the programme draw attention to the lack of supervision in the apprentice training carried out within this programme and the Master Work Beyoğlu. They state that these projects are not efficient enough.

4.2.3. FUNCTIONAL BACKGROUND

Perşembe Pazarı, Şişhane, and Kuledibi, which can be defined as craft clusters with three different characters, continue to change in different ways and at different speeds. With the new coastal arrangement of the Istanbul municipality, the Golden Horn serves the city as a new public space where Istanbul citizens spend time, ride bicycles, and walk. Therefore, Perşembe Pazarı comes to the fore with the functions of eating and drinking (Figure 13). The region's aura is changing due to the artists moving into the Kurşunlu Han, but no renovation work is seen for the old or destroyed buildings. The existing building stock in the Şişhane region seems to be in a better condition than the stock in Perşembe Pazarı. It was stated during the interviews that tourism-oriented buildings and hotels have increased in the regions, and there were complaints because the existing workshops in the region were working noisily. Despite this, Şişhane emerges as the most intensive production region among the three. The production in Kuledibi has decreased notably. The functions of the existing buildings are transformed by being restored or being demolished and rebuilt. During the research, a building on Tatar Bey Sokak, where the workshops were located, was demolished. Another building next to the demolished one was evacuated to be demolished within a few months. Even these examples show the speed of the transformation in the region.



Figure 13. Fish restaurants on the coast.

When the participants are asked to describe the change in the region, the first reference is the period when the region was dense with workplaces. The change in the region is being explained by the increase in the number of hotels and residences. The discourse that the region will turn into a hotel zone seems to have spread among the crafters. They associate the process of transforming into a hotel zone with the opening of Galataport. Although Galataport was not opened at the time of the research, "The Galataport Hotel" existing in the region can be considered one factor in the spreading of the discourse (Figure 14).

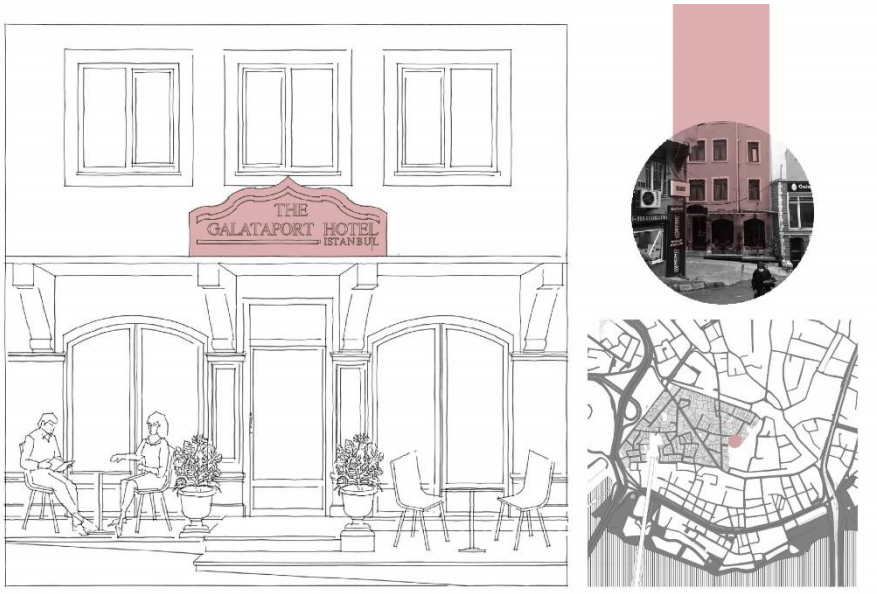


Figure 14. The Galataport Hotel at Şişhane.

4.2.4. SPATIAL BACKGROUND

Due to the traditional urban texture of Galata, the parcels are dense, usually without gardens, and relatively small. This problem is tried to be solved with various storage solutions in the interior. For example, the walls are used very intensively in all interviewed workshops (Figure 15). The products are stored and exhibited by hanging them on hooks suspended from the ceiling in the lighting workshops. In some small workshops, the storage area was tried to be solved with a platform added below the ceiling level. As observed, crafters working with heavy materials stacked their materials in the gaps left on the sides of the machines they use or stacked them on top of each other on the floor. Using the walls and creating a new storage area with the shelf added to the roof seem reasonable solutions. However, the materials stored on the machine sides or piled on the floor restrict the movement of the crafters, posing a threat to working safety.



Figure 15. Shelving in a workshop in Şişhane.

In the last ten years, the designers who came to Kurşunlu Han in Perşembe Pazarı renovated their workshops. The Khorasan plaster, initially thought to be original, peeled off in these workshops (Figure 16). It is possible to evaluate this situation negatively, but the hybrid uses that emerged with the arrival of the designers and artists to the inn were found positive. They stated that they received support from crafters during their production. This diversity is felt in the inn's portico section (Figure 17). The artworks and the designed furniture added to this section have changed the inn's atmosphere.

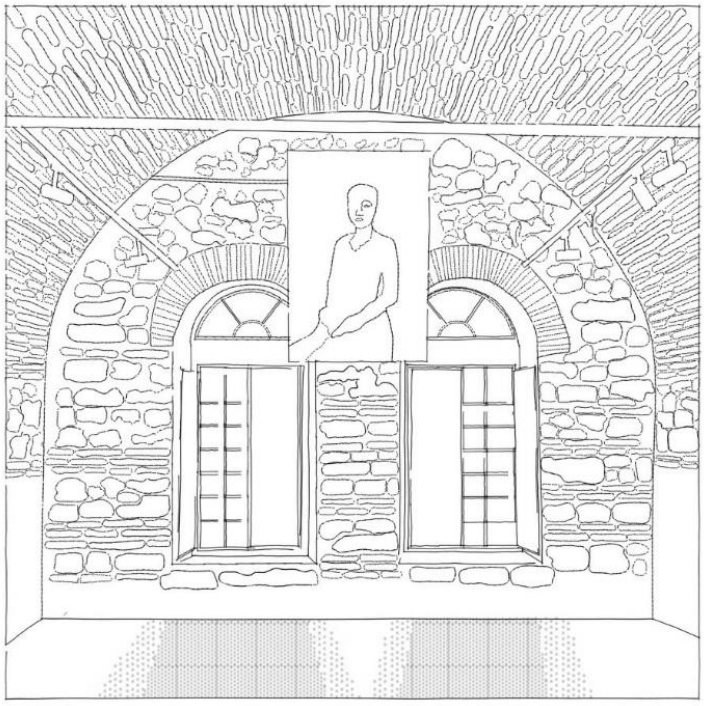


Figure 16. Art gallery in Kurşunlu Han.

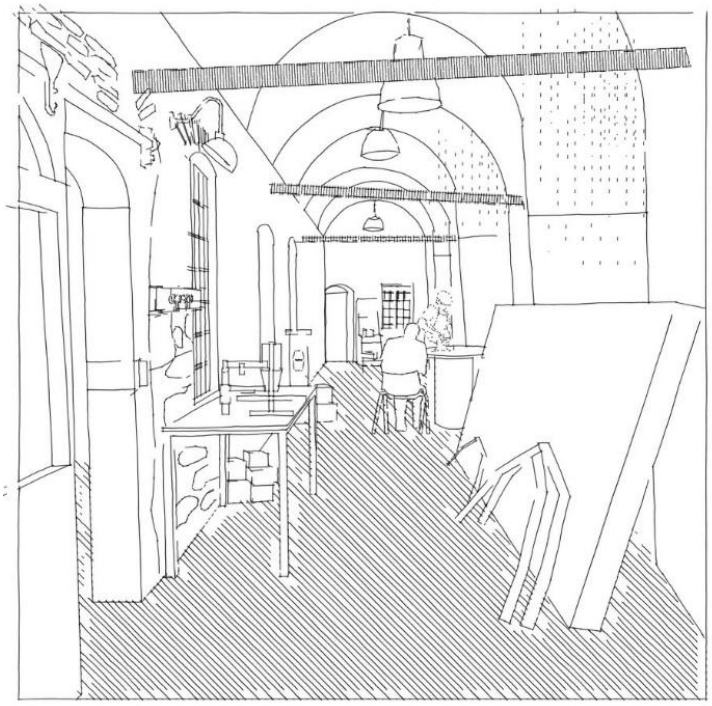


Figure 17. Production in the inn's portico section.

The spatial characteristics of the craft neighbourhoods in Galata can be summarised as follows:

- It was observed that the walls are actively used for storage and exhibition purposes in all the workshops examined in the Perşembe Pazarı, Şişhane, and Kuledibi regions.
- In most workshops, the machines are positioned close to the wall, and the central space is tried to be kept empty to work with large materials. A wide bench is placed in the central space in smaller productions to allow any necessary movement (Figure 18).
- Machines have been positioned considering the order of work. The assembly area has generally been tried to be kept away from other functions because a clean area is needed. Daylight is taken into account, and placing the assembly benches in front of the window is regarded (Figure 19).
- While the workshops in Şişhane and Perşembe Pazarı actively use the threshold space of the front door, the Kuledibi workshops do not communicate with the street (Figure 20) (Figure 21) (Figure 22). The various uses of Fermeneciler Caddesi in Perşembe Pazarı are shown in Figure 23. On the street with the mosque wall on one side, ablutions are performed, food is cooked and served, spools are stored, and on another side, crafters produce (Figure 24).
- It has been observed that the traffic is heavy, especially in the Şişhane region. The entrance and exit of the shops are restricted due to cars parking in front of the shops. One reason for the traffic on Tersane Caddesi is that the street is an important connection point of the urban transportation network. The supply of goods causes the traffic in the side streets. The intense supply chain in the region puts pressure also on Tersane Caddesi. On the other hand, the supply of goods is usually done during the night time in Kuledibi (Figure 25).
- In Şişhane and Perşembe Pazarı, materials are transported between workshops, warehouses, and shops by wheelbarrows and forklifts during the day. These vehicles form a part of daily life there.
- Workshops in Kuledibi are generally located under the ground or on the upper floors (Figure 26) (Figure 27). The functions opening to the street in the Kuledibi region are generally musical instrument shops, souvenir shops, cafes, and restaurants. The street is shaped in line with these functions and is generally used as a walking route by foreign or urban tourists.
- There are more historical buildings in Perşembe Pazarı and Kuledibi. While historical buildings were renovated and functioned in Kuledibi, restoration was not observed in Perşembe Pazarı except for a few examples. However, it is possible to see many historical layers from the Genoese period to the Ottoman period together in the Perşembe Pazarı, such as the brass workshop under the historical arch next to Kurşunlu Han (Figure 28), the original cast-iron doors in Kurşunlu Han and Serpuş Han (Figure 29), and a crane thought to be an add-on from the 20th century (Figure 30).

The typological section of all three regions was drawn based on all these spatial features. Figure 31 shows the typological cross-section perpendicular to Fermeneciler Caddesi in Perşembe Pazarı, characterised by crafter and artist workshops, hardware stores, fish restaurants on the coast, and parking areas appearing in the places of demolished structures. As the region became one of the three significant central business districts of Istanbul in the 1950s, the commercial buildings built in Şişhane resemble apartment typology, unlike the

traditional inn typology. A different workshop uses each room in these inns, and cooperation is established as in traditional inns. The typological cross-section of Şişhane perpendicular to Şişhane Sokak is shown in Figure 32. In the Kuledibi region, it is impossible to see wheelbarrows on the street or a crafter making production in front of the workshop, but the production continues on the upper and lower floors. As shown in Figure 33, there are housing, production, and commercial functions in the buildings.



Figure 18. Two different workshop plans in Kuledibi.



Figure 19. The interior setup of three different commercial buildings in Şişhane.



Figure 20. Street use in Şişhane.

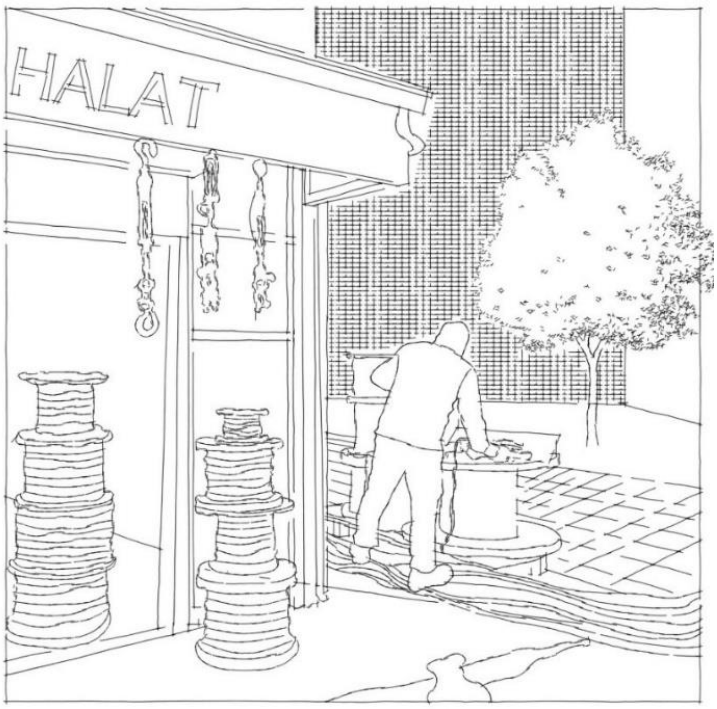


Figure 21. Street use in Perşembe Pazarı.



Figure 22. Street use in Kuledibi.

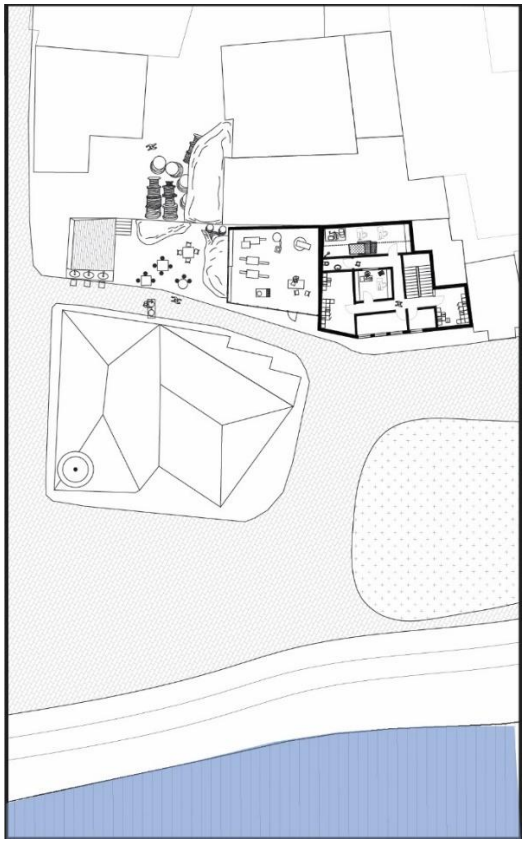


Figure 23. Fermeneciler Caddesi in Perşembe Pazarı.



Figure 24. The spreading kitchen of a restaurant on Fermeneciler Sokak.

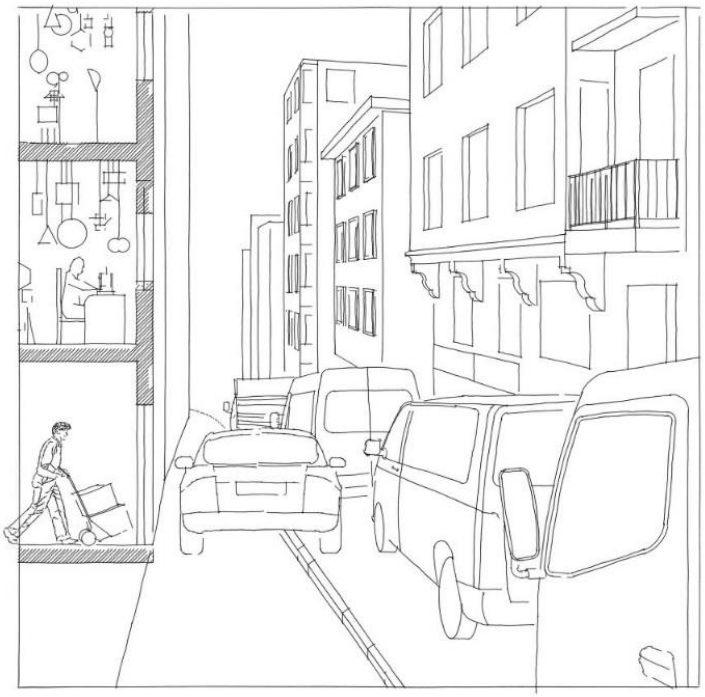


Figure 25. The car parking in front of the shops and the traffic on Şair Ziya Street.



Figure 26. The plan shows the floors where the workshops are located.



Figure 27. Portable ladder solution for no signal problem in an underground workshop in Kuledibi.



Figure 28. The brass workshop is under the historical arch next to Kurşunlu Han.

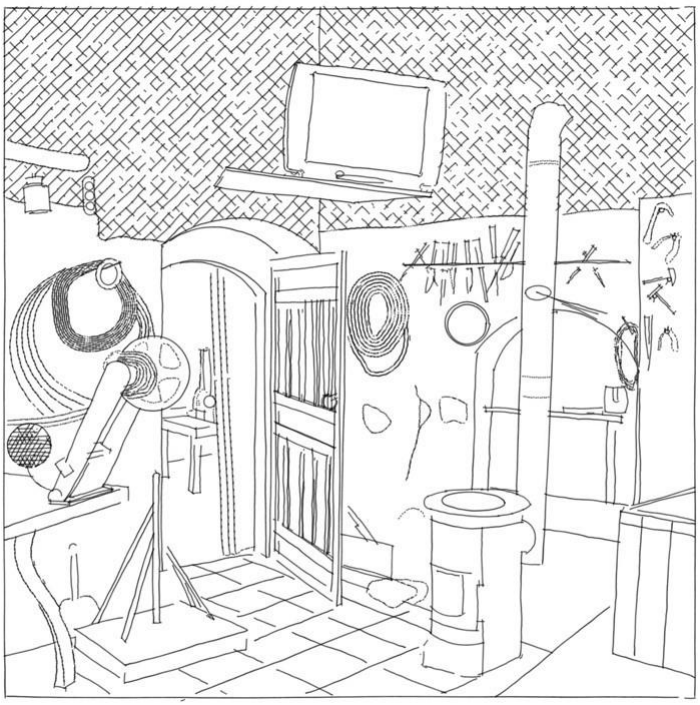


Figure 29. The original cast-iron doors in Serpuş Han.



Figure 30. The crane is attached to the building in Perşembe Pazarı.

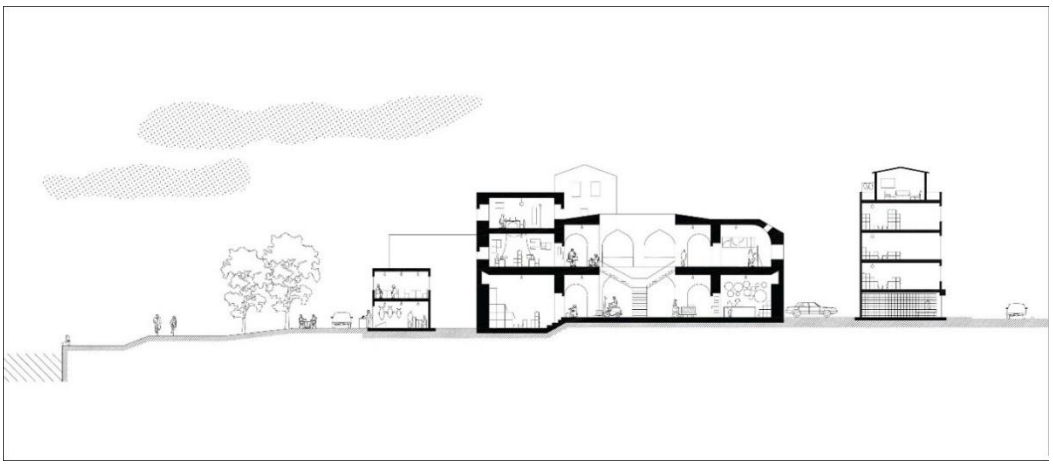


Figure 31. The typological cross-section perpendicular to Fermeneciler Caddesi in Perşembe Pazarı.

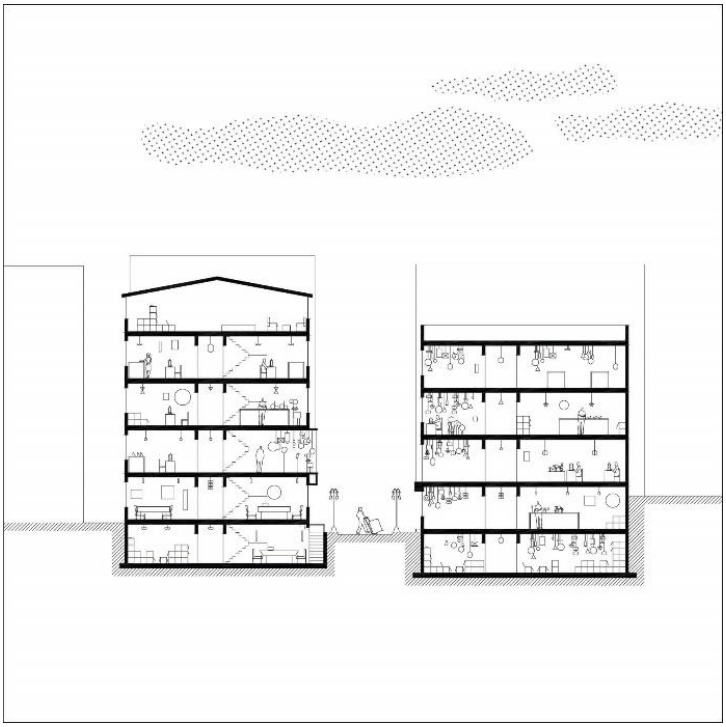


Figure 32. The typological cross-section of Şişhane perpendicular to Şişhane Sokak.



Figure 33. The typological cross-section of Kuledibi perpendicular to Şişhane Sokak Tatar Bey Sokak.

5. EVALUATION AND CONCLUSION

It is possible to consider the culture-oriented transformation implemented in Galata, especially after 1990, as a strategy for creating a new urban economy, following the demolition of Perşembe Pazarı and Tarlabaşı. Especially in the urban discourses after 2000, Beyoğlu stands out as a touristic, cultural, and artistic area. While this situation strengthens the perception that the production spaces do not belong there, it creates pressure on the crafters. In the interviews held in Perşembe Pazarı, Şişhane, and Kuledibi, the crafters expressed the idea that the area would be declared a hotel zone and that they would have to leave when Galataport opened. This expression shows the effect of urban discourses on craft production.

It has been observed that many workshops in the Kuledibi region have turned into restaurants, offices, residences, exhibition or souvenir shops. Simultaneously, the number of hotels in Şişhane has increased, as have restaurants in Perşembe Pazarı. As revealed in the interviews, some merchants and crafters had to move from the area worked for years. However, crafters and traders have resisted moving, and many of them continue to produce and trade in Galata. In the interviews, it was revealed that there are two reasons behind this: The production ties are still tightly connected, and the region is known and embraced by the city residents.

The residences and cafes that replace the workshops create a positive atmosphere in Galata's economic and social development, while hybrid possibilities nourished by its uniqueness are eliminated. However, Galata is home to a strong crafter-trader network with a unique production heritage, workshops, and shops. This unity has enabled the establishment of a solid life in the region and the formation of the region's unique character. Unlike the touristic urban spaces that are produced as copies of each other, it is seen that Galata is an authentic urban space as it stands. For this reason, using authenticity as a counter-discourse, a new urban right can be demanded to maintain craft neighbourhoods in Galata, and projects can be developed in this context.

Considering previous urban transformation project examples, it can be seen that to-the-point suggestions in such sensitive areas cannot save the region from the pressure of gentrification in the long run. In addition to that, projects to be developed in the region should be handled with an interdisciplinary approach, prepared with the cooperation of residents, civic initiatives, and local governments, and supported by law. In this context, it is possible to develop and enrich the suggestions presented within the scope of this research. According to the research findings, it is foreseen that the implementation of the following recommendations will ensure the sustainability of the region:

- An easily accessible and authentic craft centre in the city centre is vital for establishing collaborations with designers and design departments of universities. Collaborations to be established provide advantages for both designers and crafters. Thanks to this cooperation, designers and design students can quickly produce prototypes and become part of a production process where they can get ideas from experienced crafters. On the other hand, crafters can find the opportunity to renew themselves in the face of new demands of designers and the production techniques they have been applying for years.

- Considering the pressure of gentrification, the balance between crafters and designer groups in the area should be maintained. In order to reduce the pressure of the increasing real estate values on the workshops in the region, it seems possible to prevent displacement by providing rent support to the crafters during the development of these relations.
- To increase the visibility of crafters, a map study should be carried out, and familiar meeting places should be integrated into craft neighbourhoods where designers, investors, and crafters come together.
- The three regions' typical spatial problems seen in authentic craft workshops seem to be solvable with minor architectural interventions. For example, the storage problem that usually arises in workshops, which are generally small spaces, can be solved with intelligent storage systems mounted on the walls and ceiling. In addition, sound insulation can prevent the noise from being dispersed to the environment. On the other hand, traffic density and parking problems, which are another spatial problem, can be solved with evening or late-night delivery of goods.

According to findings, Perşembe Pazarı, Şişhane, and Kuledibi regions have different spatial situations. Therefore, region-specific strategies should be developed. Several of these suggestions are listed below:

- Perşembe Pazarı and Kuledibi regions seem richer in terms of the historic building stock compared to Şişhane. For this reason, the tourism sector can be defined as the supporting sector for restoring the structures in these regions. As examined in this paper, it is suggested that the tourist approach that consumes the city as a commodity should be abandoned and a participatory tourism approach that includes production should be adopted. In this context, it is suggested the development of hybrid spaces where tourists can stay for a short time and be involved in production as a designer or an amateur.
- It has been observed that the places of the demolished buildings in the Persembe Pazarı were used as parking lots or left empty. However, considering the new functions and the needs of the users, urban fabric-appropriate structures should be added to these areas. These structures should include public toilets, urban furniture, and public sound/quiet work areas.
- The Kuledibi region has moved away from the identity of production in character. However, its new function is not only for residences and for cafes. It is a region preferred by users from the creative sector. Therefore, this zone can work as a buffer zone and a training and development area for designers, starting with shared workshops, just like in craft clusters.
- The Şişhane area has more intensive production compared to other regions. It has taller buildings compared to Perşembe Pazarı, but some flats were observed to be empty. It is crucial to evaluate this building stock. Students from Bilgi University have carried out studies in the region. It seems possible to develop partnerships with other universities and consider these areas as student workshops.

To conclude, considering the unique situations of the three sub-regions, it seems critical to take strategic steps. These steps should be taken to develop projects in the future, maintain original production in Galata, and organise activities and training plans that will involve the people of the city, universities, and high school

youth in the productions. By taking these measures, it seems possible to consider it is contributing to the city in terms of tourism. The fact that the regions are left to their own devices as they are today suggests that the authentic urban spaces unique to Istanbul will disappear in the future. In this regard, local and central governments can make the authentic production in this region more beneficial to the city with new projects. For this, the political authorities should include working crafters, universities and students, unemployed youth, young retired professionals, and in short, all the inhabitants of the city in these projects.

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INVESTIGATING CHANGING URBAN PROXEMICS DURING COVID-19

Çisem Yaşin

Istanbul Technical University
cildir@itu.edu.tr

ABSTRACT

In 2020, the world was shaken with a global pandemic crisis, Covid-19, which has deeply affected to human life on all over the globe. Accordingly, urban public spaces have gained new meanings and dimensions with the recent dynamics and requirements of social life. In this study, new urban proxemics that emerged during this global crisis have been investigated and discussed through a series of analysis. It has been aimed to state the previous proxemics studies, to evaluate changing proxemics theoretically, and to probe a method to analyze the recent definition of personal space. The research has been designed in three main steps: (1) interpreting the personal space preferences in public by using human eye level observations, (2) analyzing physical distances between people by considering the determined social distancing criteria and investigating the statistical significance of these findings, (3) conducting a web-based survey independent from any particular location to find out user preferences about public use of urban spaces in the days of 'new normal'. The paper is concluded with mutual evaluations of the outputs of these three by adopting an inductive approach.

Keywords: Urban Proxemics; Personal Space; Social Distancing; Covid-19; Spatial Statistics

1. INTRODUCTION

Coronavirus (SARS-CoV-2, also called as Covid-19), according to the definition of the World Health Organization (WHO), which is a highly contagious viral disease has become a part of our daily routines for past two years. According to the most recent numbers, more than 530 million people have been infected and 6.32 million people have deceased since September 2019 (URL-1). Social distancing became one of the most emphasized issue for self-protection and sustaining public health against the spread of coronavirus. Social distancing here definitely does not mean social isolation, a better definition would be 'keeping necessary physical distance during social interactions'. In fact today, thanks to technological developments and the internet, even by physically isolating oneself from others for days, it is still possible to stay social. Edward T. Hall (1966) also mentioned something similar, as 'extended social distance'. He stated that the group activities have become achievable to accomplish over large distances with the help of the technologies of their times.

The new physical dimensions have stimulated urban researchers to rethink about the socio-spatial needs of people using public spaces (Elsayed, 2020; Mehta, 2020; Low & Smart, 2020; URL-2). The comfort and safety zones of individuals, the tolerable and intolerable conditions about the invasion of their personal space have started to change during this exceptional time period. The design of an urban furniture or a public square, and the arrangements for concerts, shopping, catering, public transport and even for outdoor sports activities were affected by the unusual circumstances came with this global pandemic (Figure 1). Ensuring the necessary physical distance between people while continuing daily activities was decisive in the design process of these new arrangements.

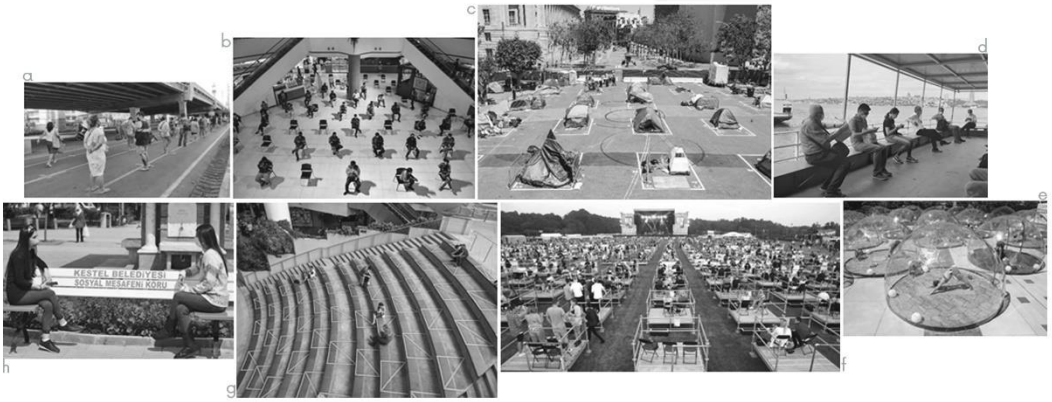


Figure 1. The effects of global pandemic on urban public spaces. The images used in the photobomb were obtained from the several sources: Image a (URL-24), Image b (URL-25), Image c (URL-26), Image d (captured by author), Image e (URL-27), Image f (URL-28), Image g (URL-29), Image h (URL-30).

In this study we will be mainly focusing on the physical measures of social distancing between people using public space. Even if we assume that the average distances between people have increased; based on naked-eye observations, it is not easy to claim whether people follow the physical distancing regulations or not. Therefore, in the following parts of the study, the preferred distances of people have been investigated with the proposed three-phased methodology and compared with the required distances publicly announced by authorities. The research will be concluded with a discussion of changing comfort zones of users and new perceptions of personal space concept over the subjective and statistical findings of the study.

2. CHANGING PROXEMICS AND PHYSICAL DISTANCING REGULATIONS

2.1. PROXEMICS THEORY

The term “proxemics” has been first coined by Edward T. Hall in 1966. Hall (1966) indicates that boundary with the expression of “invisible bubble”. Outside these bubbles, people do not intimately engage with others. Robert Sommer (1969) also defines the term ‘personal space’ in their book as an area with an invisible boundary surrounding the person’s body into which intruders may not come. As a natural consequence of Covid-19 pandemic, the health concerns have caused the invisible bubbles of the individuals to extend. Mehta

(2020), argues that during the earlier phases of Covid-19, people extended their social boundaries into 20-25 ft (6-7.5m). An activist from Toronto, has created a social distancing machine to highlight how inconvenient the sidewalks are for maintaining social distance between strangers (Figure 2).



Figure 2. Social distancing machine (URL-3).

Hedinger's (1950) studies on the territorial behaviors of animals might be assumed as pioneer to Hall's proxemics theory. Altman (1975) covers this topic in his privacy regulation theory. He states that the privacy is a way to control how we interact with other people, which helps us to regulate our interactions. Watson & Graves (1966) conduct studies to provide empirical data for Hall's argument. They investigate proxemics behavior related with cultural qualities (See also; Watson, 1970).

Hall (1966) defines the territorial boundaries of people in four categories which are, respectively from the most confidential to the most distant; intimate distance, personal distance, social distance, and public distance (Figure 3). The intimate distance (0 – 50 cm) includes the highest level of physical involvement. The upper limits of personal distance (50 – 120 cm) can be determined with two arm-lengths, that means if both persons span their arms, they can still touch each other. The social distance (120 – 350 cm) might be considered as a distance kept for more formal relations between people. This distance is also appropriate for someone to monitor other people with enough detail, and by causing no disturbance for them. Lastly, inside the boundaries of the close phase of public distance (350 – 750 cm), a man can be aware of what happens without particularly paying attention. When these ranges are considered in regards to Covid-19 physical distancing standards, the "social distancing" as a parameter of prevention for the spread of Coronavirus is actually comparable with Hall's 'personal distance' in which people would be able to socially interact by keeping a fair distance with each other.

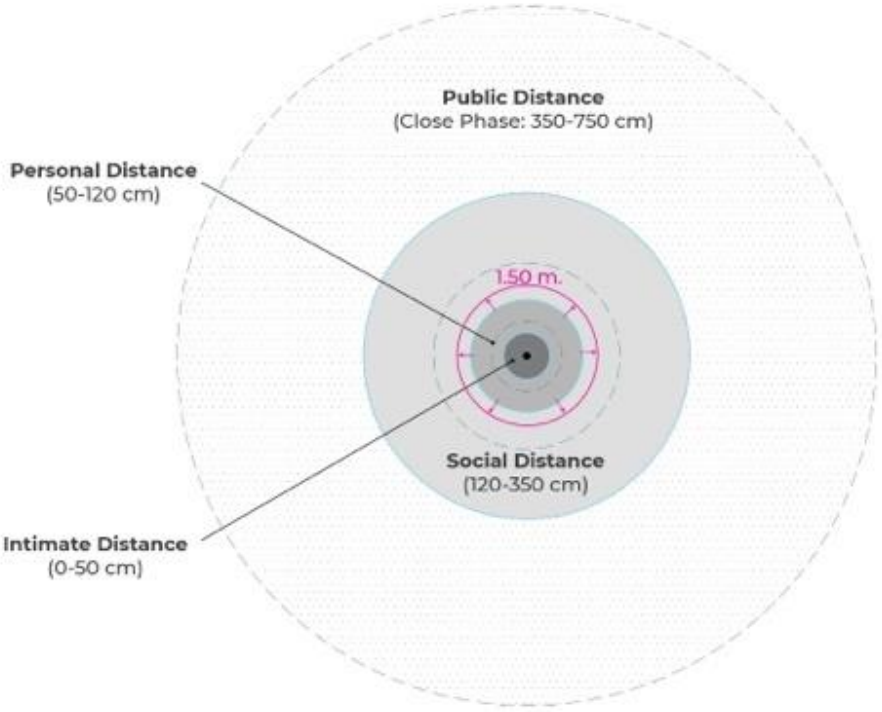


Figure 3. Hall's Proxemics (1966).

2.2. PHYSICAL DISTANCING REGULATIONS DURING COVID-19

The minimum distance required between two people has determined precisely as 1 meter by WHO (URL-4). Accordingly, many authorities have formed and publicly announced different regulations in order to provide physical distancing. While in United Kingdom, the recommended distance between two people who do not live together is 2.00 meters (3 steps) (URL-5), in United States and South Korea it is determined as 6 feet (about 2 arm lengths) (URL-6; URL-7). In Germany and most of the European countries, this necessary gap was declared as 1.50 meters at least (URL-8). Also in Turkey, the interpersonal distance was specified and strongly promoted as 1.5 meters by the government (URL-9).

In Turkey, the period of Covid-19 pandemic has been experienced generally in three different stages (Figure 4). The early period has begun with the first diagnosed case, in March 11th, 2020, and subsequently, the immediate restrictions have been started to impose by government (URL-10). People were panic and not sure how to continue their daily routines and what kind of cautions that they should take. Therefore, most of them preferred to stay at their homes if they can. Even some offices and companies took a break from their works until figuring out the circumstances of this new challenge they fell into. During this first phase, in addition to the absolute lockdowns, even the use of public open spaces has been restricted.

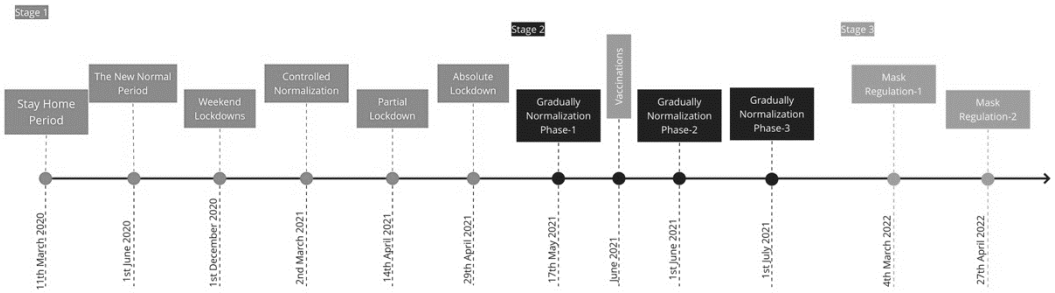


Figure 4. Timeline of changing regulations in Turkey since March 2020.

With the increasing weather temperatures and decreasing numbers of daily Covid-19 cases (URL-11), by June 1st, the following phase of pandemic in Turkey has appeared and publicly announced as "The New Normal" period (URL-12). In this period, the cafes and restaurants, sports, spa and swimming facilities have opened for public use again with some new regulations. Some restaurants have developed some spatial organizational solutions to make their customers feel safe by keeping their distance with others. Street vendors have been allowed to sell their products by taking the necessary precautions. The publicly open recreational areas have also started to be used by following the physical distancing rule and some particular regulations determined by authorities.

By November 30th, because of the enormous increase on the number of daily cases, the 3rd phase regulations have been put into action (URL-13). The observed data for this study has been gathered during this period. In this phase of pandemic conditions, the restaurants and cafes were only allowed to maintain their take away and home delivery services. Lockdowns were back on stage for weekends, and on weekdays hourly restrictions were imposed from 9 pm in the evening till 5 am in the morning. The elderly and young (ages between 0-19) populations have been allowed to go out for even more limited hours (3 hours per day). All of these restrictive factors have definitely affected to the urban life and public preferences of people. This study was also conducted during the weekend lockdowns period.

After living with weekend lockdowns for three months, the government decided to regulate the conditions in cities by categorizing them into four groups according to their risk levels (URL-14). For the cities in the low and middle risk groups, the weekend lockdowns were removed. However, due to the rapid increase on the number cases, the ministry had to take again a step back after a month later (Figure 5). In the partial lockdown period, weekend lockdowns were back on for two weeks, and on weekdays it was restricted to go out after 7 pm (URL-15). At the end of April, by considering the upcoming Ramadan holiday, the government announced a country wide absolute lockdown for 17 day which also covers Ramadan (URL-16). During this lockdown, the people were classified according to their professions to keep the operation of necessary sectors functioning. There were forty three groups of professions defined which were exempt from the curfew. The others were only allowed to go out for daily shopping needs.

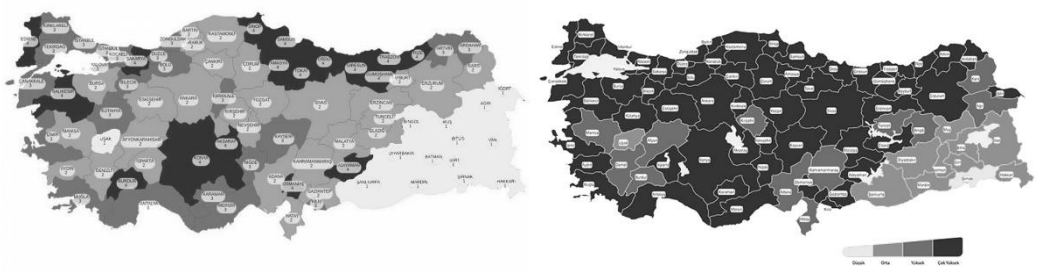


Figure 5. The change in risk levels of cities on March 2022. On the left, risk levels at the beginning of March (URL-17); and on the right, risk levels at the end of March (URL-18).

At the end of the absolute lockdown, it has been announced that the country will follow a gradually normalization process in the Covid-19 regulations (URL-19). In the first phase of it, the weekend lockdowns and hourly restrictions (9 pm – 5 am) returned. But, by ensuring that individuals from all age and profession groups have access to first dose of Coronavirus vaccine, after only a two weeks period the second phase of normalization has started (URL-20). Lockdowns were limited only with Sundays. A month later, by the third phase of normalization, lockdowns and intercity travel restrictions have ended for good (URL-21). The regulations brought with this period, has continued to stay valid for almost a year until March 2022. Since March, the HES Code and PCR test requirements and mask use in the ventilated areas were repealed (URL-22). In the following month, the mask use obligation in all closed areas, except the public transportation vehicles and health institutions, has ended (URL-23). With these two recent regulatory phases on mask use, the country and the public spaces became too close to its good old healthy days. Although there still Covid-19 cases, the critical decrease in the number of cases is promising.

3. METHODOLOGY

The methodology of this research combines several data obtain and interpretation techniques, which include both quantitative and qualitative approaches. In order to understand the behavioral features under the pandemic conditions, a site survey has been realized in the determined study area. However, since there are ongoing restrictions which include lockdown at home on weekends, the observations have been executed only on weekdays.

The observational part of the study has been designed in two phases. By using the human eye level video recordings and photos, the public personal space preferences have been tried to analyze over randomly selected scenes. The aerial video shootings, on the other hand, have been utilized to calculate the actual distances between the people in the study area and to perform some statistical analysis by using these spatial data. Lastly, besides the field studies, a web-based survey which mainly focuses on user preferences on public spaces and the opinions about social distancing rules, has been managed. The main reason to conduct this survey is to interpret the observed situations with the stated expressions of people who have been subjected to different Covid-19 regulations (because of their age, job etc.).

3.1. THE SITE SELECTION

The empirical data for the research has been collected in Ortaköy Square, one of the most visited attraction point in Istanbul. Ortaköy is a significant coastal square with its history which dates back to ancient ages, when the district was named as Arkheon (Aksüt, 1999). Since the Byzantine period, Ortaköy square was a significant urban open space for daily activities of İstanbul. Today, the area still maintains its role in urban life and keeps to attract visitors from all around the world. In the near surroundings of Ortaköy Square, there are attracting facilities including a historic mosque, a seaport and the restaurants offering the foods which are famous particularly in Ortaköy. Due to Covid-19 regulations, the cafes and restaurants did no longer have permission to serve the customers in their indoor spaces. However, the takeaway option is actively adopted as an alternative.

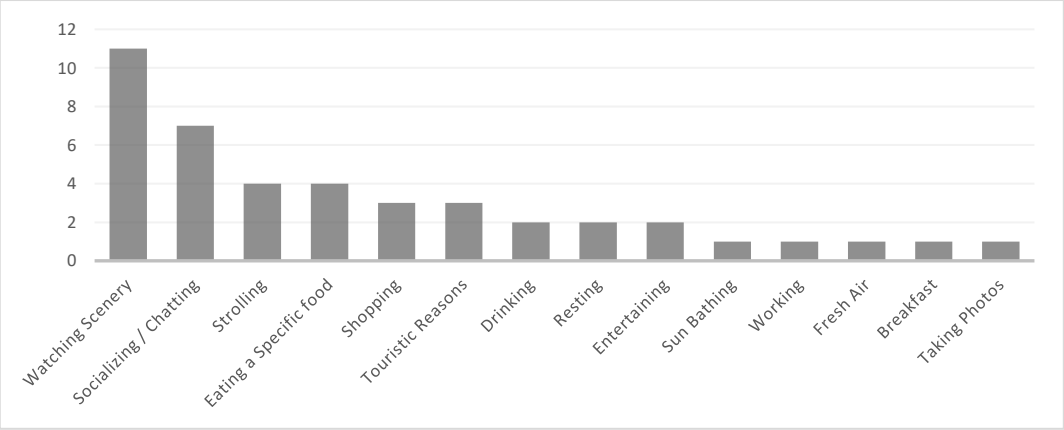


Figure 6. Reasons to visit Ortaköy Square

According to the results of the former questionnaire conducted by the author with the users of Ortaköy Square before Coronavirus in 2018, the reasons for participants to visit the square can be seen above (Figure.6). When we compare these activities with the observations during Covid-19, we may state that Ortaköy Square was remaining its vibrant characteristics by offering people a variety of activities. Since the cafes and restaurants were not serving except take-away and delivery services across the country, the outdoor eating and drinking option that Ortaköy provides to its users was making the square more preferable. In addition to the activities observed in the previous study, as pandemic restrictions were continuing; it was seen that people started to utilize the given public space with new kind of activities, such as working with their computer.

3.2. INVESTIGATING PHYSICAL DISTANCING BEHAVIOR IN ORTAKÖY SQUARE

While analyzing the physical distances in Ortaköy Square; human-eye level footages to understand social behavior of individuals, and aerial footages to capture their geographical locations have been recorded during three different time intervals of the day. The aerial samples were representing continuing sequences of three-minute time periods. For this study, ten frames in total for each time period have been selected by capturing

a new frame as the observed situations in these sequences change. Since there were overlapping regions between each frame, the repeated records caused by sitting people are eliminated before the calculations.

Even with these three-minute aerial samples, if all of the interpersonal gaps between each person observed in the square were taken into account, the number of calculated distances was more than twenty thousand. In order to have statistically more reliable results, for this study, the distances over five meters were ignored, and the study was conducted with the samples including more intimate contacts between both strangers and acquaintances. In the scope of this study, the total number of utilized nodes was 1804, and the total number of distances which have been used for statistical tests was counted 7110 after completing the necessary eliminations (Figure 7).

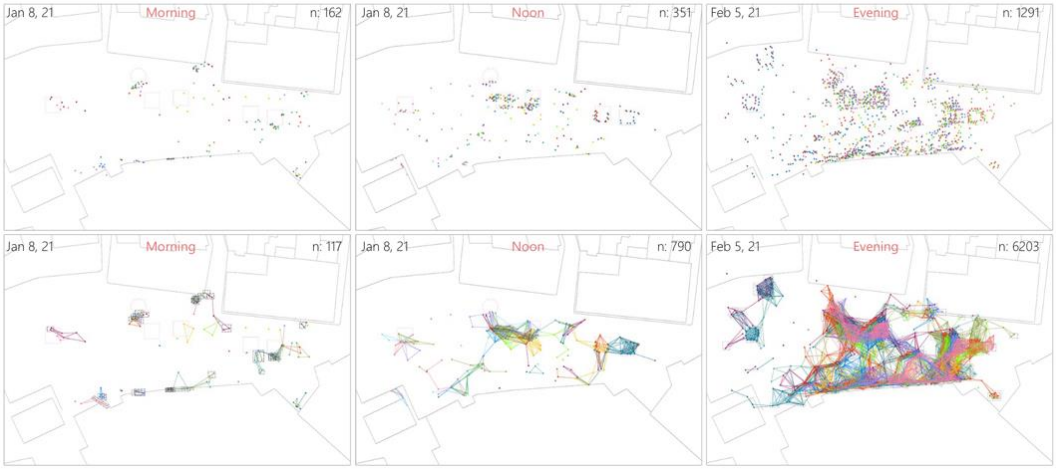


Figure 7. Observed physical distances in 5-meter range of each individual.

3.3. PREFERENCES ON PUBLIC SPACE DURING COVID-19: WEB-BASED SURVEY

Since all of the investigations made so far were grounded on a single, unique piece of urban space, the need for verification of this data has arisen. Therefore, in addition to the observational part of the study, it has been aimed to support these findings by conducting a web-based survey, regardless from a particular place. Through the web survey, 109 participants from different age groups and professions living in 16 different cities were questioned with a series of questions that may have straightforward or indirect relation to the observational results. Since the restrictions during different phases of Coronavirus pandemic in Turkey have been varied based on different age groups and occupations, the demographic groups in questionnaire have been designed accordingly. In overall participation, the percentage of young and elderly groups which were the most affected groups by restrictions was in total %20.2 (Table 1).

Table 1. Demographical Distribution of Participants.

	Age Groups							
Occupation	15-19	20-24	25-34	35-44	45-54	55-64	65+	
Retired	-	-	-	-	*0.92%*	*4.59%*	*6.42%*	*11.93%*
Student	*14.68%*	*7.34%*	*1.83%*	-	-	-	-	*23.85%*
Education	-	-	*3.67%*	-	*0.92%*	*1.83%*	-	*6.42%*
Health	-	-	*4.59%*	-	-	*1.83%*	-	*6.42%*
Information & Comm.	*2.75%*	-	-	-	-	-	-	*2.75%*
Judges and Prosecutors	-	-	*2.75%*	-	-	-	-	*2.75%*
Architecture, Plan. & Design	-	-	*8.26%*	*0.92%*	-	-	-	*9.17%*
Wholesale and Retail Sales	-	-	*1.83%*	-	-	-	-	*1.83%*
Insurance and Finance	-	-	*1.83%*	*0.92%*	-	-	-	*2.75%*
Production & Manufacturing	-	-	*2.75%*	*1.83%*	-	-	-	*4.59%*
Transportation	-	-	-	*0.92%*	-	-	-	*0.92%*
Catering	-	-	*1.83%*	-	-	-	-	*1.83%*
Construction	-	-	*1.83%*	*0.92%*	-	*0.92%*	-	*3.67%*
Unemployed	-	-	*2.75%*	*2.75%*	*2.75%*	*1.83%*	*2.75%*	*12.84%*
Other	-	-	5.50%	2.75%	-	-	-	8.26%
	17.43%	7.34%	39.45%	11.01%	3.67%	6.42%	2.75%	C

The online survey was covering 18 questions which provide a basic understanding about the following issues.

- How often do they go out during and before pandemic?
- Do they continue to go their workplaces?
- How often do they meet their acquaintances during and before pandemic?
- Do they keep at least 1-meter distance with their acquaintances?
- Where do they prefer to meet with their acquaintances during and before pandemic?
- How often and how far do they travel to an urban public space that they prefer to use?
- What kind of public spaces do they visit and how often?
- Reasons to prefer a particular public space?
- How comfortable are they while using urban furnitures?
- What is the minimum distance do they prefer to keep between strangers?
- Do they think that the physical distancing regulations are necessary in public spaces?
- Did they have any difficulties during the pandemic period?

While designing the questions for the survey, it has been tried to use mostly closed-ended questions. For the questions about frequency, 6-point Likert scale was employed. Only the last question -the one about the difficulties they face- was left open-ended intentionally, in order to avoid any manipulation.

4. RESULTS AND DISCUSSION

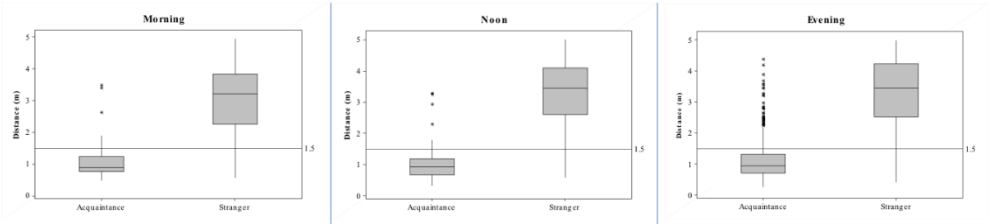
4.1. STATISTICAL INFERENCES

By calculating the number of observed distances between the ranges given below in the Table.2, their percentages have been examined. A large proportion of the physical distances kept between each individual in the square (83.8%), has been detected as over 1.50 meters, which is the physical distancing standard recommended by public agencies in Turkey. Even with friends and family members, over 40% of the people seem to keep at least 1-meter distance between each other. The percentage of the 1-meter physical distancing violation between two individuals who do not know each other (2.3%) is, although not ideal but, also seen around acceptable rates.

Table 2. Number of calculated distances in percentages (%).

		0-49 cm	**50-99 cm**	**100-149 cm**	**150 cm +**
Morning	Friend and Family	4.3%	57.4%	19.1%	19.1%
	Stranger	0.0%	2.9%	8.6%	**88.6%**
Noon	Friend and Family	6.7%	48.7%	34.5%	10.1%
	Stranger	0.0%	2.1%	4.8%	**93.1%**
Evening	Friend and Family	5.2%	48.2%	29.1%	17.5%
	Stranger	0.1%	2.2%	4.4%	**93.3%**
	Total	**0.6%**	**8.0%**	**7.6%**	**83.8%**

Consequently, the sample of distances has been subjected to a hypothesis testing by considering the strongly recommended minimum physical distance (1.50 meters) by public authorities in Turkey, and controlled with an alternative hypothesis that assumes people do not follow the physical distancing regulation (Figure 8).



Variable	N	Mean	StDev	SE Mean	95% Lower Bound	T	P	N	Mean	StDev	SE Mean	95% Lower Bound	T	P	N	Mean	StDev	SE Mean	95% Lower Bound	T	P
Distances Between **Friend & Family**	47	1.1169	0.6509	0.0949	0.9575	-4.04	**1.000**	119	1.0146	0.4918	0.0451	0.9398	-10.77	**1.000**	718	1.0931	0.5690	0.0212	1.0581	-19.16	**1.000**
Distances Between **Strangers**	70	3.047	1.093	0.131	2.829	11.83	**.000**	671	3.2927	1.0537	0.0407	3.2257	44.07	**.000**	5485	3.3290	1.0874	0.0147	3.3048	124.57	**.000**

Figure 8. One sample t-test results for the distances between acquaintances and strangers.

According to test results, since the p-value for the distances between strangers is computed as .000 (α=0.05), it has been proven that the people actually follow the publicly announced physical distancing regulation with the strangers. On the other hand, when they were with their acquaintances, it was seen that they were comfortable with more intimate distances under 1.50 meters. These results provide a solid indicator for how people behave under current conditions. However, because this study here is a limited observational study, based on these data alone, making general inferences for any other public open space or even for Ortaköy Square itself would be too speculative.

4.2. SURVEY RESULTS

In order to obtain a general understanding about public preferences and changed routines, a web-based questionnaire has been conducted independent from Ortaköy Square. By the web-based questionnaire, participants have been subjected to the questions about the frequencies to go out or to meet with an acquaintance, where they prefer to meet and why. In order to comprehend the changing habits, in some of these questions they have been asked to compare before- and post- Covid-19 conditions. Thereby, clear outputs which show how rare people go out and meet someone have been obtained (Figure.9). While 80% of the participants socialize in person at least once a week before pandemic crisis; during Covid-19, this frequency has been observed as the most frequent alternative among the rest.

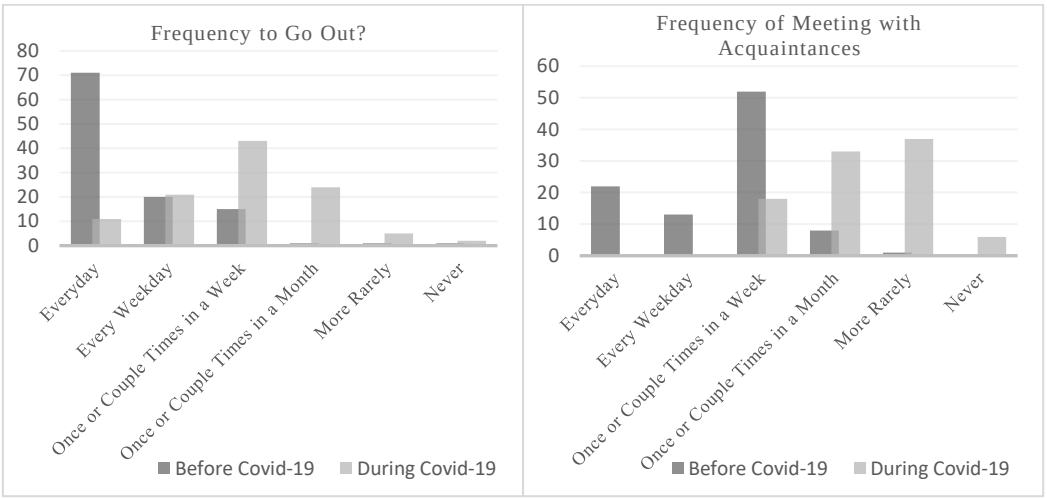


Figure 9. The changes in frequencies of going out and meeting acquaintances.

When it is questioned how often people utilize public openings to gather with their acquaintances, there can be seen a dramatic decrease among all age groups due to the pandemic conditions. However, the change of frequency for the elderly appears as more critical, because, with the %40 of increase, they have seemed to start to not use any public open space at all since the Covid-19 pandemic broke out in Turkey on March, 2019 (Table.3).

Table 3. The change of frequency to meet on public open spaces.

Age Group	Everyday	Once or Couple Times in a Week	Once or Couple Times in a Month	More Rarely	Never
15-19	-6.3% ▼	-43.8% ▼	12.5% ▲	25.0% ▲	25.0% ▲
20-24	0.0%	-37.5% ▼	37.5% ▲	0.0%	0.0%
25-34	-2.2% ▼	-32.6% ▼	15.2% ▲	8.7% ▲	17.4% ▲
35-44	-16.7% ▼	-16.7% ▼	8.3% ▲	25.0% ▲	8.3% ▲
45-54	0.0%	20.0% ▲	-40.0% ▼	0.0%	20.0% ▲
55-64	0.0%	-16.7% ▼	-25.0% ▼	8.3% ▲	33.3% ▲
65+	-10.0% ▼	-30.0% ▼	10.0% ▲	-10.0% ▼	40.0% ▲

In addition to the questions about the frequency of use of public open spaces, the participants were also asked a series of questions to indicate their preferences about public open spaces including their comfort zones. In order to understand the distance that participants prefer to keep with others, within one of the questions asked, the image below has shown and they were expected to choose the minimum distance that they are comfortable with (Figure.10). As a result, except a small majority, almost all of them (96%) expressed that they need at least 1-meter distance with strangers to feel secure. On the other hand, only 59% of them has stated their comfort distance as 1.50 meters or higher.

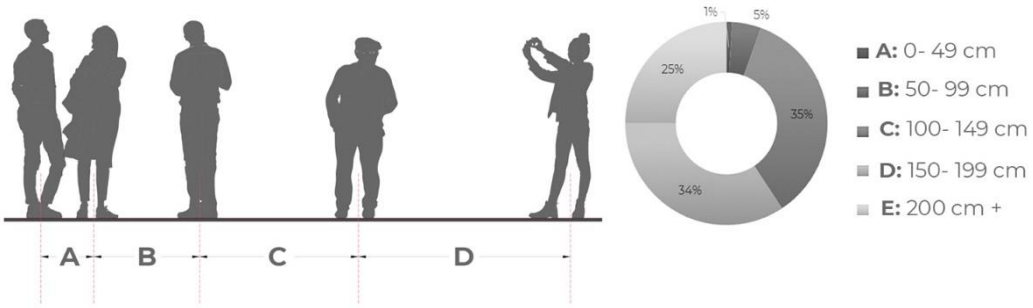


Figure 10. The illustration of different distances between people and the percentages of preferred distances.

Although almost all participants from different age groups (93.6%) have mentioned that they are keeping at least 1-meter physical distance with most of their acquaintances, there seems to be an interesting breaking point between two certain age groups. While 82.1% of the participants above 35 were being cautious to maintain a secure distance with anyone they interact in their daily routine, most of the participants under 35 (54.3%) feel still comfortable with some close acquaintances without keeping their distance. This output makes one consider that the young population approaches the regulations a bit more flexible. However, when they were posed to answer whether they agree about government's Covid-19 regulations or not, 85% of the

participants from all age groups have stated that it is necessary to have some specific arrangements for pandemic conditions.

During Covid-19 pandemic, the traveled distances to reach a public space and how to reach there were become more important for people's preference about their use of public space. There has been an increase in people's tendency to walk or to take their private cars, instead of using public transport. The questionnaire results seem also to support this proposition; the travel preference of participants to reach public spaces, similarly, concentrated on the walking and private car alternatives (Figure.11). Additionally, the most preferred public open space among participants appeared as the neighborhood parks which can be easily accessible by walking from their houses. It is followed by urban promenades and shopping districts. Also, one third of the participants has indicated that they visit a public space on sea or lake side similar to Ortaköy Square at least once a month.

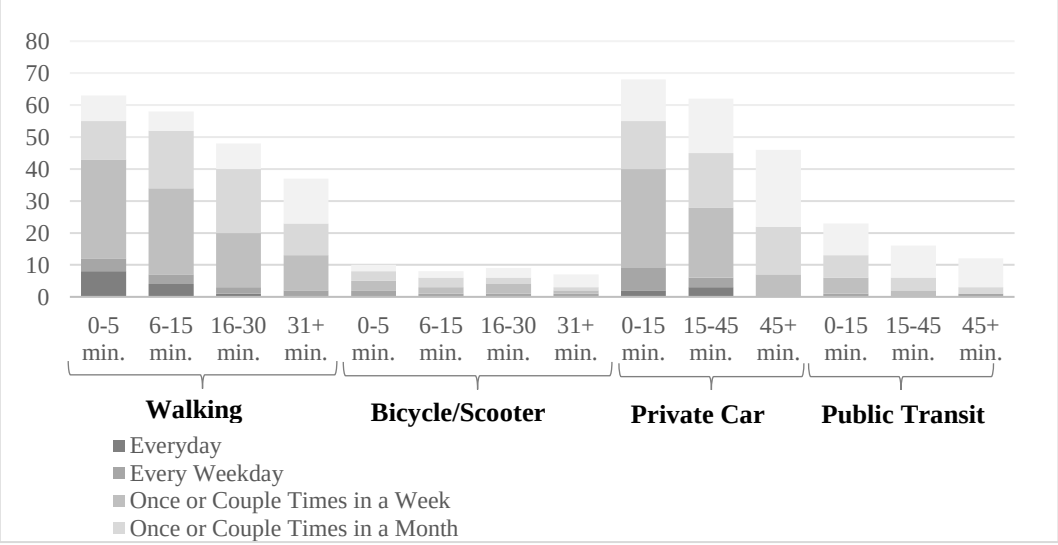


Figure 11. Traveled distances to reach public spaces.

Another common factor affecting the participants' preference on a public space to spent their time have been mentioned as the crowdence of the space besides the distance to travel. When the participants have been asked about their disturbances during the use of public spaces, the most frequent complaints were about violation of necessary physical distancing and the inappropriate use of masks. Some respondents have stated that the physical settings of the public space do not allow to use in different climatic conditions. There were also participants who mentioned that the removal of urban seating from public open spaces was not completely the right decision, since sometimes, this results with more crowded seating orders. The other indicated disturbing elements were crowdence, lack of hygiene and the people who react negatively when they were warned.

5. CONCLUSION

The health threatening conditions emerged during the last two years with Coronavirus caused the preferred distances of people within their social interactions -therefore the boundaries of their personal distances- have enlarged. However, human, because of their social nature, tend to stay in touch with each other. Even in a passive way, they need to engage and socialize. Since it was not possible to fulfill these needs in closed environments anymore, there was a clearly seen increase in demand for accessible and safe public spaces. On the other hand, as the micro-particles of coronavirus can be easily transmitted through the air, it was still important to maintain the proposed social distances by the authorities while even spending time in open-air.

In this study, Ortaköy Square – a historic coastal square in Istanbul – has been examined to have an idea about the public behavior and the changing personal space dimensions during the global pandemic crisis. In order to obtain more solid data, a spatial statistical analysis was utilized as a part of the methodology. Because, no matter how much the significance of maintaining a certain physical distance with other people has been highlighted, it is not easy to figure out for researchers whether they follow these warnings or not by naked eye observations. To expand the perspective outside the boundaries of Ortaköy and to have a broad inquiry, the research has been supported with an online survey about user preferences on public spaces.

According to human eye level observations made in Ortaköy, there were few notable issues. Although they were standing more intimate with their friends and families, people seemed to keep their distance with strangers, as evidenced by statistical results. Most of the time when people separated from an acquaintance, the reason was an instant photo shoot. The main problem related with maintaining social distances was noticed as the seating arrangements in the square. Since there were only limited space to sit after the removal of some urban furnitures, people were making concessions from their personal boundaries to sit somewhere for eating or just resting.

Considering the spatial statistics obtained from the calculations of interpersonal distances, the observed attitude of individuals was promising in reducing the risk of contagion of Covid-19. However, it is not possible to draw a more general assumption on behavioral features in public spaces based on this data alone. Because of the complex structure of cities, there might be various uncontrollable indicators affecting the observed situation of the chosen urban space. To be able to make broader inferences, much more samples from numerous urban open spaces with different characteristics should be randomly collected in varied restrictive and climatic conditions.

In the future researches, to have more accurate results, it would be better to capture the footages during the peak hours of the week. In Ortaköy example, since there were only few people in the early hours of the day, it was not easy to observe distances especially between strangers. And also, by eliminating the short-term intimacies between strangers and short-term distancing between acquaintances, the results may become more reliable. Another thing which could also be examined is the directions in which people were facing. In general, the personal bubbles do not seem to expand by taking the individual at its centre. It is thought that people tend to keep a greater distance in the direction they are facing.

Ideally, it was expected for everyone to adopt and follow the determined regulations to prevent the rapid spread of coronavirus. However, as mentioned above, there were still people ignoring precautions or unaware of how big the threat was, and even these minorities could have an enormous multiplying effect for the virus to spread. At this point, the public behavior patterns and the percentages of the people who follow the public regulations are worth exploring and pondering, in order to determine contamination speed in cities. The proposed methodology in this study may be used for that and also in different environmental and behavioral researches, and hopefully, be prior for various prospective studies.

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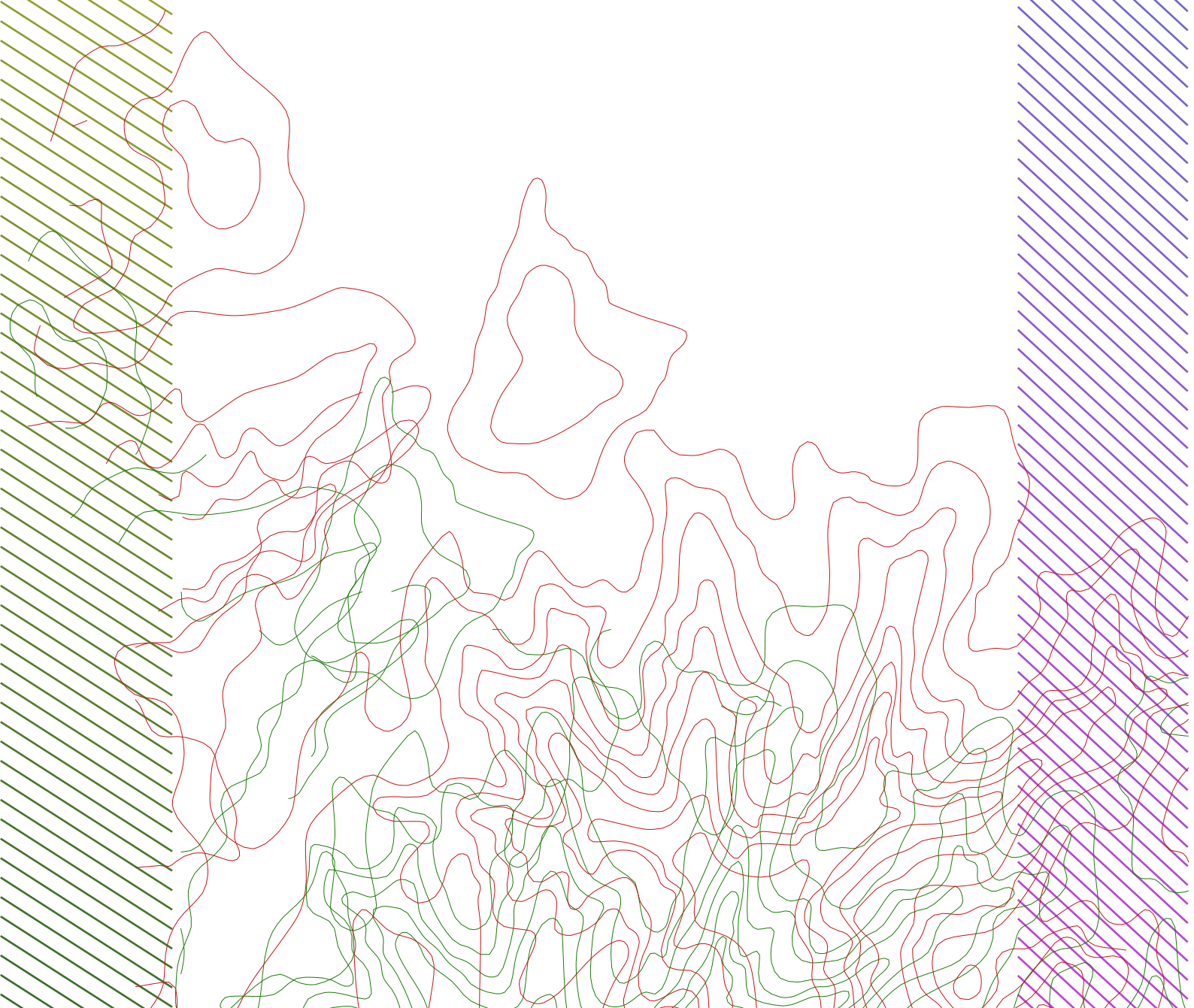
Session VI

New Tools, New Approaches and New Understandings



POTENTIALS OF AMBIGUITY AND TEMPORALITY IN PUBLIC REALM

Seda Gecü Erdem

PhD Student at Mimar Sinan Fine Arts University,
The Institute of Natural Sciences, Urbanism Program
sedagecu@gmail.com

ABSTRACT

This study argues that in-between spaces (liminal spaces) which contain uncertainties and are not clearly defined in public realm, contain liberating potentials for urban life and explore how everyday tactics can be used as a tool to reveal these potentials. Everyday urban tactics will be discussed in the context of the concept of the right to the city, and urban interventions of users will be discussed through the examples of Topkapı Flea Market and a soccer field in Yozgat. Public realm's ambiguous and temporal properties will be analyzed through Madanipour's emphasis on possibilities and short term events and Sennett's Open city theory. The ambiguous and temporal properties of the public realm, as credited by Madanipur and Sennett can be put to the test where qualities mentioned are visible the most: liminal spaces. Liminal spaces contain uncertainty, have no definite boundaries, and allow temporary uses.

The temporary uses will be explained as series of urban space interventions, which are called everyday tactics and organized independently of institutions.

Through the two case study presented in this paper, following questions will be asked: What are the potentials of ambiguity and temporality in public realm? How does liminality affect publicness? Is it easier and/or more common to practice everyday tactics in liminal spaces? Throughout the study, observational research methods will be used referring to the data collected from various sources such as local news and blog entries. The first case will showcase the transformation of a liminal space in the neighborhood into a soccer field with the involvement of the residents. The second case is a flea market with a history, which in time, left in a precarious state and with the help of liminality and daily tactics endures trying circumstances.

Keywords: Public realm, liminal space, tactical urbanism, right to the city.

1. PUBLIC REALM, AMBIGUITY AND TEMPORALITY

This study is a critique of conventional, idealized public space exploring a new understanding of publicness that makes sense during the precarious times we live in. And it does so by looking into two concepts:

ambiguity and temporality. The study argues that liminal spaces which contain uncertainties and are not clearly defined in public realm, contain liberating potentials for urban life and it explores how everyday tactics can be used as a tool to reveal these potentials. Everyday urban tactics will be discussed in the context of the concept of the right to the city, and urban interventions of users will be discussed through the examples of Topkapı Flea Market and a football field in Yozgat.

According to Madanipour (2017), public realm is a place of temporary events and a space of social experimentation. It is a field of possibility and consequence where short-term events can manifest in many different ways. Even though the public realm is associated with transience, its physicality is largely fixed. While open spaces and parks may have more fluid and ambiguous relationships with their surroundings than built-up places, even they are not exempt from constraints (Madanipour, 2017). Parallel to Madanipour's emphasis on ambiguity and temporality, Sennett also argues that indefinite boundaries and incomplete forms in public realm are a feature that must be preserved and attained (2017). Sennett opposes the overdetermined closed city to the concept of the open city which he defines as incomplete, inaccurate, contradictory and nonlinear. The open city is produced by bottom-up processes. It belongs to the users, and cannot be reduced to the assumptions of planning and design. Sennett (2007), suggests building a flexible public space that can be continuously improved. He is of the opinion that the public realm should be conceived as the sum of different elements that can be consecutively put together, disassembled and reassembled. Open city theory is concerned with how to create spaces and commons that foster tolerance of difference and create sociability. Proposing membrane edges against rigid boundaries opens the space to multiple relations in social and physical dimensions.

Both Madanipour’s and Sennet’s arguments point out a discord between the fixed physicality and the temporal, ambiguous properties of the public realm. In this sense, more defined the public space gets, the possibilities seem to decrease. Studying liminal spaces can help to address this. Could liminality enhance the publicness of public realm and if so how?

1.1. LIMINAL SPACE

Liminality derives from the Latin word limen and has two meanings: pertaining to the transitional or initial stages of a process and located on the threshold, on both sides at the same time. It is a concept that first emerged in anthropology and later expanded to the field of social studies. In anthropology, it is used to define the disappearance of the pre-ritual state in ritual transformations, yet the post-ritual process has not been reached (Cloke, Crang and Goodwin, 2013). In geography, liminal space defines a space of ambiguity and temporality. It is where the normative social order cannot be seen. It facilitates both a morphological and a social meaning, Liminal space rejects any categorization and is not fully identified. It is a space of purgatory, open to different interpretations. Liminal space provides opportunities for multiple uses that urban design codes are not able to contain or foresee. By means of temporary uses and informal relations it initiates change and gives a heightened sense of freedom to the dweller, contrary to the designed public spaces where surveillance is almost always present and control is easily obtained.

1.2. URBAN TACTICS

One of the afore mentioned liberating potentials about liminality is inspiring a series of urban space interventions called tactics that are organized collectively, independent from institutions. Lydon defines tactical urbanism as the provision of temporary solutions to urban problems through small-scale, low-cost, functional interventions, usually by citizens or users of the space (2012). It provides the city dwellers with an opportunity to transform the city. According to Lefebvre, the city and urbanization are a reflection of the relations in society and it is possible to observe the contradictions and struggles between social classes and groups in the city as a social structure. The purpose of these conflicts between the social classes in the city is to take control of limited public resources, shape the city form and have the right to access citizenship (Sadri, 2009). However, as Harvey emphasizes (2003: 939), this access is "not merely a right of what already exists, but a right to change it. We need to be sure we can live with our own creations." The right to the city, leaves the right to determine the fate of the city to the inhabitants of the city. Obtaining the authority and consciousness to create and transform public realm, changes the individual from being a mere, passive "user" into an actor.

Tactical urbanism;

- Transforms the individual into an actor, who participates in production of space and creating new associations.
- Challenges the community and the decision-making mechanisms with the everyday tactics developed.
- Shows the importance of solidarity and collective action in the production of public space.
- Strengthens existing relationships and creates new ones in public life.
- Provides spatial appropriation.
- Creates dynamic and open-ended spaces.
- Saves time by bypassing and/or speeding up bureaucracy and offers alternate decision-making processes.

2. CASE STUDIES

Through the two case study presented in this paper, following questions will be asked: What are the potentials of ambiguity and temporality in public realm? How does liminality affect publicness? Is it easier and/or more common to practice everyday tactics in liminal spaces? Throughout the study, observational research methods will be used referring to the data collected from various sources such as local news and blog entries. The first case will showcase the transformation of a liminal space in the neighborhood into a soccer field with the involvement of the residents. The second case is a flea market with a history, which in time, left in a precarious state and with the help of liminality and daily tactics endures trying circumstances.

2.1. CASE STUDY NO:1 AŞAĞI NOHUTLU NEIGHBORHOOD FOOTBALL FIELD

First case study is about the creation of a football field in Yozgat, Asagi Nohutlu. In 2019, a group of children living in Aşağı Nohutlu Neighbourhood, transformed a barren field into their playground by their own means. According to the news, the children first cleaned the area and then, with the help of the locals, placed the carpets they collected from different households in such a way as to cover the vacant lot as much as possible (see Figure 1). The creative projects carried out in cooperation with the children of the neighbourhood. the unique design created by the placement of the carpets randomly brought from the houses on the field attracted the attention of everyone and as a result, the football field became the subject of the news. It is a perfect example of tactical urbanism a group of citizens who agree on their needs and organize themselves to transform the urban space with the support of their neighbours. it is seen that tactical urbanism takes place in daily life in a very ordinary way, without requiring any prior knowledge.

In one of the interviews in the news, one of the children who built the field describes the process as follows: “We spread the carpets that we brought from home with our own means. Then we started playing football. It no longer hurts when we fall, we used to get injured, now we are not. There was no turf pitch in our neighborhood, so we built a carpet pitch for ourselves.” This statement can be read as the expressions of a citizen who took the ropes into their own hands, came up with solutions and was satisfied with their achievements because their needs were not met. Another child reports that there are gaps between the carpets and that they will close those gaps. From this expression, it is understood that the children's public space project has not come to an end, and that they continue to make plans for the future. It is clear that using everyday tactics in urban realm is an ever ending, ongoing process that shapes through time.



Figure 1. Aşağı Nohutlu Football Field , June 2019

Public realm transformation steps that took place can be listed as follows. First, a demand for a football field emerges in the neighbourhood. Local authorities fail to meet this demand. Then, dwellers realize the empty land and it's potentials. Using urban tactics, dwellers get organized, clean the area and organize the community. Collectively contributing to the production of space, creates creative designs that helps to raise publicity through local new agencies. Following being featured in multiple media outlets, and with the call of Ahbap, a non-governmental organization, the football pitch project attracts the attention of the municipality and the ministry. Finally, the basketball court in the garden of the nearest school gets converted into a carpet field. In this example, although the motivations and actions of the decision makers are debatable, the urban equipment needs of the neighborhood were met by activating the civil society and local government mechanisms. The new use gained by the collective organization as a result of daily tactics, which is considered important in the context of publicity [1], is to open up the needs of the neighborhood through the media to discussion in the public sphere [2] and to mobilize the local government by creating a public opinion [3]. Although the process seems to have ended here, it is one of the most important achievements that the urban responsibility and awareness of the users who carry out the transformation has been increased. Thus initiating tactics in the future may get easier by means of the knowledge gained through this experience.



Figure 2**.** Process of Transforming the Public Realm by means of Urban Tactics

2.2. CASE STUDY NO: 2 TOPKAPI FLEA MARKET

Historical Istanbul Land Walls are in a state that its immediate surroundings are rapidly being "sterilized" and the urban culture is being eradicated. In recent years many urban renewal areas announced one after another which led to the destruction of historic neighbourhoods, bostans and gardens. One of the residents of the neighbourhood who was displaced in time is Topkapı Flea Market and its users. Until its destruction in the late 90s, it was the largest flea market in Istanbul. Until 2020, it kept being setup without a legal permit in the Land Walls and its surroundings, in the area between Topkapı and Mevlanakapı, on Sundays.



Figure 3. Topkapı Flea Market, May 2010, photo: Semra Yeşil

A blogger conveys their observations about the market as follows (Yeşil, 2010):

> "As one of the oldest flea markets in Istanbul, Topkapı antique market lost its harmony with the modernizing district, it started to cling to the nooks and crannies of the city walls. Market tradesmen are setting up an 'invisible' market in Edirnekapı in a section surrounded by the Topkapı Walls. In the market, it is possible to find everything old, from electronics that are thrown into the garbage as useless, to plumbing materials, shoes and clothes. Starting at 04:00 in the morning connecting Saturday to Sunday, vendors come to this nook of the city walls in silence. Here, customers who have been regulars of this market for years welcome them."

As it can be understood here, the illegally established market continues to exist with the joint efforts and support of sellers and customers, even though its economy has been weakened considerably compared to the past. It owes its ability to preserve its spatiality to the production of rational, practical urban tactics within the collective movement. These tactics can be listed as; not using countertops in case of any police raid, making use of the layers of the walls to reduce visibility, and using the walls as a sales surface or storage area (see Figure 3, 4). Istanbul Land Walls have a distinctive architecture that is shaped of multiple layers of wall, which forms tempting urban enclaves for creative uses. In this case, the linearity of the walls generates practicality for the market use. As seen here, looking at the urban realm with a demand in mind, can generate unexpected creative outcomes and fulfil the space's true potential. At first glance, everyday tactics can be seen as an intervention that transforms the market space purely physically. However, the active use of this part of the city and its surroundings and the possibility of new interventions also change the social relations and behaviour patterns within its sphere of influence (Özdemir, 2018).



Figure 4. Topkapı Flea Market, May 2010, photo: Semra Yeşil

3. CONCLUSION

The public realm in these cases are seen as merely vacant lands, exempt from their legal status or land use. This liminality in public realm heartens the user to take initiative and transform the city based on their own needs. Their physical existence and actions in the public realm during the event (shopping or football game) creates temporal uses.

Both cases illustrate the manifestation of everyday tactics in liminal spaces through different forms in the city. The first is the transformation of a liminal space with high accessibility for the residents of the neighborhood, and the creation of a public opinion that transforms the city as a response to the emerging cooperation. The second is that a flea market with a certain urban history for the city tries to maintain its existence without permission after its destruction and despite the pressures, and the struggle of the market people continues in the liminal spaces provided by the land walls. In both examples, accessibility of the space, meeting the required function, temporary use of the space and creative solutions in the design of the space stand out as common points. An important point is that in both cases, the new functions brought into the space are collectively organized and trigger new relationships around it.

As seen in each example, everyday tactics, encouraged by liminality, transform users from being consumers of public space into actors that produce space. Harvey's expansion for Lefebvre's definition of the right to the city points out exactly this. The right to the city is the right of people to live in a city as their heart desires and to do it themselves (Harvey, 2003). Achieving this can help creating a participatory public realm. As the user, looking at the urban realm with a demand in mind, can generate unexpected creative outcomes and fulfil the space's true potential.

Concerning urban planning and architectural design in public realm, overcoding and overdesigning should be avoided, leaving enough room for expression and creativity.

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REUSE OF ARCHAEOLOGICAL DATA IN HOUSING AREA DESIGN: FROM PERGAMON TO BERGAMA

Mehmet Tunçer

Prof. Dr., Urban and Regional Planner, Çankaya University
City and Regional Planning Dep.
mtuncer@cankaya.edu.tr

Sibel Öztürk

Msc in Urban Design Program, Urban and Regional Planner,
MSGSU City and Regional Planning Dep.
sibel_oztrk@windowslive.com

ABSTRACT

Urban and archaeological sites of Pergamon the ancient city today in Bergama, which is over two thousand years old, where scientists, archaeologists, architects, art historians, urban planners, sculptors and similar arts and culture, men talk about admiration, write about and write praises, but unfortunately face to face some detoriation and destruction. Bergama, which has been in operation since 2010, has entered the list as a "Multilayered Cultural Landscape Area". The Pergamon Altar of Zeus or Zeus Altar is a monumental religious structure built in the 2nd century BC by the Attalos dynasty, which ruled the Pergamon Kingdom, in the ancient city of Pergamon is now in Pergamon Museum at Berlin (Figure 1). “Pergamon (Bergama) Antique City And Its Multi-Layered Cultural Landscape” entered the UNESCO World Heritage List in 2014.

In the Bergama archaeological site, besides the monumental structures in the Acropolis, a small number of housing areas were excavated. With the data obtained as a result of these excavations, information about the plan of the ancient city has emerged. It is known that the ancient city of Bergama had a grid plan, and the housing pattern was similar to today's buildings, with facades from the street, with or without atriums.

Although the housing pattern of Hellenistic, Roman and Ottoman periods showed significant changes, it has been assumed in terms of cultural continuity that there was not much change in the housing architecture and construction style, especially in Rum type houses. In this paper, it is aimed to develop urban design and architectural principles in the light of the data from ancient times to the present by considering a residential area planning, urban design and architectural design principles developed for Bergama.

Keywords: Pergamon; Archaeology; Urban Design; Architecture; House.



Figure 1. Zeus Altar in Pergamon Acropolis (Reconstructed view of the Pergamon Acropolis, Friedrich Thierch, 1882)

AIMS OF THE PAPER

The main purpose of this paper; we will be explained and summarize of urban macroform and urban design principles of housing in Pergamon. In the paper its aimed to give the urban design principles of Antique City of Pergamon and reuse the urban macroform and urban design principles as derived from archaeological excavations. Apart from the Pergamon Acropolis, its well-known from the archaeological excavations the middle and lower city was developed with a grid plan (Figure 2).

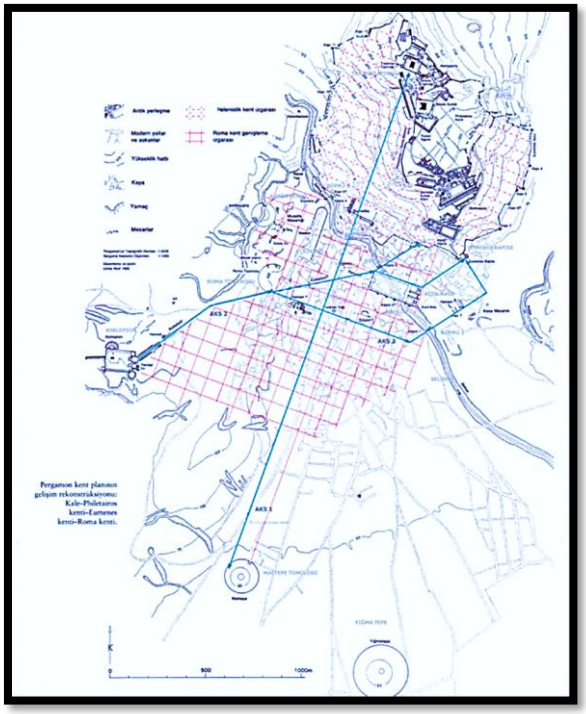

Figure 2. Lower City Was Developed with A Grid Plan (Radt, W.)

Grid texture and residential building architecture examples unearthed in archaeological excavations in these areas will be discussed. In the paper we will use and evaluate the Urban Design Project prepared by one of the authors. Focus area for the urban and housing design in the North, Mustafa Yazıcı Street, Kayhan Street; Kaymakam Kemal Bey Street in the West and in the west Adnan Menderes boulevard are chosen. Also, we will use Antique Period housing architectural assets which excavated at located on a street leading down from the acropolis, the so-called Hall of Benches (Podiensaal) is a rectangular banqueting room measuring 24 m x 11 m (in its final stage).



Figure 3. A 3-D Reconstruction Of Ancient Pergamon, Showing The Monumental Construction On High And The Sprawling City Below (DAI-Pergamongrabung – BTU-Cottbus – Darstellungslehre)

The reconstruction was developed by the Chair of Design, Building Theory and Interior Design at the BTU Cottbus-Senftenberg in cooperation with the German Archaeological Institute (DAI).

Different reconstructions, going back to the beginning of the excavations in Pergamon, are at display, resurrecting the ruins of the ancient city. The reconstructions help to gain a better understanding for antique urban form and architecture and its relationship to manmade living spaces and natural areas (Figure 3).

1. URBAN FABRIC, HOUSING AND SOME IMPORTANT BUILDINGS DUE TO THE PERGAMON EXCAVATIONS

In the Early Christian Period, M.S. VI. According to the information given by Christian writers until the 19th century, there were 3-4 Basilicas and a Baptistery in Bergama. In the urban fabric, no remains have remained from these structures, except the Red Court (Serapis Temple). It has been determined that the Acropolis was used in the Byzantine Period.

The Byzantine fortifications, some of which have survived to the present day, are located between the Hellenistic and Roman Period fortifications. The ceramic finds dating back to the 16th century and the traces

of the Church show that the Acropolis was densely populated during the Byzantine period. It is interesting that no archaeological information has been found in the parts of the city, except for the Church built inside the Red Court.

Architectural data have been encountered in the urban fabric of Bergama since the 19th century. With the excavations that started in the 16th century, rich cultural data of the ancient period began to be revealed. We can see the monumental buildings in Acropolis in Carl Von Humann's Bergama Plan (At The End Of The 19th Century) (Figure 4).

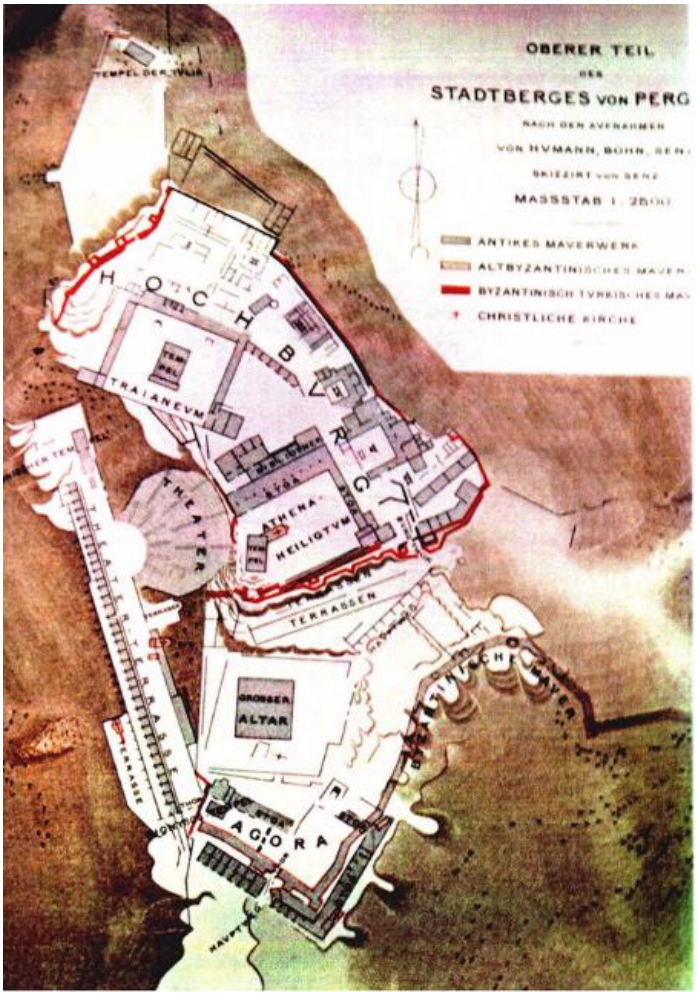

Figure 4. Carl Von Humann's Bergama Plan (At The End Of The 19th Century)

Located on the northern slopes of Bergama, the "Urban Protected Area" is bordered by the skirts of the Acropolis in the north and Uçkemer stream in the south. The area, which has been settled since the Late Byzantine Period (XIV. century), is a section where examples of Hellenistic, Byzantine and Ottoman-Turkish civil architecture are concentrated.

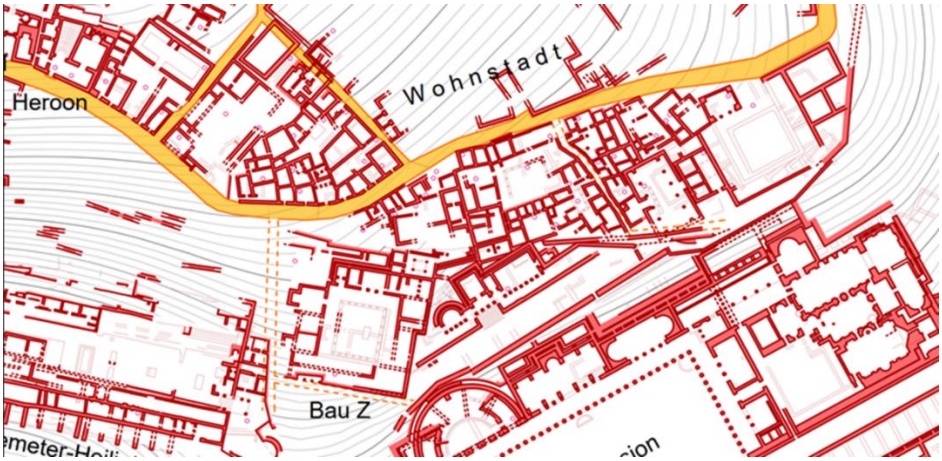

Figure 5. Housing Excavation Areas – 1/2000 (Digitale Karte von Pergamon 1.1 (DAI 2020) (https://www.dainst.blog/transpergmikro/wp-content/uploads/sites/10/2020/12/Digitale-Karte-von-Pergamon-1.1_1-5000_german.pdf)

1.1. ANTIQUE PERIOD HOUSING REMAINS FROM ARCHAEOLOGICAL EXCAVATIONS

Generally, most of the Hellenistic houses at Pergamon were laid out with a small, centrally-located and roughly square courtyard, with rooms on one or two sides of it. The main rooms are often stacked in two levels on the north side of the courtyard. A wide passage or colonnade on the north side of the courtyard often opened onto foyers, which enabled access to other rooms. An exact north-south arrangement of the city blocks was not possible because of the topographical situation and earlier construction.

Thus, the size and arrangement of the rooms differed from house to house. From the time of Philetairos, at the latest, this kind of courtyard house was common and it was ever more widespread as time went on, but not universal. Some complexes were designed as Prostas houses, similar to designs seen at Priene.

Others had wide columned halls in front of main rooms to the north. Especially in this latter type there is often a second story accessed by stairways. In the courtyards there were often cisterns, which captured rainwater from the sloping roofs above. For the construction under Eumenes II, a city block of 35 x 45 m can be reconstructed, subject to significant variation as a result of the terrain. (Radt, W., 1999, pp.93)

We will use Antique Period housing architectural assets which excavated at located on a street leading down from the acropolis, the so-called Hall of Benches (Podiensaal) is a rectangular banqueting room measuring 24 m x 11 m (in its final stage) (Figure 5).

Description: Located on a street leading down from the acropolis, the so-called Hall of Benches (Podiensaal) is a rectangular banqueting room measuring 24 m x 11 m (in its final stage). This was within a transformed peristyle house that was built in the second century BC. The building is oriented with the long side running east-west along the street, although it is set back behind a row of shops and workshops (Figure 6).



Figure 6. Located On A Street Leading Down From The Acropolis, The So-Called Hall Of Benches (Podiensaal) Is A Rectangular Banqueting Room (http://philipharland.com/greco-roman-associations/building-b6-hall-of-benches-of-the-dionysiac-cowherds-ii-iv-ce/)

A small alley led through to the paved yard in front of the building. Across from the doorway is a cult niche and together these divide the interior into two banqueting rooms with three benches each (triclinia). Each of the rooms consisted of a raised podium, or bench, 1 m. high and 2 m. wide, with a marble shelf set slightly lower in order to accommodate food and drink (Figure 7-8-9). (For A Detailed Description of The Building Phases, See Schwarzer 2002.)

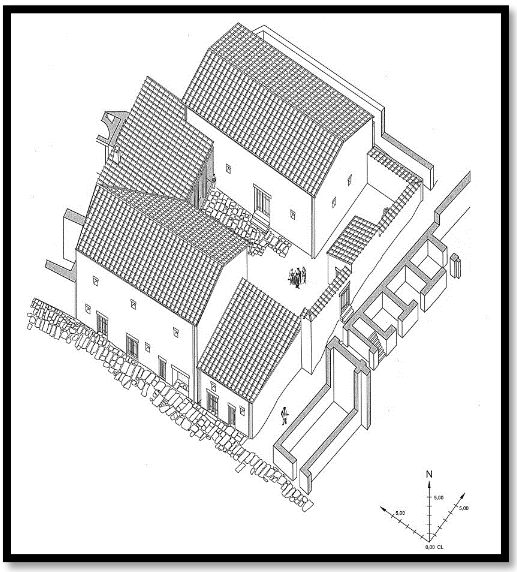

Figure 7. Reconstruction (1:250) Of Phases 3-5 (Ca. 1-225 Ce) Of The Converted Peristyle House (Schwarzer 2008, 70 (Figure 22). (http://philipharland.com/greco-roman-associations/building-b6-hall-of-benches-of-the-dionysiac-cowherds-ii-iv-ce/)

Peristyle house type is a rectangular open-top courtyard surrounded by colonnaded corridors in peristyle ancient architecture. The peristyle, which showed itself in Greek architecture in the 5th century BC, was also taken over by Roman architecture from the 2nd century BC.

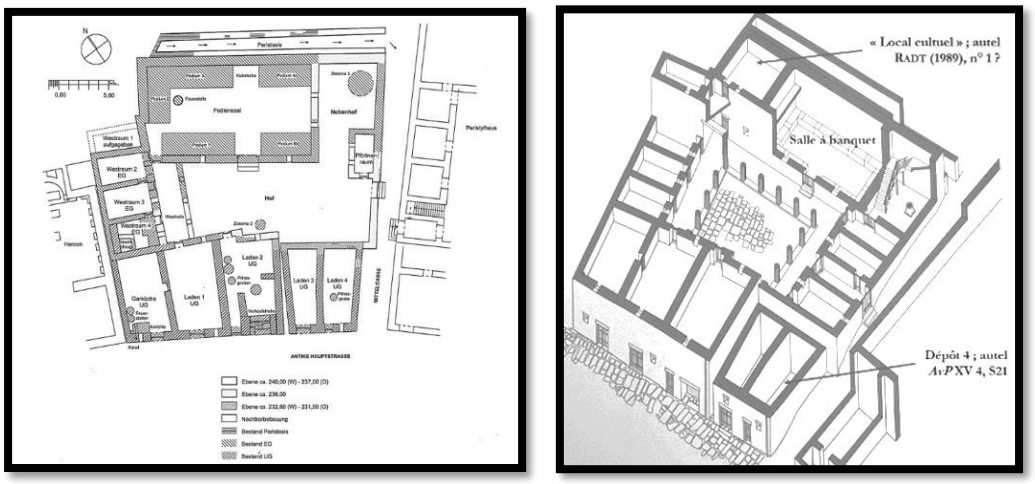

Figure 8-9. Plan and Axonometric Drawing Of The Peristyle House (1:250) In Phase 4 (Ca. 100-150 Ce) With The Hall Of Benches (Podiensaal) Seen At The Top. (Schwarzer 2008, 62)

The evidence for Late Byzantine domestic architecture is similarly limited. The excavations at Pergamon provide some sense of a neighborhood development (Figure 10).



Figure 10: Reconstruction of a Byzantine neighborhood, Pergamon (© Klaus Rheidt)

Here the houses consist of several rooms, often with a portico, arranged around a courtyard set off the irregular pattern of alleys and cul-de-sacs. Similar house forms have been noted in other urban situations, with the focus of the house away from the street.

2. PERGAMON (BERGAMA) HOUSES: FROM ANCIENT TO CONTEMPORARY

They are structures born from the climate, environmental and economic conditions of the Aegean Region. Since the main material of the buildings is stone, it has the feature of being cool in summers and warm in winters. The load-bearing walls of the buildings are mostly rough cut (Figure 11-12).

It is made of stone mesh and the binding material is lime mortar. The wooden skeleton and the adobe infill walls made with the “bagdadi system”, which can be seen in some buildings, are mostly located on the second floors.



Figure 11-12: From Past Today: Pergamon (Bergama) Houses (Bergama Municipality, Inventory 450-5/8 Parcels)

In most of the buildings, the non-bearing walls were built with the wooden bagdadi technique. A few buildings are covered with cut stone on the outside, and most of them are plastered inside and out. Most of the buildings have basements. The effects of the region's being in an earthquake zone can be seen in the construction techniques of the houses. Especially with thick load-bearing walls, small-sized windows and their locations, the use of lightening arches was born out of necessity.

Wood material; It is used in doors, windows, stairs, overhangs and flooring, ceiling and roof elements. In addition, "Fer Forge" type ironwork is common in the region. The consoles with many entrance doors, window grilles and overhangs are examples of this kind of craftsmanship and are fine examples of their kind.

On the windows, metal or wooden shutters are encountered. Again, almost all of these doors and windows have stone lintels, jambs and are straight or arched.

In a significant part of the buildings, there are cornice elements instead of eaves. Wooden fringe element is rarely encountered. The roof form is generally cradle or sitting, and its original cover is Turkish style tiles. The load-bearing systems of the new buildings in the area were made with masonry or reinforced concrete construction technique, and brick and briquette were used as filling materials.

2.2. TRADITIONAL HOUSING FABRIC

Streets perpendicular and parallel to the slope are usually paved with stones, but in places this stone pavement has been covered with concrete over it. The slope is usually for rain runoff given towards the middle of the street.

Street widths vary as 3-5-7 meters, vehicle passage is difficult in places. Dead-end streets are quite common. On both sides of these streets, masonry structures, mostly one or two storeys, made of cut or rubble stone, generally in adjacent order, form the texture.

The structures within the urban site reflect the features that are often referred to as the old "Greek Architecture". In some places, there are also a few buildings with rough cut stone on the ground floor and a wooden carrier system on the upper floor, reflecting the characteristics of the "Ottoman-Turkish" building culture. However, it should be noted that they are the product of a common culture.



Figure 13-14. Rum Type Facades, Pergamon (Bergama) Houses (Bergama Municipality, Inventory 451 - 43/44 Parcels)

The new structures are; they are generally two-storied, with their architectural style and generally reinforced concrete construction system, which are contrary to the historical surrounding housing texture. Stone structures, which are described as Greek Type, usually have ostentatious doors with flat or arched stone lintels (Figure 13-14).

Windows with flat or arched stone lintels have metal or wooden shutters. Some of these shutters can be counted as examples of metal art. The basement floor is very common in these houses.

Traditional Turkish Houses, with their wide eaves, wooden structural structure, overhangs, wooden windows and doors, are located in the streets, albeit a little. The residences have Turkish style tiled roofs. In some

houses, these roofs have been replaced with Marseille tiles. The walls are usually plastered and painted in pastel colors such as yellow/blue/pink. Among the façade decorations, ornaments such as moldings, borders, inscriptions, and eaves are encountered (Figure 15-16).



Figure 15-16. Traditional Ottoman-Turkish Type Facades, Pergamon (Bergama) Houses (Bergama Municipality, Inventory 315)

2.3. TRADITIONAL URBAN TISSUE (BUILDINGS-STREET RELATIONSHIPS)

The buildings are usually one- or two-storey residences with an adjacent arrangement, no garden or a very small garden. It is reached by dead ends in places and located in the garden. Residences are also found. However, the buildings with mostly open and street-facing facades also reflect the social character of the area. The residences are entered directly from the street or through a courtyard.

Residences in Bergama Historical Urban Texture (Urban Protected Area) are generally structures that open directly to the street and have special facades. Doors and windows and under eaves on facades, usually stone and plaster moldings, lintels and eaves adorned with ornaments.

In some buildings, there is a full basement and a semi-basement, and the entrance to the building can be accessed by raising the entrance and through the entrances with stairs.

Apart from the urban protected area, the traditional texture around the Historical City Center, located in the south of Uçkemer Stream, also bears the characteristics of the Ottoman-Turkish Urban Texture. The residences in this region generally have an inward-looking wooden structural structure with an entrance from a courtyard.

2.4. PLAN TYPOLOGY OF HOUSES

The majority of the houses that make up the general texture of the area are houses without a garden in an adjacent layout. On the other hand, the courtyard element is more common. Buildings can be one or two

stories. The houses are entered either directly from the street or through the courtyard. The positions of the houses with respect to the parcel and the street are the most

It is of four types with its plain form. Street-facing, garden-less building, the building with a street front and a courtyard at the back, a building with a front and a courtyard facing the street, the building located behind the courtyard facing the street.

The houses in the aforementioned adjacent layout can be located on the street as twins or in a symmetrical arrangement.

Bergama houses are composed of units that describe all the life and activities of the period in which they were built. Except for a few large structures in the area, they are minimally programmed. The structures are arranged as one or two stories and with or without a basement.

2.5. HOUSE – PARCEL RELATIONSHIPS

Considering that the buildings are directly related to the plan schemes, the subject has been examined in this direction, and it has been seen that the classification, which is seen as four different types above, can actually be divided into two main groups in terms of the formation of the entrance that affects the plan of the building (Figure 17).

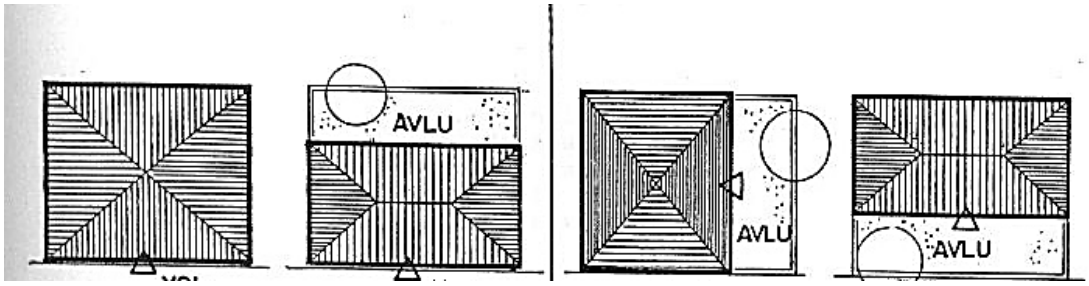

Figure 17. House – Parcel Relationships (Tuncer, M., 2014)

The type with direct access to the house from the street

a- Type without courtyard
b- The type where the courtyard is behind the building

The type that can be reached from the courtyard to the house

a- Side courtyard type
b- Forecourt type

2.6. PLAN TYPOLOGY

Two main plan schemes: middle sofa and outer sofa according to this sofa (entrance hall) space. In two-storey residences, the upper floor plan often coincides with the lower floor plan (Figure 18).

I- Structures with entrance from the road
I.1. Types with middle sofa
I.2. Types with outer sofa
II- Structures with entrance courtyard
II.1. one storey
II.2. two storey

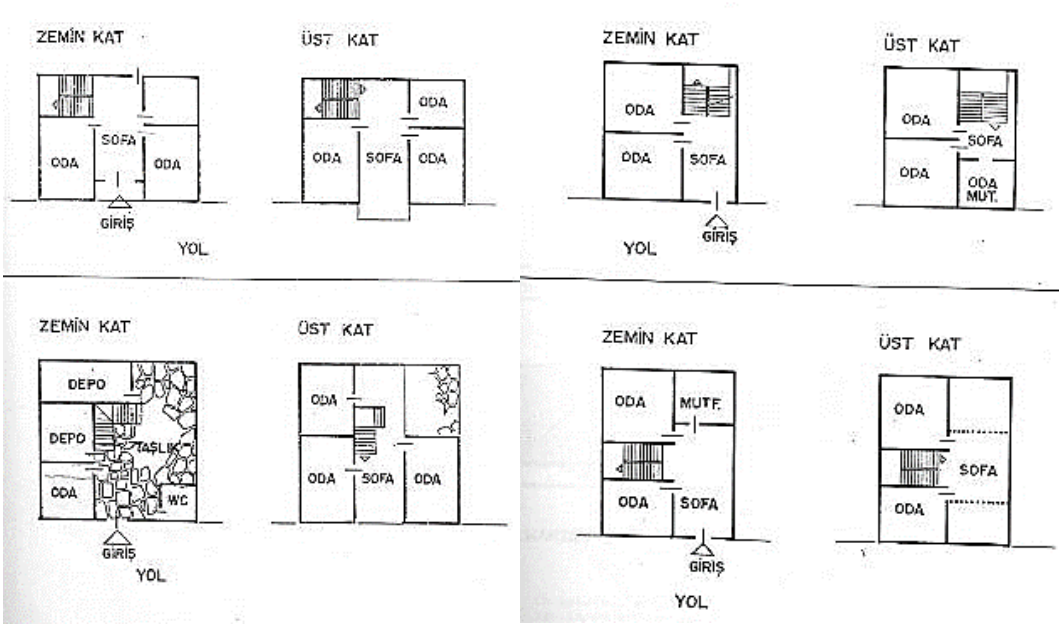

Figure 18. Plan Typologies Of Houses (A) (Tuncer, M., 2014)

3. REEVALUATE THE URBAN DESIGN PROJECT

Urban design principles were determined in the light of urban macroform features obtained from archaeological excavations in the Ancient City of Bergama. It is aimed to reuse the design principles determined in this study.

This study reevaluated the plans and projects prepared to Dokuz Eylül University, City and Region Planning Department 2013-14, Urban Design Study in İzmir-Bergama (80 Ha.) and (45 Ha) implementation Zoning plan-Settlement plan CRP 312 Planning Studio. Focus area for the urban and housing design in the North, Mustafa Yazıcı Street, Kayhan Street; Kaymakam Kemal Bey Street in the West and in the west Adnan Menderes boulevard are chosen (Figure 19-20).

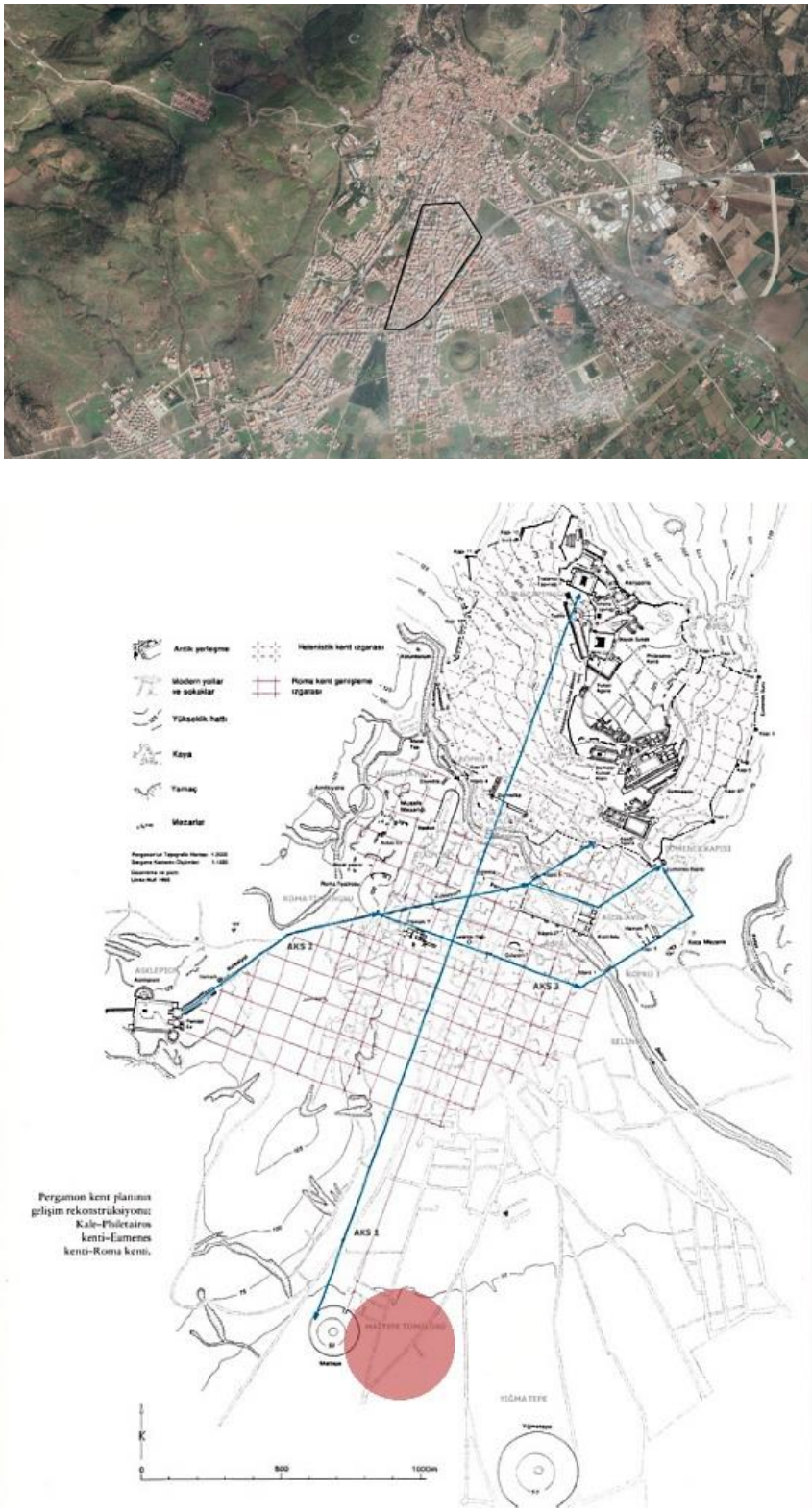

Figure 19-20. Area of Study in Today and Antiquity

Grid plan typology is the basic planning decision of planning (Figure 21). The grid plan of the ancient Pergamon settlement was taken into account while making this decision. Housing islands here are generally adjacent structures and buildings with entrances from the street. Architectural typologies suitable and compatible with the building typologies unearthed during the excavations and the ottoman and contemporary building typologies will be developed on a larger scale. For this, a specific new building architectural typology regulation should be developed.

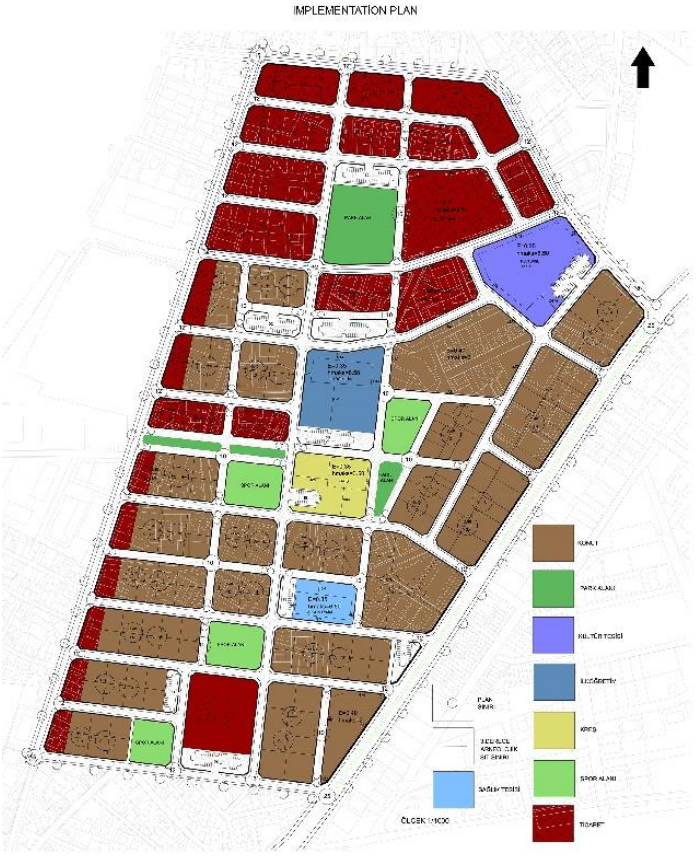

Figure 21. Implementation Zoning Plan (Planning and Urban Design: Ozturk, S., 2013)

In the data obtained from the 3-D Reconstruction of Ancient Pergamon (Figure 3), in some places; There are some buildings with a courtyard in the middle and surrounding it. Therefore, in this study (Figure 22), different from the original version, the discrete commercial units in the central business area have been changed. The residential area in the south has been changed to a commercial area. And the previously given floor heights have been changed according to the data obtained in the archaeological excavations. The reason for using up to three floors in buildings is to maintain the traditional tissue.



Figure 22. Settlement Plan (Planning and Urban Design: Ozturk, S., 2013)

Of course, harmony with the historical tissue is very important in the design of the city plan. However, social, and economic structure, cultural and technological change cannot be ignored. There is no information about park areas, social infrastructure, and recreation areas in archaeological excavations, but an environmentally friendly ecological planning approach has been preferred as a design principle for today.

Central business area is reserved for management, tourism, social, cultural, and commercial structures and social infrastructure areas in the implementation plan. Commercial + housing areas, ground floors will be used as commercial in the first buildings with front face to the road in these areas. Housing areas, these are

residence zones that will be conserved, improved, and realized according to the building density (medium and low) determined in the implementation plan.

Parks (resting areas) areas, that respond to the needs of recreation of the city lives with green vegetation. Recreational areas, these areas are the areas where urban people can have fun, rest, and make sports activities daily. Urban social infrastructure areas, education, health, cultural, religious etc. These are areas where social facilities will be placed.

Although there are houses without gardens in the adjacent layout in the archaeological excavations, in this study (Figure 22), the houses were arranged to form a courtyard at the back and to receive direct access from the street. because, as we mentioned before, an ecological planning approach that uses environmentally friendly, green and water elements have been taken into consideration.

In function diagram and road system (Figure 23-24), 4-meter pavements have been proposed on the boulevards surrounding the study area. The 10-meter pedestrian walkway, which is proposed for the pedestrian to move freely in the area, connects the central business area and residential areas.



Figure 23. Function Diagram And Road System (Planning and Urban Design: Ozturk, S., 2013)



Figure 24. Function Diagram and Road System (Planning and Urban Design: Ozturk, S., 2013)



Figure 25 Number Of. Floor Zone Analysis (Planning and Urban Design: Ozturk, S., 2013)

In number of floor zone analysis (Figure 25), two and 3 floor building heights are recommended on the area because of the archaeological excavation data.

We can say that organic tissue should be preserved in Bergama, but grid planning is also very important.

Although there are houses without gardens in the adjacent layout in the archaeological excavations, in this study (Figure 22), the houses were arranged to form a courtyard at the back and to receive direct access from the street. because, as we mentioned before, an ecological planning approach that uses environmentally friendly, green and water elements have been taken into consideration.

In function diagram and road system (Figure 23-24), 4-meter pavements have been proposed on the boulevards surrounding the study area. The 10-meter pedestrian walkway, which is proposed for the pedestrian to move freely in the area, connects the central business area and residential areas.

In number of floor zone analysis (Figure 25), two and 3 floor building heights are recommended on the area because of the archaeological excavation data.

We can say that organic tissue should be preserved in Bergama, but grid planning is also very important

3. RESULTS OF THE PAPER: "NO CULTURE EVER DIES; IT IS ALWAYS HANDED DOWN FROM GENERATION TO GENERATION!"

In ancient Pergamon it is known that grid island designs, use of water and greens were mainly use in the Pergamon city. Colonnaded streets, shade and wind directions, climatically adaptive housing areas and architecture were mainly used. All of these housing areas urban design principles have been prepared in the south section in Pergamon (Bergama) as will be a sample of for the future designs.

Principles regarding the urban design of housing area in ancient times will be derived from the archaeological excavations and surveys. It will be useful for the new urban housing area designs for the future new housing expansions of Bergama. Grid plan typology is the basic planning decision of planning. The grid plan of the ancient Pergamon settlement was taken into account while making this decision. Housing islands here are generally adjacent structures and buildings with entrances from the street. however, architectural typologies suitable and compatible with the building typologies unearthed during the excavations and the Ottoman and contemporary building typologies will be developed on a larger scale. for this, a specific new building architectural typology regulation should be developed.

Principles regarding the urban design of housing area in ancient times will be derived from the archaeological excavations and surveys. It will be useful for the new urban housing area designs for the future housing expansions of Bergama. Architectural research should be continued, and the information obtained from archaeological excavations should be evaluated and transferred to new designs. This kind of work is pioneer and can be developed according to the data to be revealed in the excavations. There are many ancient cities in the country, and this can be developing a repeatable method for the future.

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THE USABILITY OF DIGITAL MAPS FOR PEDESTRIANS: DO THE EXISTING DIGITAL MAPS SHOW THE WALKABLE AND HISTORICALLY VALUABLE ROUTES?

Ayça Uysal

Dokuz Eylül University
ayca.uysal@ogr.deu.edu.tr

Ebru Çubukçu

Prof.Dr., Dokuz Eylül University
ebrucubukcu@deu.edu.tr

ABSTARCT

With the widespread use of digital maps by pedestrians as well as drivers, digital maps that combine navigation and cultural values have begun to be developed in order to support tourism in cities as mobile applications. These mobile applications present the shortest route or time since they follow the principles of the most frequently used navigation applications. However, pedestrians may not prefer to walk the shortest route if they are not walking for transportation. This paper aims to investigate to which extent existing digital maps present the best recreational route for pedestrians, and whether these maps provide information about historical and cultural values along the route.

Navigation applications systematically scanned through Google search engine and Google Play Store were categorized for the following features: 1) offers a dynamic route (walkable route based on various environmental qualities or the shortest route) or static route, 2) category (Maps and navigation or travel and local etc.), 3) usability in an urban area or non-urban area. The ones that fail to offer a dynamic route or the ones that are listed under a category besides “maps and navigation” and “travel and local” or the ones that are designed for non-urban areas were eliminated. Only 4 partially consider the principles of recreational walking. This study shows that these existing mobile applications ignored the extensive and detailed parameters that have been determined to affect walking for recreation in the relevant literature. Also, it highlights which parameters should be involved and the extent to which this model can be similar or differ from the existing mobile applications.

Keywords: navigation, digital maps, walkability, recreational walking, historically valuable routes

1. INTRODUCTION

Walking is the most important, the easiest, and the cheapest way to experience and explore a city. It is observed that pedestrians tend to stroll if there is no certain destination or time constraint. Strolling is called

walking for recreation, and urban design elements are more important factors for recreational walking. The way pedestrians perceive environment and structural features of the space effects the quality of walking (Cao et al., 2006; Gehl, 1971; Jacobs, 1961; Lunecke & Mora, 2018; Traunmueller & Schieck, 2013).

Along with technological developments, dynamic maps and their mobile applications have started to be used frequently by pedestrians. Private and public institutions have been creating digital maps of neighborhoods and cities for walking for recreation to promote the cultural elements in cities and support tourism, and present these maps as mobile applications thanks to the widespread use of location-based digital tools.

These digital maps combine the idea behind analogue walking maps which show the historical and cultural locations, landmarks, etc., and internet-based digital maps that present the shortest distance between two destinations. However, the critical point about these applications is that they do not present routes based on recreational walking parameters. Existing mobile applications that offer cultural routes follow the working principle of the most known ones of these navigation maps that aim to show the shortest route between two destinations and minimize the travel distance or time for the users.

The increasing awareness of the potential use of route finder services offered by location-based mobile devices for pedestrian movement is the starting point of this paper. The study aims to investigate the extent to which such maps offer the best recreational route between two destinations for pedestrians, and whether these maps provide information about historical-cultural values along the route or not.

The study presents the preliminary research findings of the doctoral thesis aims to develop a methodology to offer the most walkable route in historical areas, prepared at Dokuz Eylül University, The Graduate School of Natural and Applied Sciences. A mobile application with the working principle based on the methodology developed in the doctoral thesis will promote walking in historical areas for both locals and tourists. This study consists of two stages, a literature review covering recreational walking and an examination of the mobile applications for navigation.

2. LITERATURE REVIEW: WALKING FOR RECREATION IN HISTORICALLY VALUABLE ROUTES

Since the early 1900s, it has been discussed in urban studies that the best way to explore and experience a city is to walk (Gehl, 1971; Jacobs, 1961; Lunecke & Mora, 2018; Whyte, 1980). George Simmel, Jane Jacobs and Jan Gehl see cities as areas of interaction. These theorists emphasize the importance of understanding the city and the culture and also argued that mobility is the basis of urban life. Therefore, when it comes to historical cultural areas, it is appropriate to discuss the walking for recreation so that tourists and locals be able to visit the city more consciously.

It is understood from the literature that the quantitative evaluations were used to measure the built environment until the early 2000s (Ball et al., 2001; Pikora et al., 2006; Powell et al., 2003), although the effects of urban design features on walking were discussed (Ewing et al., 2005). The effects of how people perceive the environment on walking were firstly objectively measured by Ewing and his colleagues in the early 2000s and reported in 2005. This project pioneered the further studies that measure the pedestrian

perception for different walking types in different areas (Alfonzo, 2005; Çubukçu et al., 2014; Çubukçu et al., 2019; Ewing & Handy, 2009; Ewing & Cervero, 2010; Saelens & Handy, 2008; Sugiyama et al., 2014) in the urban design and environmental psychology literature. The way pedestrians perceive the environment, and the structural features effects the quality of walking.

When the literature is examined concerning recreational walking in historically valuable areas, it is seen that pedestrians tend to appreciate aesthetical features more when they walk for recreation. In other words, if pedestrians do not walk with the aim of transportation, they prefer to experience the environment (Traunmueller & Schieck, 2013; Zainol et al., 2016). Within this context, the parameters affecting recreational walking were grouped as perceptual and quantitative. Perceptual parameters are imageability (Çubukçu et al., 2014; Çubukçu et al., 2019; Ewing et al., 2005; Ewing & Handy, 2009; Lynch, 1964; Ma et al., 2021; Nasar, 1992), enclosure (Ewing & Handy, 2009; Stamps, 2002a), human scale (Çubukçu et al., 2019; Ewing et al., 2005; Ewing & Handy, 2009; Xu, J., 2019), transparency (Ewing & Handy, 2009), complexity (Ewing & Handy, 2009; Stamps, 2002b), coherence (Ewing & Handy, 2009; Nasar, 1992), legibility (Ewing & Handy, 2009; Lynch, 1964), perceived safety (Çubukçu et al., 2019; Pikora et al., 2006), perceived road network- linkage (Ewing & Cervero, 2010; Gao et al., 2020; Saelens et al., 2003a; Saelens & Handy, 2008; Sugiyama et al., 2014), comfort (Çubukçu et al., 2019; Speck, 2013), aesthetics (Bunds et al., 2019; Ewing et al., 2005; Labdaoui et al., 2021; Pikora et al., 2006; Yin, 2017; Zhang et al., 2022), attractiveness (Pikora et al., 2006; Tarek et al., 2021; Traunmueller et al., 2018; Yin, 2017; Zhang et al., 2022). Quantitative parameters are street pattern, quality of path/street quality, attractiveness and convenience (Alfonzo, 2005; Appleyard, 1981; Belge, 2012), comfort (Çubukçu et al., 2019; Speck, 2013), accessibility (Saelens et al., 2003a; Saelens et al., 2003b), land use (Jabbari et al., 2018, Saelens et al., 2003a), network configuration (Lee & Moudon, 2006; Özbil & Peponis, 2012). As it is seen, the same parameters can be both perceptual (subjective) and objective. For example, determining the presence of trees or canopies on a path is a quantitative analysis for street quality, while it is a quantitatively measured pedestrian perception in terms of comfort.

3. NAVIGATION RELATED MOBILE APPLICATIONS

In the last twenty years, the use of digital maps as one of the internet-based tools by pedestrians has increased. With this development, the use of dynamic maps and mobile applications, which offer cultural routes created in order to support the tourism sector and increase the awareness of cultural elements in cities, has also become widespread. Public and private institutions started to create digital maps of neighborhoods, districts, or cities for walking for recreation. Thanks to the widespread use of location-based digital tools such maps are presented via mobile applications for the use of pedestrians. These digital maps combine the idea behind analogue walking maps which show the historical and cultural locations, landmarks, buildings etc., and internet-based digital maps that give the shortest distance between two destinations.

This paper aims to examine existing navigation mobile applications whether they consider the built environment parameters of walking for recreation or not. The existing mobile applications were searched systematically in Google search engine and Google Play Store via the following keywords: “walking routes,

cultural routes, multi-stop route, walk, route, multiple stops route, culture routes". "Maps and Navigation" and "Travel and Local" categories were scanned on the Google Play Store. In addition, Google Play Store recommendations were examined.

A total of 51 mobile applications have been found. Each application was attempted to be downloaded and tested on the Samsung Galaxy Tab S7 device with the Android 7.0 operating system in order to determine their direct relationship with the subject of the study. However, some of the mobile applications could not be downloaded because they were not available for download from Turkey, and some were incompatible with the Android 7.0 operating system. After downloading the mobile applications, the websites of the applications were investigated to derive additional information. The applications were analysed for the following features and eliminated phase by phase; 1) offers a dynamic route (walkable route based on various environmental qualities or the shortest route) or static route, 2) category (Maps and navigation or travel and local etc.), 3) useability in an urban area or non-urban area. The ones that fail to offer a dynamic route or the ones that are listed under a category besides "maps and navigation" and "travel and local" or the ones that are designed for non-urban areas. The remaining 28 applications were analysed and evaluated systematically to derive information about the developer's expertise, aim of the application, by whom the data is collected, which parameters were used and how they were measured, the category offered by Google Play Store, release date, in which country it was developed, the ability to offer multiple-stop routes, ability to offer additional routes (such as biking routes) in addition to walking routes, and which walkability parameters were taken into account etc. Although 2 of the applications (Walkonomics and Likeways) could not be downloaded to the device, they were not eliminated from the list since they are considered as important to be examined in line with the purpose of the study. These applications were examined through their websites. 2 of the mobile applications named as X Travel Guide and X Official Guide because the mobile application with the same content was launched by the company for different cities/regions. Therefore, these mobile applications were named under a title (X Travel Guide, X Official Guide) and examined.

In this part of the study, 28 mobile applications were examined based on the followings: how to access to the application, sectors of use, routing algorithm, information about stops along the route, route type, the relationship with walkability principles, features that allow users to enter data, coverage area, year, and origin, whether the mobile application is a project deliverable.

Table 1. shows the names of the mobile applications and the Google Play Store categories. There are 17 mobile applications under Maps and Navigation and 9 under Travel and Local category. 2 of them are not available in Google Play Store.

Table 1. Mobile Applications and Google Play Store categories

Name of Mobile Application	Google Play Store Category	Name of Mobile Application	Google Play Store Category
Yürü & Keşfet (Walk & Discover)	Travel and Local	Paris City Map Guide Travel	Travel and Local
Circuit Route Planner	Maps and Navigation	X Travel Guide	Travel and Local
Google Maps	Maps and Navigation	X Official Guide	Travel and Local
İzmirTarih - Discover Kemeraltı and Its Surroundings	Travel and Local	Just Draw It! - Route planner & distance finder	Maps and Navigation
GetWay - Route Planner	Maps and Navigation	Arataki - Cultural Walking Trails - New Zealand	Travel and Local
Zeo Route Planner - Fast Multi Stop Optimization	Maps and Navigation	Footpath Route Planner - Running, Hiking, Bike Map	Maps and Navigation
MapFactor Navigator - GPS Navigation Maps	Maps and Navigation	Batch Geocode-Multi Stop Route Planner	Maps and Navigation
HERE WeGo: Maps & Navigation	Maps and Navigation	iWalk Cornwall	Travel and Local
Yandex.Maps: Transportation, navigation and city guide	Maps and Navigation	Walkstreets: walking routes	Maps and Navigation
Likeways	Not on Google Play Store	Walk With Me	Maps and Navigation
WalkRunCycle UK	Travel and Local	Wiltshire Walks	Maps and Navigation
Route 4 me	Maps and Navigation	Pathvu Navigation	Maps and Navigation
Sydney Culture Walks	Travel and Local	Routin	Maps and Navigation
Navigation by Myroute	Maps and Navigation	Walkonomics	Not on Google Play Store

Information about 28 mobile applications was obtained by downloading and testing the applications, via internet addresses and Google Play Store. Among the applications, 24 of them were downloaded and 4 of them could not be downloaded. 11 of the 24 mobile applications could not be tested on the device, 13 of them were downloaded to the device and tested. Since information about the applications that could not be tested were accessed via the Google Play Store, Google search engine and the websites of the applications, they were not eliminated at the beginning of the study.

The reasons why it is not possible to test these 11 applications that can be downloaded are applications do not work in Turkey (5), the route tracking failed because the route cannot be started from Turkey (3), mobile application run error (1), features related to routing and cultural elements could not be accessed (1), the routing only work for the city it was designed for (1). In other words, when the applications were downloaded to the device, their limited features could be tested and examined. Detailed data collection was done through internet resources. For the failed application, all data on how to use the application access was provided via

internet resources. The reasons why 4 mobile applications cannot be downloaded to the device are removal from access (1), inaccessible from Turkey (1), not available in the Google Play Store (2). Their detailed data is obtained from websites. Additively, even if the mobile applications can be downloaded to the device and tried, there are also additional data obtained through the Google Play Store and the websites of the mobile applications.

Of the 28 applications that offer dynamic walking routes, 16 are operating on an international scale (universal or more than one country), 3 are operating on a national scale, 8 of them work on the city scale that they are designed for, 1 of them can only be used for a district in the city they designed for. The following cross table (Table 2.) shows that all mobile applications working internationally are in the Maps and Navigation category in Google Play Store. Most of the mobile applications under the Travel and Local category are operating at city scale.

Table 2. Category in Google Play Store *Coverage Area Crosstabulation

		Coverage Area				Total
		District	City	Country	International	
Category in Google Play Store	Not on Google Play Store	0	0	0	2	2
	Maps and Navigation	0	2	1	14	17
	Travel and Local	1	6	2	0	9
Total		1	8	3	16	28

3 of 28 mobile applications were developed as project output. The “Yürü & Keşfet (Walk & Discover)” mobile application is the output of the “Yürü & Keşfet” project developed by the Directorate of Geographical Information Systems of Istanbul Metropolitan Municipality. It was supported by the Istanbul Development Agency (http://www.yurukesfet.com/). “İzmirTarih - Discover Kemeraltı and Its Surroundings” mobile application is the output of the İzmirTarih project carried out by İzmir Metropolitan Municipality with the aim of discovering and promoting the historical and cultural values in İzmir historical city center (http://ibbizmirtarih.com/). The last one “Likeways” which gives routes based on social media likes of the places, is a deliverable of the academic works of Martin Traunmueller (http://www.likeways.net/).

Release date data of 27 mobile applications was accessed from Google Play Store (18), Google search engine (8), contacted the developer by e-mail (1). 1 of them could not be accessed by these methods. Figure 1. shows the number of mobile applications give the dynamic walking route. Yandex Maps and Google Maps was developed in 2004 and 2005 respectively. Then after 2012, with the widespread use of technology and mobile applications, studies on this subject are also increasing.

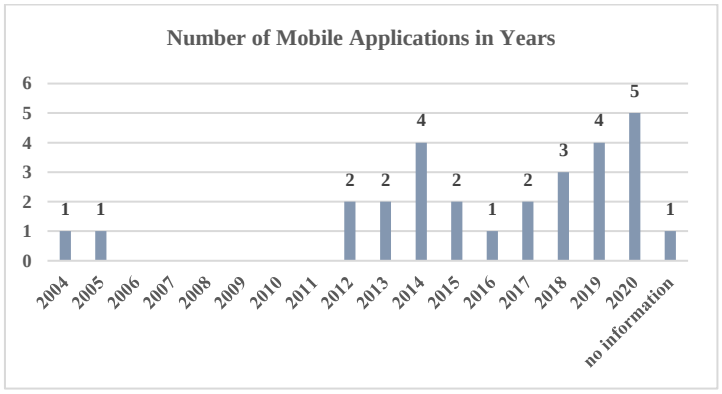

Figure 1. Release date and number of mobile applications

Figure 2. provides information about the countries where mobile applications are developed. According to this, mobile applications that provide dynamic route navigation are mostly developed in United States of America (8), England (5), and Turkey (3).

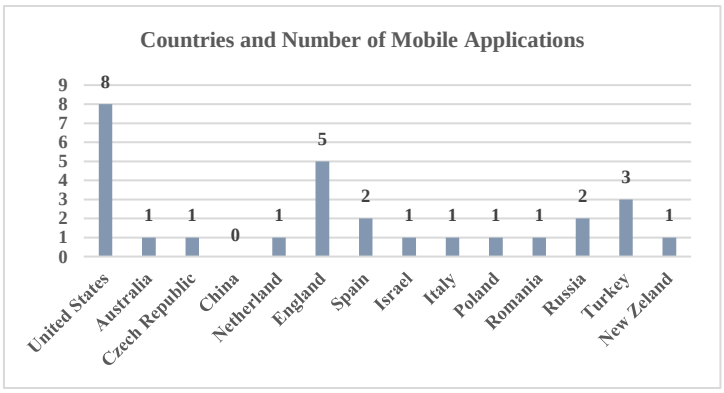

Figure 2. Countries and number of mobile applications

In addition to the Google Play Store categories, the 28 mobile applications were analyzed by the authors in which sectors they are used. According to this, tourism (10), navigation (13), security (1), delivery and transportation (4) sectors are found (Figure 3.).

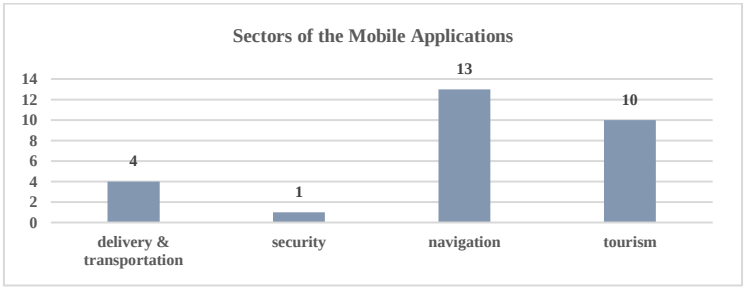

Figure 3. Sectors of mobile applications

An analysis was made of whether the walking routes are predetermined walking routes or the routes created by the users by choosing their own stops and destinations. Accordingly, in 18 mobile applications users can create routes by choosing stops and in 6 mobile applications, there are two types of routes (created by users, predetermined routes). 4 mobile applications have only predetermined routes. For 24 applications in which users can choose and add stops, the number of mobile applications that users can only select their destination and cannot add other stops on the route is 3, and the number of applications that more than one stop can be added to the route is 21.

The following cross table (Table 3.) shows the sector analysis done by the authors and the routing method of the applications. Accordingly, users can create routes by choosing more than one stop for mobile applications used in the security (1) and delivery (4) sectors. Of the navigation mobile applications (13) in 3 of the mobile applications, users can only choose the destination, and in 10 of them, users create a route with more than stops. In the mobile applications of the tourism sector (10), there are applications that offer predetermined routes (4) and applications that users can add more than one stop (6).

Table 3. Sectors *Routing

		Stop adding option			
		Predetermined routes	Only destination	More than one stops	Total
Sectors	Delivery	0	0	4	4
	Security	0	0	1	1
	Navigation	0	3	10	13
	Tourism	4	0	6	10
Total		4	3	21	28

8 of the mobile applications offer cycling routes. "GetWay - Route Planner" and "Batch Geocode-Multi Stop Route Planner" used in the delivery and transportation sector, "MapFactor Navigator - GPS Navigation Maps" used for navigation, "HERE WeGo: Maps & Navigation", "Yandex.Maps: Transportation, navigation and city guide", "Footpath Route Planner - Running, Hiking, Bike Map", "Navigation by Myroute" and finally "WalkRunCycle UK" mobile applications used in the tourism sector offer bike routes, besides dynamic walking routes.

"MapFactor Navigator - GPS Navigation Maps", "HERE WeGo: Maps & Navigation", and "Yandex.Maps: Transportation, navigation and city guide" mobile applications, which are used as navigation tools, offer all walking, vehicle, bicycle, and public transportation routes.

25 mobile applications do not allow users to enter data into the base map. 3 applications allow the user to enter data. "MapFactor Navigator - GPS Navigation Maps" allows the entry of street width data, "Walk with Me" allows the entry of pavement presence and pavement width data, "Yandex.Maps: Transportation, navigation and city guide" allows the entry of traffic and accident information data.

Among all 28 mobile applications, in 3 of the mobile applications, users can add photos of the route. Again, in 28 mobile applications, 6 of them allow users to comment on the route within the application. Mobile applications seek an answer to an open-ended question as “How was the trip?".

19 of the 28 applications do not offer a feature that allows users to score the route. 9 of them allow scoring the route. Of the 9 applications that allow scoring, 4 mobile applications allow making a general scoring about the route. 1 application allows users to score road safety, whether it is easy to cross, presence of pavements, crime rate, fear rate, easiness of the route, attractiveness level of the route, and relaxing level of the route. 2 of the mobile applications, users can score the "place", which is the destination of the route, out of 5. The questions of 1 mobile application could not be accessed because it was not possible to walk and complete the route in Turkey. For the last mobile application, the questions could not be displayed because of the login error. This information could not be accessed from other data sources.

The most important analysis that basically forms the purpose of the study is whether the navigation applications consider walkability parameters while creating routes for walking for recreation. While 22 of the 28 mobile applications examined within the scope of the study give only the shortest route between destinations, 6 of them partially take walkability parameters into account. However, only 4 of this 6 consider some of the parameters for recreational walking.

“Walkstreets: walking routes” presents routes that take green space, air quality and noise parameters into account. “Wiltshire Walks” presents routes that consider the parameters of tree presence, presence of water element, presence of bars and cafes on the route. “Walkonomics” offers routes according to the parameters of attraction of the place, perception of safety, presence of pavement and wayfinding. "Likeways" offers routes with attraction points by using social media data. Mobile applications called “Walk With Me” and “Pathvu Navigation”, which are used for navigation for the visually impaired people, create routes according to the parameters of safety and disabled access.

These applications, which partially take the principles of walkability into account, were released in 2017 (Walkstreets: walking routes), 2020 (Wiltshire Walks), 2013(Walkonomics), 2016 (Likeways), 2020 (Walk with Me), 2019 (PathVu Navigation). In the same order, it was developed by companies based in Russia, England (Wiltshire Walks, Walkonomics, Likeways), Romania and America.

3.1. WALKSTREETS: WALKING ROUTES

It was developed by the Russian company Urbica and launched in 2017. It is in the Maps and Navigation category on the Google Play Store. Currently, the route features of the mobile application work for Moscow. However, it is aimed to expand its scope and present routes in all cities of Russia. Between the two destinations, the mobile application presents the most walkable route according to green area, sound and air quality parameters. It presents not only routes between two destinations, but also 30, 60, 90-minute walking routes that return to the same point from the starting point. A mathematical model was developed based on

OpenStreetMap data. The data of the mobile application is provided by Greenpeace Russia for green field data, and Aerostats data for air quality.

3.2. PATHVU NAVIGATION

PathVu Navigation is a mobile application developed by PathVu software company and certified Esri ArcGIS developer Chetu. The mobile application aims to provide accessibility support for disabled people. The origin of this mobile application is America, and it was released in 2019. It is in the Maps and Navigation category on the Google Play Store. Its goal is to ensure a safe journey with wheelchairs, which is the most critical problem of disabled pedestrians. It provides real-time pedestrian navigation according to the comfort setting and pavement quality selected by the user in the route selection. It presents pavement nets in detail.

3.3. WILTSHIRE WALKS

This mobile application was prepared by TinyMobile Ltd. for the UK. It was released on the Google Play Store in 2020. It is in the category of Maps and Navigation. The user can select the walking route by filtering it as woodland route, waterside walking route, hill climbing and routes with bars on the route.

3.4. WALKONOMICS

It was developed and launched in 2013 by Adam Davies, who has a career in transportation planning, geography and computer science. It was developed in the UK. The application is not available in the Google Play Store. The route generation algorithm is based on scoring walking areas (streets, open spaces) based on data from open sources. It aims to determine the walking route according to the green area, the presence of shadow elements and the presence of trees. Streets are categorized as in street widths, traffic, cleanliness, crime statistics, traffic accidents, number of trees on the streets titles, and colored according to a 5 out of 5 scoring system. These data compiled from open-source sources are automatically converted into scores with the developed algorithm (Quercia et al., 2015). Gathered information about this mobile application is based on internet addresses and articles.

3.5. WALK WITH ME

It was developed by Bogdan Campean in Romania and presented in 2020. It's under Maps and Navigation category in Google Play Store. Users can enter data such as pavement presence and pavement width. Two types of users share the mobile application, voluntary users and visually impaired users. Before start to use the mobile application, it is recommended to pair the accounts of volunteer user with visually impaired user. Volunteer users can determine the attraction areas on the map, also draw routes for visually impaired users. These paths are saved as predetermined routes. Visually impaired users can choose the route among the

routes prepared according to the information previously entered by volunteer users. Visually impaired users can select the starting and destination points.

3.6. LIKEWAYS

It was developed by Martin Trunmueller in 2016 as an output of his master's thesis. It covers the cities of Istanbul, London, Los Angelas, Madrid and Sao Paulo. The application creates routes based on the social media data that rates restaurans, bars, shops, museums, galleries. The basic concept of this mobile application is urban strolling and discover the city. The application is not available on Google Play Store.

In addition to these, it is important to mention two addition mobile applications of two metropolitan cities in Turkey: Yürü&Keşfet (İstanbul) and İzmirTarih (İzmir). However, although both applications give the culture routes (predetermined and created by users by choosing stops), they present the shortest route between destinations. In other words, it does not take into account the principles of recreational walking. These mobile applications operate with the algorithm of reaching the destination by using the shortest distance or in the shortest time.

3.7. İZMIR TARIH - DISCOVER KEMERALTI AND ITS SURROUNDINGS

It was developed within the scope of the IzmirTarih - Sustainable Transportation Project developed by UrbanLab Izmir. The mobile application was launched in 2018. It is under the Travel and Local category on the Google Play Store. İzmirTarih project aims to make the historical city center of İzmir an experienceable area for everyone. There are historically and culturally important points and landmarks in the historical city center called Kemeraltı. Mobile application presents both pre-created routes (6) and routes which created by the users by selecting cultural attraction points (258). Contents of the application were prepared under the consultancy of Erkan Serçe, and a team of 10 (architects, city planners, civil engineers, mechanical engineers, electrical and electronics engineers, and restoration experts) worked together.

3.8. *YÜRÜ & KEŞFET* (WALK & DISCOVER)

Yürü & Keşfet mobile application developed by Istanbul Metropolitan Municipality Geographical Information System Directorate. The background project is supported by the Istanbul Development Agency. It was released on the Google Play Store in 2018. The application is listed under Travel and Local category. Basically, the purpose of the application is to increase the visibility of historical cultural values to support tourism sector and to enable pedestrians to travel the city more consciously. In addition to the predetermined cultural routes, users can also create their own routes by specifying their destinations. It shows the historical cultural values in the surrounding area based on the location data of the user. It also calculates the number of steps and calories taken during the day.

4. RESULTS AND DISCUSSION

According to the results of this study, 6 of the 28 mobile applications present routes partially based on principles of walkability. Of these, 4 mobile applications partially include the parameters of recreational walking in their algorithm. In addition, mobile applications have been developing by the public and private organizations in which cultural elements are presented to support tourism. Turkey is one of the countries where studies are conducted on this subject, following the United States (8), and England (5). Therefore, while the increasing trend is seen in developing navigation applications, it is obvious that there is a gap to fill in terms of a new methodology that considers principles of walkability.

Considering the data from the literature review and mobile application analysis together, it is seen that these existing mobile applications ignored the extensive and detailed parameters that have been determined to affect walking for recreation in the relevant literature (imageability, enclosure, human scale, transparency, complexity, coherence, legibility, perceived safety, perceived road network- linkage, comfort, aesthetics, street pattern, quality of path/street quality, attractiveness and convenience, accessibility, land use, network configuration). This inference highlighted the necessity for an original model to be developed. This study is important in that it opens the following issues for discussion: which parameters should this model involve and the extent to which this model can be similar or differ from the existing mobile applications. More work is on call to develop a method that gives the most walkable route based on the recreational walkability parameters and provides information about the important historical and cultural elements along the route. Such a tool may increase the visibility of the historical and cultural heritage for pedestrians.

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A CHRONOLOGICAL ASSESSMENT OF THE TRANSFORMATION OF EVERYDAY LIFE IN THE PUBLIC SPACE THROUGH FUNDAMENTAL STUDIES

İbrahim Eren

Urban Planning Ph.D. Program, Yıldız Technical University
erenibrahm@gmail.com

Esin Özlem Aktuğlu Aktan

Assoc. Prof., Yıldız Technical University
aktuglu@yildiz.edu.tr

ABSTRACT

This study aims to examine the evolution of daily life in human-space interaction. Furthermore, the transformation of behaviour and social relations is discussed through books on daily life and public life. For this review process, the word cloud visualization method is tried. The methodology of the study consists of a literature review on change in public and everyday life and a comparative and chronological analysis of major studies in the sociology of everyday life. The selected books are compared across the word clouds using content analysis. For evaluation in this study, Henri Lefebvre (The Critique of Everyday Life, 1947), Erving Goffman (The Presentation of Self in Everyday Life, 1959), Michel De Certeau (The Practice of Everyday Life, 1984), Richard Sennett (Flesh and Stone: The Body and the City in Western Civilization, 1994), Zygmunt Bauman (The Individualised Society, 2001), Ben Highmore (Ordinary Lives: Studies in the Everyday, 2010), Kevin D. Murphy and Sally O'Driscoll (Public Spaces/Contested Space: Imagination and Occupation, 2021), Stan Cox (To Path a Livable Future: A New Politics to Fight Climate Change, Racism, and the Next Pandemic, 2021) were preferred. As a result of the study, the evolving and important concepts in the books on the future and daily life were determined chronologically. Besides, it has been tested that the word cloud visualization method can be used both as a visualization tool and as a content analysis. We believe that this study, which examines the change in everyday life, will inform future studies.

Keywords: Everyday life; public space; change of society, word cloud visualization, word mining

1. INTRODUCTION

Public spaces, which are communication channels where people come together, pass by, share their ideas, and continue their daily lives, are in a constant state of change. These spaces are a necessity of everyday life and where daily relations co-exist. They are directly or indirectly affected by many events on a global and local scale. This study aims to reveal and discuss the shift in everyday life in the interaction between people and space. It also detects developments in concepts and approaches and tests the "word cloud visualization

method" as part of content analytics. The transformation of behaviour and social relationships is discussed through the works of the principal names of the sociology of everyday life.

The study's methodology consists of a literature review on the change in public and everyday life moreover a comparative analysis of the principal studies in the sociology of everyday life. Opinions of notable names on everyday life in the public space have been chronologically examined until today and changing concepts and approaches regarding the studies of the authors and periods have been revealed by applying content analysis.

In the study using content analysis, a comparative analysis is made between the selected books through word cloud visualization/word-mining methods. Heimerl et. al. (2014) state that tag clouds are a basic information visualization technique applied in different contexts. They also emphasize that this text summarization method helps to get information about the number and type of topic. Jin (2014), on the other hand, states that there is a kind of weighted list for visualizing text data for the word cloud.

In this study, word cloud visualization was used to measure the evolution of concepts and approaches to everyday life across selected books for assessment. The most repetitive words and concepts were identified during this review with an algorithm developed using the Python programming language using PyPDF2, nltk, wordcloud, matplotlib, pyplot libraries, and visual expression graphics were prepared by converting them to word cloud. The findings were discussed comparatively in the evaluation section. In addition, the future of daily life in the public space and the studies on social life in the future city are also evaluated in the discussion section. In this direction, in the introduction part of the study, a review of the literature on the public space and the change in public life is given. In the next section, a discussion is presented on the approaches of the thinkers. In the evaluation part, the analysis of the findings related to everyday and public life will be included.

2. THE TRANSFORMATION OF EVERYDAY LIFE IN THE PUBLIC SPACE THROUGH FUNDAMENTAL STUDIES

Madanipour (2010) declares that they reflect the complexity of the urban community. Gökgür, on the other hand, states that the public space, which emerged from a need in the historical process and therefore continues to exist, reflects the city dynamics and culture, and has undergone many changes depending on the centuries it has completely differentiated in terms of quality, content, and function (2017). This rapid change brought about by the information age also affects the physical and social environment, and urban life must change with multifaceted elements (Ascher, 2004 as cited in Gökgür, 2017).

The differentiation of the change in public life according to the needs and structure of the age has been the subject of many studies. It has been decided by descriptive research methods that "breaking points", "change of public life" and "emphasis on being new", which affect the coexistence of individuals or living as a society, are handled in different contexts by many thinkers. Furthermore, Gökgür (2017) says that public space reflects urban dynamics and culture and has experienced many changes over the centuries. She pointed out that after the 1950s, it completely changed in terms of operation, content, and quality.

A review of the descriptive literature was carried out for the books that were preferred to be evaluated as part of the study. Prominent names with studies on the sociology of daily life, social interaction, social change,

and public life were reviewed. Henri Lefebvre, Michel De Certeau, and Agnes Heller are the pioneers of the sociology of daily life (Çetin, n.d).In the dictionary of Human Geography, Walter Benjamin, Henri Lefebvre, and Michel de Certeau are cited as important theorists, while Highmore, Katz, and Sheringham are referenced to understand the subject of everyday life (Gregory et. al, 2009). Bryant (2010) examines the studies of Erving Goffman, Richard Sennett, Zygmunt Bauman, and Raymond Williams to outline the complex nature of the digital metropolis. He also states that the approaches of Bauman, Goffman, Sennett, and Simmel provide a basis for the digital urbanism view.

Following the analysis, when considering the change from the recent past to the present, the accessibility of books and the chronological selection of books were the other selection criteria. For sources selected after 2010, the decision was taken through content-based reviews. See Table 1 for preferred sources.

Table 1. Books analysed in this study.

Year	Author	Book Title	Citations of Author	Citations of the Book
1947	Henri Lefebvre	The Critique of Everyday Life – I	148.307	4.079
1959	Erving Goffman	The Presentation of Self in Everyday Life	384.819	80.686
1984	Michel De Certeau	The Practice of Everyday Life	*	41.819
1994	Richard Sennett	Flesh and Stone: The Body and the City in Western Civilization	*	2,665
2001	Zygmunt Bauman	The Individualised Society	*	4.851
2010	Ben Highmore	Ordinary Lives: studies in the everyday	*	403
2021	Kevin D. Murphy & Sally O'Driscoll	Public Spaces/Contested Space: Imagination and Occupation	*	*
2021	Stan Cox	To Path a Livable Future: A New Politics to Fight Climate Change, Racism, and the Next Pandemic	*	*

2.1. HENRI LEFEBVRE (THE CRITIQUE OF EVERYDAY LIFE, 1947)

Lefebvre (1901-1991) is known as a French Sociologist, intellectual, and philosopher, and also refers to himself as a Neo-Marxist (Elden, 2004). According to Lefebvre, everyday life dialectically illusion and truth, power, and despair; defined as the intersection of the industry controlled and uncontrolled by the people of the industry. Everyday is the place where all life and all activities take place. Lefebvre argued that everyday life is an underdeveloped sector compared to technology and production in the middle of the 20th century, capitalism changed in such a way that everyday life was colonized - turned into a zone of pure consumption. Without revolutionizing everyday life, capitalism has emphasized that it will continue to degrade the quality

of daily life and hinder true self-expression. Lefebvre states that man realizes the criticism of his daily life in his way, spontaneously. He argues that the relationship between leisure and everyday life is not simple; emphasizes that he found both a relationship and a contradiction between the two words. Their relationship is therefore dialectical. As a result of the fragmentation of labour, modern industrial civilization creates both a general need for leisure and other needs that differ in this general context.

When The Critique of Everyday Life is evaluated according to the content analysis, the top 10 most used words are life, everyday, human, social, critique, consciousness, alienation, individual, and time. Labour, politics, bourgeoisie, and culture are other important concepts that are emphasized. It was produced according to the wordcloud word frequencies in Figure 1.

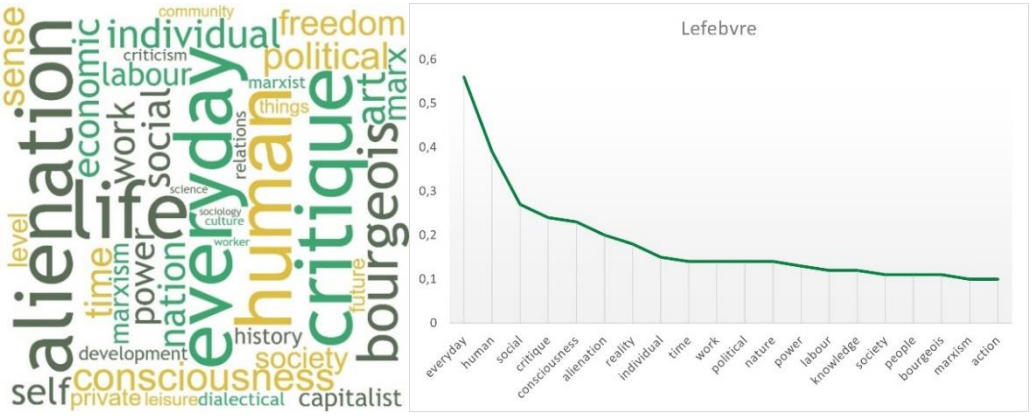

Figure 1. a) Word cloud from Lefebvre's book b) Word frequency for the first 20 words

2.2. ERVING GOFFMAN (THE PRESENTATION OF SELF IN EVERYDAY LIFE, 1956)

The book developed by Goffman from his doctoral thesis and "The Presentation of Self in Everyday Life" in 1956 were discussed with sociology and social psychology approaches. It presents a study on the relationships and behaviours that an individual creates with others. This work, which will be known as Goffman's dramaturgic analysis, deals with the depiction of human social interaction through theatrical images. Goffman, who is interested in the sociology of everyday life, focuses on face-to-face interaction. These interactions develop in public spaces (Goffman, 1963; 1971, as cited in Barlas 2014). He examines face-to-face relations, human behaviour in daily life, social interaction about Performances, teams, regions and region behaviour, discrepant roles, communication out of character, and the arts of impression management departments. It emphasizes social relations through the concepts of Personality, Interaction, and Society.

According to the content analysis conducted within the scope of this study, the top 10 most frequently used words in Goffman's book are audience, team, performance, social, individual, performer, impression, interaction, time, and members. Social interaction, face-to-face communication, individuals, and others are the basic concepts he deals with. Figure 2 shows the visual produced according to the frequency of word use in Goffman's book.

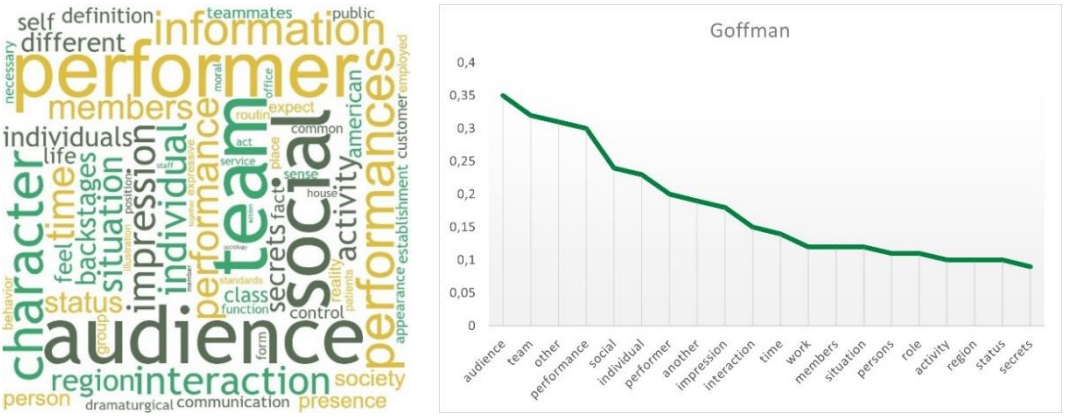

Figure 2. a) Word cloud from Goffman's book b) Word frequency for the first 20 words

2.3. MICHEL DE CERTEAU (THE PRACTICE OF EVERYDAY LIFE, 1984)

De Certeau's book The Practice of Everyday Life, published in 1984, focuses on user actions, defense, strategy, and tactics against power. Everyday life is not based on the actions of the users, but on the way, they do things such as speaking, reading, moving, and shopping. He mentions that despite the oppressive aspects of modern society, there is an element of creative resistance. De Certeau states that examining such practices does not imply a return to individuality. He states that this axiom (social atomism), challenged by sociological, economic, anthropological, and psychoanalytic research, has no place in his work. He explains that his work aims to explain the operational combination systems that make up a culture and to reveal the characteristic action patterns of users who have status as the dominant element in society. He states that many daily activities such as talking, reading, walking around, shopping, and cooking are tactical. He explains that many ways of working are like this and that the Greeks called these "ways of operation" "metis".

When evaluated within the scope of The Practice of Everyday Life content analysis, the top 10 most used words are place, language, practices, space, art, knowledge, time, discourse, social, and system. In addition, ordinary culture, ordinary language, activities, and ways of operation are concepts that are frequently emphasized. Figure 3 shows the word cloud created according to the word frequencies used in the book.

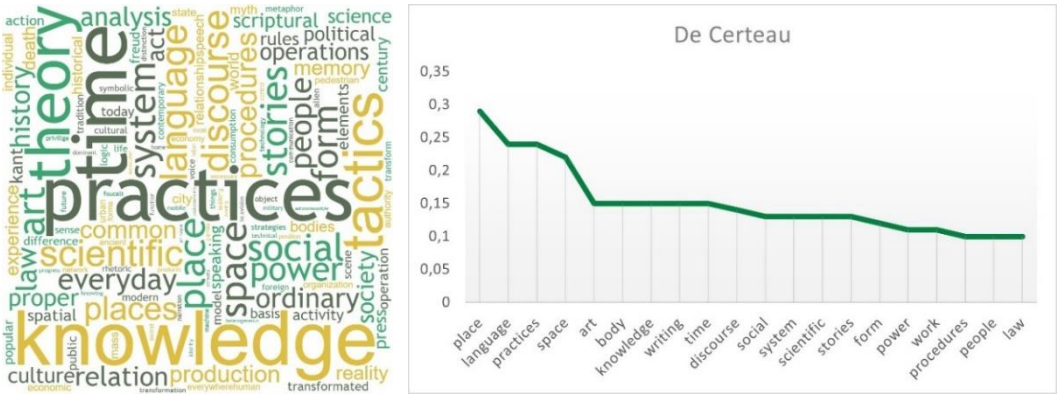

Figure 3. a) Word cloud from De Certeau's book b) Word frequency for the first 20 words.

2.4. RICHARD SENNETT (FLESH AND STONE: THE BODY AND THE CITY IN WESTERN CIVILIZATION, 1994)

Continuing his studies in the field of sociology, Richard Sennett deals with daily life with a historical approach in Flesh and Stone. Regarding the change in everyday life, Sennett emphasizes the birth of modern capitalism and the emergence of individualism, that is, the great social transformation. Expressing that the first impressions of the city are important, the author mentions the effects such as the increase in the use of technology (especially through the use of vehicles) triggering individualization and the acceleration of the movement in the urban space, and the limitation of the perception time. In this process, it touches on the subject of stimulation and perception, and also touches on the threat encountered in the urban space, the desire to move away from the threat, and the growth of the threat.

Interpreting the basic fact of modern life as speed, Sennett says that the expression of the speed of change seems to be the emergence of automobiles. Regarding the outcome of daily life in the city, Forster (author of Howards End) has tried to point out that there is a widespread but hidden numbness, a numbness among the kind and the rich as well as the poor masses who let themselves go with the flow of life. Individualism and speed together blind the modern body; do not relate to the modern body. In Sennett's comments, the emphasis on changing social behavior with individualism is important. What needs to be discussed in this context is not the old return, but the construction and continuity of positive, liveable spaces with new criteria that join daily life. In this context, urban design, environmental psychology, sociology, and urbanism studies are important.

The top 10 most used words in the content analysis for the book Flesh and Stone are body, people, urban, space, place, street, human, Christian, modern, and women. Figure 4, wordcloud produced according to word frequencies.

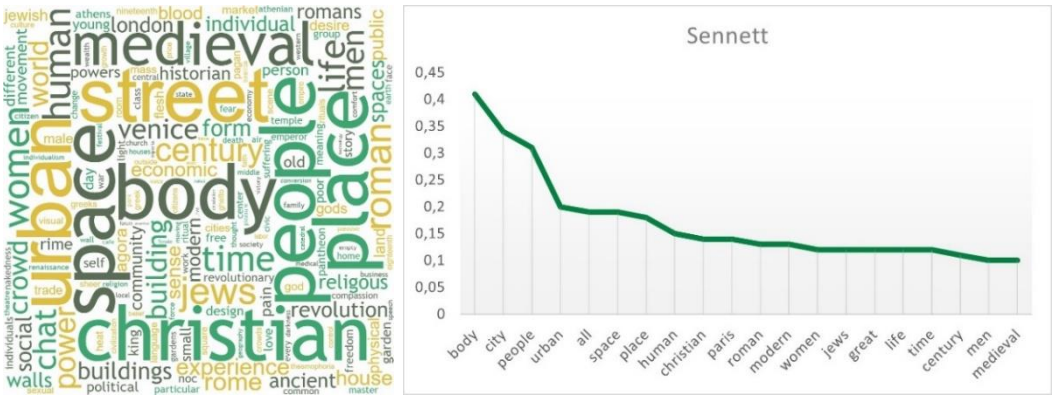

Figure 4. a) Word cloud from Sennett's book b) Word frequency for the first 20 words

2.5. ZYGMUNT BAUMAN (THE INDIVIDUALISED SOCIETY, 2001)

Bauman is a writer who has contributed to sociology with the analysis of culture and power, society, ideologies, identities, the state, modernism, and postmodernism. The Individualized Society, which was first published in 2001, deals with the change of social structure through globalization and modernism. Bauman

(2001) states that all societies are places of making meaning, and even more. The author emphasizes that this liberating experience is the only condition for liberation, by getting rid of the blind and thoughtless physical forces of being subject to society. It deals with the situation of the society in which it is located through labour; It deals with the states of labour in a critical language through globalization, modernity, and inequality. It looks at culture, order and global chaos, and social structure from a different perspective. He explains the new world disorder, which describes globalization, as the depreciation of the order. It also deals with the discussion of time, space, and globalization through power.

He states that insecurity in the relationship between freedom and order will lead to unhappiness as it will bring about the situation of security without freedom. It deals with the change in society through the changing relationship between freedom and trust. He emphasizes that fragmented lives show a tendency to be lived independently from each other in episodes.

When we look at the content analysis of the book named Individualized Society, the top 10 most used words are life, human, world, society, modern, self, social, people, power, and individual. In addition, the concepts of freedom, unity, trust, and society formed by individuals are also used. In Figure 5, the word cloud, which was developed according to the frequency of use of the words in the book, can be seen.

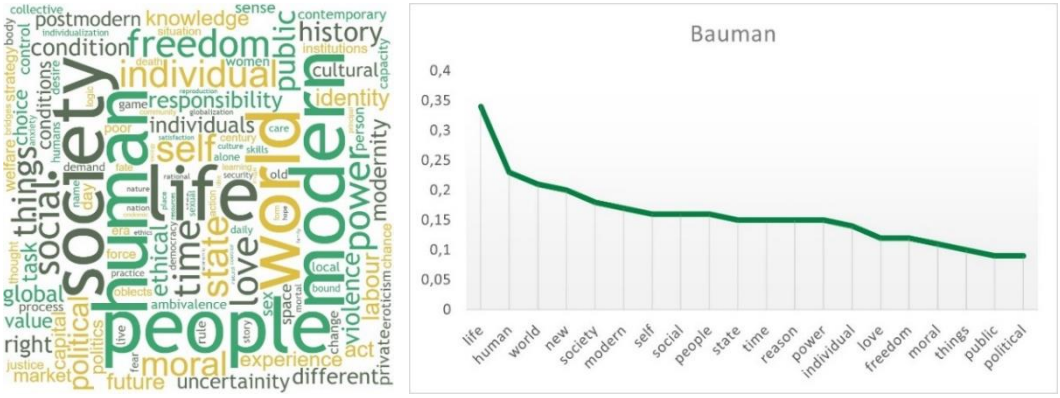

Figure 5. a) Word cloud from Bauman's book b) Word frequency for the first 20 words

2.6. BEN HIGHMORE (ORDINARY LIVES: STUDIES IN THE EVERYDAY, 2010)

He emphasizes that aesthetics is generally a conversation that bridges the complex materiality of the world with the forms of emotion and feeling. The author, who also deals with the business world and time, states that boredom, waiting, anticipation and routine produce an experience of time while depriving people of an equally developing sense of time experience.

According to the content analysis in Highmore's book, the 10 most used words are life, ordinary, time, world, work, experience, aesthetics, things, and everyday. Ordinary life and everyday aesthetic concepts are also discussed. The Word cloud, which was developed according to the frequency of the words used in the book, is in Figure 6.

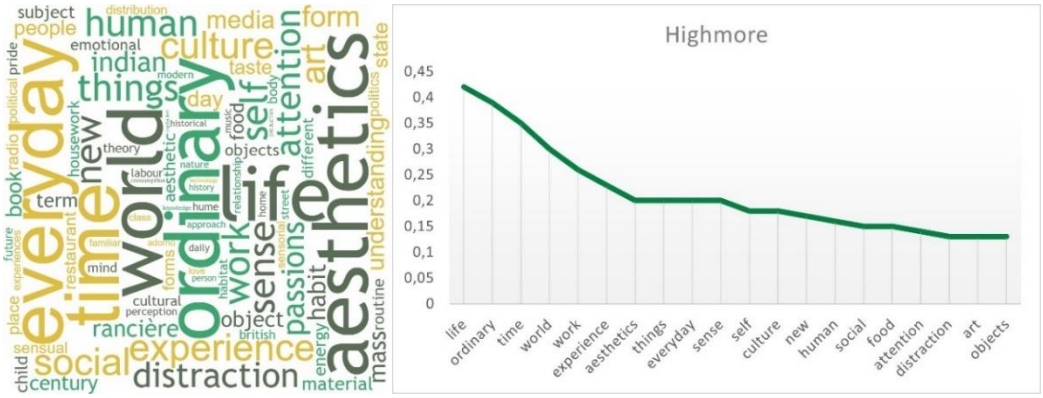

Figure 6. a) Word cloud from Highmore's book b) Word frequency for the first 20 words

2.7. KEVIN D. MURPHY AND SALLY O'DRISCOLL (PUBLIC SPACES/CONTESTED SPACE: IMAGINATION AND OCCUPATION, 2021)

Within the scope of the study, the edited book was preferred to deal with public life in today's world, namely in the 2020s. The authors stated that the public sphere is fragile like a delicate bubble pressed from all sides. They state that since the 1980s in the West, with the privatization of public space, it has become more and more evident how vulnerable it is.

Mentioning public space and freedom, they state that there is nothing more important in one's solidarity with others than expressing their "difference" openly on the street or in the park. However, many online communities emphasize that they can facilitate alliances that were not possible before the Digital Age. The authors state that this book deals with the people who take action in the real space, as well as the people who represent it. They also argue that the current control of public space is a result or manifestation of neoliberal spatial urbanism. They explain that this restrictive power often feels homogenizing, oppressive, and blunting.

When the content analysis of the Public Spaces/Contested Space book is done, the top 10 most used words are public, space, community, art, people, city, work, design, Harlem, and architecture. (Fig. 7).

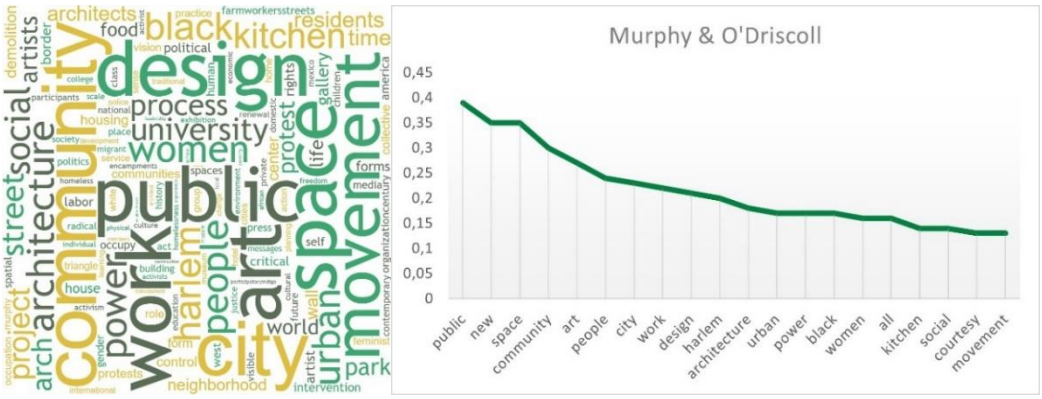

Figure 7. a) Word cloud from Murphy and O'Driscoll's book b) Word frequency for the first 20 words

2.8. STAN COX (TO PATH A LIVABLE FUTURE: A NEW POLITICS TO FIGHT CLIMATE CHANGE, RACISM, AND THE NEXT PANDEMIC, 2021)

To emphasize the changing nature of the subject of public space and to reveal the affected and changing structure of the public space, another work from the 2020s was preferred. Even in the title of the work, the facts that have left their mark on our day and that affect the public space and life are mentioned.

Cox emphasizes in his book that there is much to be done to reach a liveable future and there is no time to linger. The author touches and advises on many issues such as marginalized communities, trust, welfare, justice, fossil fuels, air and water pollution, greenhouse warming, education, and health. It states that local or regional mobilizations should be combined into national mobilization. Black Lives Matter and the climate justice movement give an example of this awareness and state that it now has the support of the majority of the public, although the pandemic process has changed the balance.

When Cox's book is evaluated in the context of content analysis, the most used 10 words are climate, all, people, energy, pandemic, black, food, fossil, new, and health. In addition, future cities, Covid19, pandemics, and living together are also frequently mentioned concepts in the book. The word cloud produced from the book is shown in Figure 8.

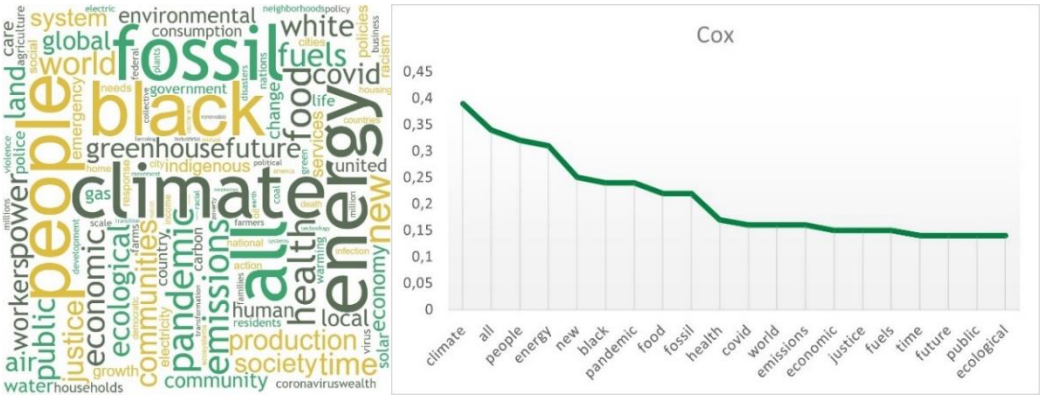

Figure 8. a) Word cloud from Cox's book b) Word frequency for the first 20 words

3. APPROACHES TO THE SOCIAL LIFE OF THE FUTURE

There are various perspectives and approaches in the literature on the sustainability of everyday life and the everyday life of the future. Some focus on crises, others focus on work, home, and leisure; they have relied on changing this relationship. Although today's studies struggling with crises and worrying about the future have a very different scope and quality, it is seen that they are more interested in issues such as sustainability, resilient, responsive city related to the physical environment. And they express that it is time for people to be aware, that it is time to awaken. In studies on the future life, technology, and informatics, the adaptation of public space and life at this rate, and new crises and problems that may arise while adapting are also mentioned.

Lefebvre states that as long as human science exists, it will find its material in the ordinary and everyday and that it is the science of human knowledge that illuminates the path of our consciousness. In addition, the author, who frequently refers to the phenomenon of alienation throughout the work, states that our age must suffer from alienation and that there is no escape from it. And only at a later time, future people, freed from alienation, will be able to clearly understand what is inhuman and what is valuable in our time. He says that our life, which is tied to alienation, can only come to life gradually with a deep reflection (consciousness) and action (creation).

As Goffman's book deals with everyday life within the context of social psychology, it focuses on the relationship between the individual and the other, future communications, and future behaviours. In the sources of Certeau and Sennett, there is no direct reference to matters like life in the future or the city of the future.

Bauman also does not make narratives such as the city of the future or the society of the future in the Individualized Society. The author, who criticizes the situation that the society has taken or is taking, with a critical language, only talks about the uncertainty about the future. Bauman emphasizes that what we are facing is not a cultural crisis, but that we have come to a region where no human has lived before or is even considered uninhabitable. He states that the permanent results of this situation, which can never be reached, will be seen in time. In the book Ordinary Lives, although the subject of life in the future is not addressed directly, he briefly talks about issues such as creating himself for the future, the technology of the self, and the way habits shape us and our future.

In the book published by Murphy and O'Driscoll, the subject of the future focuses more on the public space of the future, a better, more egalitarian, more inclusive future. Nelli (2021) states that no one can predict how the profession will respond to this challenge in an ever-changing future. She says she believes that the Internet of Things will only create a stronger channel between designers and the public with the democratization of information. Cox's book focuses directly on the city of the future. The author, who provides reviews and suggestions on issues such as climate crisis, immigrants, and effective use of energy, also mentions a healthy future and says that the Covid19 pandemic is a wake-up call for the world.

4. CONCLUSION

In this study, prepared works on the theme of daily life are evaluated by the method of content analysis. The sources analysed were selected chronologically from the 1940s onwards. It was hoped to see whether there are changing concepts related to everyday life and public space and to reveal their relationships where relevant. Although the books of prominent names from daily life are evaluated after the analysis, they may differ according to the author's language, the field of expertise, or from which perspective he looks at the relevant subject.

It is possible to say that there are common features in all book reviews such as the need to be together, individualizing, changing, and always being new. Lefebvre focuses on leisure, consumer society, and

behavioural settings in his studies on everyday life. He points out that the relation between free time and everyday life is not simply that there is a unity and a contradiction between these two terms. Goffman discusses interpersonal interaction when studying. He concentrates on individual identity, group relationships, environmental influences, and the movement of knowledge by doing a micro-sociological analysis. De Certeau places the accent on production and consumption patterns. He claims that everyday life gives an approach that is made up of how users do things like talk, read, move and shop, not their actions. Concerning the change in everyday life, Sennett refers to the birth of modern capitalism and the emergence of individualism, in other words to the great social transformation. Bauman, on the other hand, focuses on globalization and social relations and social backgrounds, and the consequences of the phenomenon of globalization. The author, who also discusses the consumer society, consumed life and individualization, living in the era of uncertainty, examines the changing social life with globalization and liquid modernity. Highmore discusses everyday life through the ordinary, pointing to the difference in the ordinary. In the book edited by Murphy and O'Driscoll, the state of the public sphere after privatization, its fragility, and its shaping with the breaking points are discussed. In Cox's book, on the contrary, unity, and co-existence prevail. He talks about crises and strategies to sustain life and living environments.

When all books are evaluated using the word cloud method; we see those words such as life, time, social, people, and human have become more dominant. Figure 9 is also displayed on the word cloud and word frequency charts.

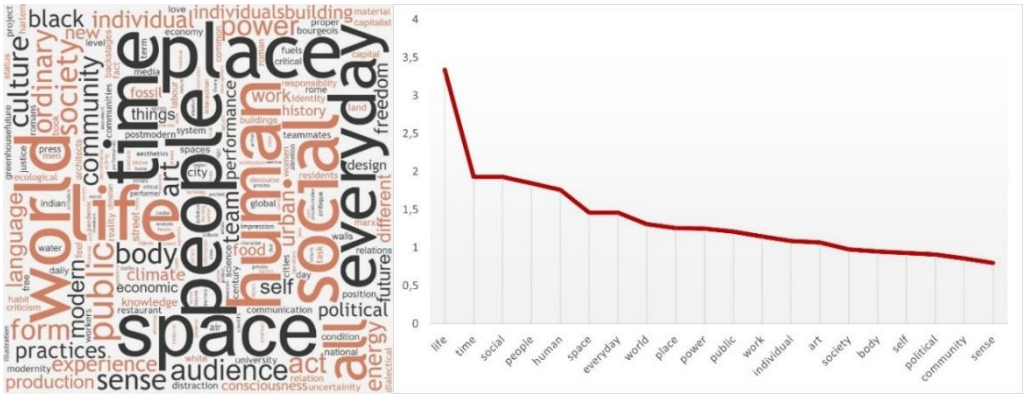

Figure 9. a) Review all the books together b) Word frequency for the books is combined

Once the books were evaluated in comparison (see Table 2), the first 20 most repeated words in each book were identified and 103 words were evaluated. While determining the repetitive concepts in the relationship between the books, the same words were evaluated together in terms of semantics such as city and urban. It was observed that 72 concepts were repeated 1 time and 26 words were repeated at least twice in each source's top 20 most repeated words. The most common words were people, time, social, work, and power, respectively.

Every book was graded based on its intersections with other books. In this review, Bauman's book received the highest score with 15 common words, followed by Murphy and O'Driscoll's book with 14 points and Sennett's book with 12 points. The least common word was included in Goffman's book with 6 points. It should be reiterated that this book, unlike the others, is an analysis that deals directly with social psychology, but it is one of the most cited books in its field.

We see that alienation, which is often mentioned in the book, which has been preferred since the 1940s, and individualization in subsequent years, predominates. The concepts are enriched in parallel with the themes addressed in the public space over the years. Words such as new, art, individual, and freedom were emphasized; Concepts such as black, climate, energy, pandemic, emissions, energy, ecology, and justice are also included.

Table 2. The first 20 words in the reviewed books.

Authors	Lefebvre	Goffman	Certeau	Sennett	Bauman	Highmore	Murphy and O'Driscoll	Cox	All The Books
1	everyday	audience	place	body	life	life	public	climate	people/persons/human/audience
2	human	team	language	city	human	ordinary	new	all	time
3	social	other	practices	people	world	time	space	people	social
4	critique	performance	space	urban	new	world	community	energy	work
5	consciousness	social	art	all	society	work	art	new	power
6	alienation	individual	body	space	modern	experience	people	black	new
7	reality	performer	knowledge	place	self	aesthetics	city	pandemic	urban/city
8	individual	another	writing	human	social	things	work	food	individual
9	time	impression	time	christian	people	everyday	design	fossil	public
10	work	interaction	discourse	paris	state	sense	harlem	health	life
11	political	time	social	roman	time	self	architecture	covid	space
12	nature	work	system	modern	reason	culture	urban	world	world
13	power	members	scientific	women	power	new	power	emissions	all
14	labour	situation	stories	jews	individual	human	black	economic	art
15	knowledge	persons	form	great	love	social	women	justice	society/community
16	society	role	power	life	freedom	food	all	fuels	food
17	people	activity	work	time	moral	attention	kitchen	time	body
18	bourgeois	region	procedures	century	things	distraction	social	future	everyday
19	marxism	status	people	men	public	art	courtesy	public	modern
20	action	secrets	law	medieval	political	objects	movement	ecological	things
number of repetitions	11	6	10	12	15	11	14	8	

In the sources examined on the future in the previous section, it was seen that approaches such as work - home - leisure time relationship, leisure activities, ambivalence, time to wake up for the future, and a call to people. The needs of age change with the needs of society, in everyday life, awareness is one of the important challenges for the future.

It has been seen breakpoints and sudden events as everyday life changes dynamically. In this shift, breakpoints such as war, epidemics, and economic policies that affect life were effective - it was also reflected in the topics of the sources reviewed. The concepts of public space, which continue to evolve with the new dynamics of the 2020s, are attracting attention.

The method covered in the study - word cloud visualization - allowed the examination of wide-ranging topics. The ease of use of the method, ability to summarize texts statistically, and the opportunity to examine in terms of semantics and frequency may be the reason for preference. It can be used as a visualization tool as well as a content analysis method.

It is thought that this study, which evaluates the works of important names who are interested in this subject to make daily life sustainable in the city of the future, will shed light on future studies.

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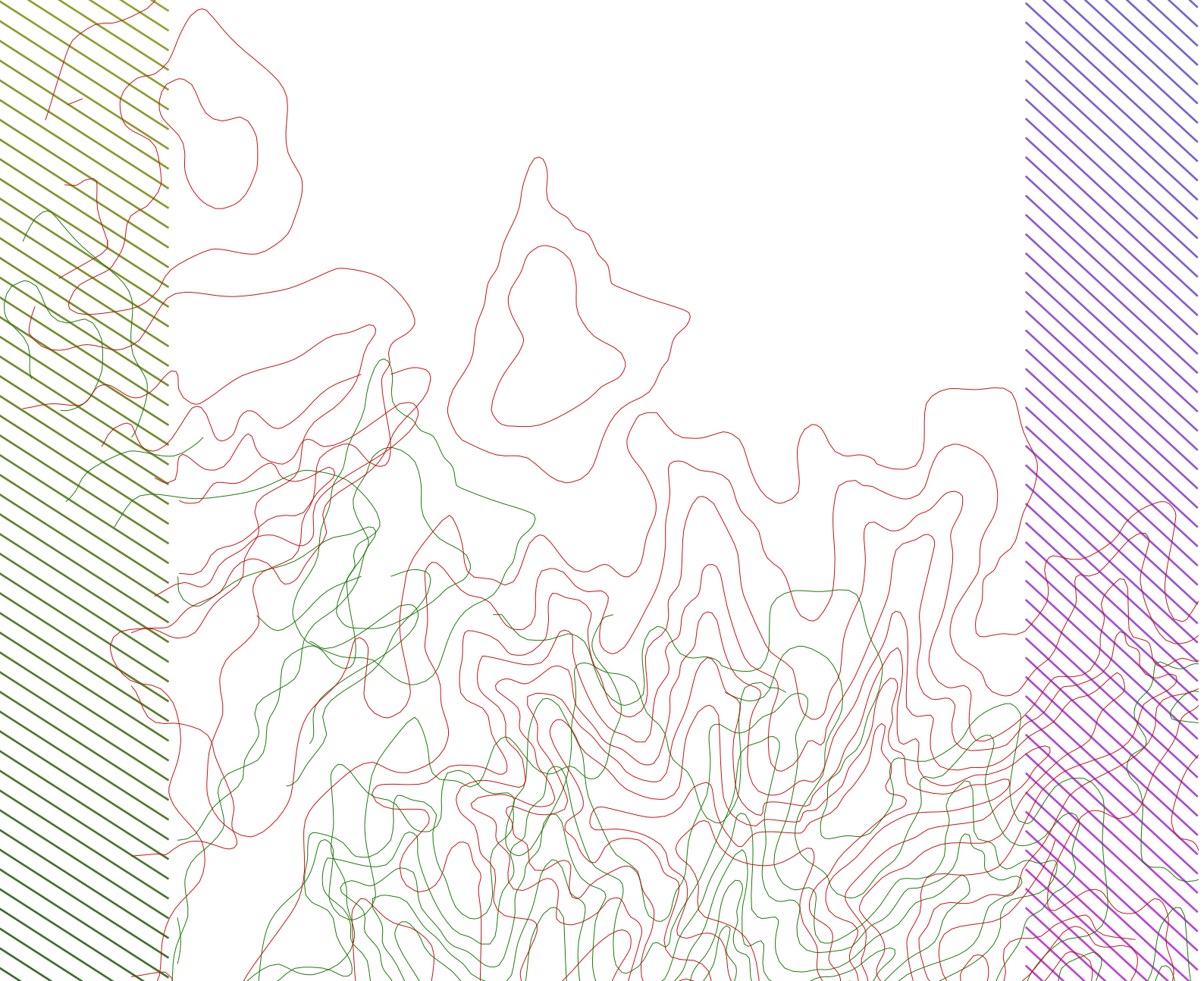
Session VII

New Tools, New Approaches and New Understandings



THE UNIFYING POWER OF ART IN URBAN DESIGN FOR SUSTAINABLE CITIES: DOCUMENTA CITY KASSEL

Nejla Kılıç
Ph.D, Lecturer, Kassel University, Urban Development Institute
Sustainable Cities and Communities Department
uk087006@gast.uni-kassel.de

ABSTRACT

The aim of the article is to examine to what extent art and its creations can affect the construction of urban life and have an impact on cities in the context of Kassel Documenta Art Exhibition, which will be held for the 15th time this year (June-September 2022) and to question the role of its unifying power as a tool in urban design. The subject is examined on five sculpture, which are permanently exhibited selected from the exhibitions held in Kassel so far.

Key words: Art, Documenta Art Exhibition, Kassel City, urban design, sustainable cities, public space

INTRODUCTION

A way of our life has changed in many aspects with the Covid 19 pandemic since 2020, and then people who had to migrate from one place to another, which we witnessed again in the Russo-Ukrainian War. The shock and different stresses created by the pandemic period and migration, in which urban life was re-examined, showed how important public spaces and open spaces are in terms of responding to vulnerability and the main spaces of socialization and integration. Urban design is now more important than before. This article examines the need to add art to the tools of urban design while thinking about the urban design of the future, with an integration story.

Documenta Contemporary Art Exhibition, which aims to reintegrate a society that has been cut off from the whole world with the prohibition of contemporary art, with the world through art, and achieves this goal.

First Documenta Contemporary Art Exhibition, which was organized in Kassel (Germany) in 1955, is held every five years and continues for 100 days. It is arranged under a new theme, a new concept each time and it promotes innovation and discussion forums in which sculpture, painting, performance, film, photography and installation, as well as textual and audio works take place. It shapes the future cultural and artistic agenda, which constantly evolves beyond the spirit of the times (Kassel documenta stadt, n.d).

Every exhibition contains site-specific artworks designed as interventions or interpretations of their urban context since 1977. This is why public spaces in Kassel differ from other cities thanks to the presence of extraordinary outdoor objects from past Documenta exhibitions. The City of Kassel has assumed ownership of and responsibility for eleven of the sixteen outdoor Documenta objects, including 7000 Oaks.

Five of the works exhibited permanently in the city were selected from the exhibitions, and examined in terms of their role in urban design. These are;

- 7000 oak and 7000 basalt social sculptures by Joesph Bueys, which are very influential in today's green texture of Kassel,
- Foreigners by Thomas Schütte, which emphasizes immigration and immigrants,
- Stone Ideas sculpture by Giuseppe Penone, which depicts the opposition between two forces (the force of gravity and the weight of life we are a part of) from the perspective of human interaction with the natural world,
- Framework Construction sculpture by Haus-Rucker-Co's, aspect of selective vision and perceptual theory,
- Claes Oldenburg's work The Pickaxe which recalls the history of the rebuilding of Kassel after the Second World War.

The necessity of using art as a tool in the transformation of the city and the definition of urban space with artwork in the urban design of the future was been discussed in the article. This discussion was been supported by literature review, observation, photographing studies as well as interviews with local press members, municipal officials, academics and citizens.

DOCUMENTA CITY KASSEL AND HISTORY OF DOCUMENTA CONTEMPORARY ART EXHIBITION

Kassel is the largest city in the north of the federated state of Hessen in the south-western part of Germany and centrally located in Germany about 160 kilometers north-east of Frankfurt am Main. The city is best known for its many parks and the Documenta where contemporary art is exhibited. It is situated on both sides of the river Fulda. Kassel has around 200.000 multicultural population (Wikipedia, n.d.).



Figure 1. Location

During World War II, Kassel was the headquarters of Nazis and had a tank production plant which caused to bring it into prominence. Therefore, many severe bombing happened and almost whole city downtown destroyed, thousands of people was killed and made homeless.

Arnold Bode, German architect, painter, designer and curator who was born in Kassel worked as a painter and university lecturer in Berlin from 1928 to 1933. But when the Nazis came to power he was banned by them. Meanwhile modern art that was called “degenarate art” by the Nazis was completely banned in Germany.

Bode who returned to his hometown Kassel at the end of World War II and ten years after the end of the war, he organized labouredly Documenta contemporary art exhibition with the aim of re-establishing cultural life in Kassel and reconnecting West Germany with the rest of the world through art in 1955. The another aim was to bring back to Germany the avantgarde who had banished by the Nazis (Universes in Universe, n.d.) . At the same time, the first Documenta started as a supporting program for the Federal Horticultural Show in Kassel in 1955 (Schaeffer, 2017; artmap, n.d.) Bolde had a great success and more than 130,000 people attended the 1st Documenta, which gained the international credentials. The name of Documenta that was created by Bode is suggested that the word refers to the show’s attempt at ‘documenting’ the modern art world (Leclézio, 2018).

Documenta is arranged under a new theme, a new concept each time and it promotes innovation and discussion forums in which sculpture, painting, performance, film, photography and installation, as well as textual and audio works take place. It shapes the future cultural and artistic agenda, which constantly evolves beyond the spirit of the times (Kassel documenta stadt, n.d).

The exhibition is not one of the 19th century trade and world fairs of the colonial era, but rather from World War II, which bombarded and devastated much of Kassel. Its emergence from World War II is the highlight of Documenta's uniqueness. While this attempt of Bode, who was forbidden to make and teach art by Nazis, came out of complete collapse, it also became a hope of recovery for the city. Documenta was also able to pursue the idea of participating in the rebuilding of a free, democratic society through a kind of artistic re-education. The change of the city's official title to Documenta City in 1999 underlines the importance of this great contemporary art exhibition for the city (documenta GmbH, n.d.).

Documenta Contemporary Art Exhibition has not only provided a country's reunion and integration with international art through a city that was almost completely destroyed from the World War II, but also has became a driving force for a city to live. Although the interest of local people is debated, it is also very important because the arrival of international guests during the exhibition is appreciated as it takes the city of Kassel away from its ordinary life and provides economic advantages (Güleç, n.d.).

The increasing interest since 1955 the year it was started has been reflected in the number of visitors. The first documenta attracted 130,000 visitors, the 14th documenta in 2017 attracted almost 900,000 visitors along the 3 months. Every exhibition contains site-specific artworks designed as interventions or interpretations of their urban context since 1977. Documenta took place every five years instead of every four since 1977. The two Documentas in the 80s headed outdoors. This is why public spaces in Kassel differ from other cities thanks to the presence of extraordinary outdoor objects from past Documenta exhibitions. The

City of Kassel has assumed ownership of and responsibility for eleven of the sixteen outdoor Documenta objects, including 7000 Oaks. These sculptures are constantly exhibited in many different corners of the city, and the city has turned into an open-air museum. Terefore unlike other cultural exhibitions, Documenta is not only featured in galleries and museums. Installations and projects can be found all over the city, with some ideas adapted to the modalities of public places. Even if Documenta doesn't get a chance to visit Kassel in one of its 100 days, the artworks can still be visited, as some remain there even after the official end of the exhibition and are an essential part of the cityscape.

This extraordinary power of art, which not only re-establishes the cultural life of a city but also unifies a society with the world, can play a active role in the definition, understanding and livability of the space in urban design. Five of the works that are permanently exhibited in the open air in the city were selected and their role in urban design is examined.

CITY BECOMES GREEN WITH ART - 7000 OAKS 7000 BAZALT BY JOSEPH BUEYS

The 7000 oak and 7000 basalt social sculpture of Joseph Bueys, which were selected for examination, have a very important place in the green texture of the city today. This social sculpture work based on tree planting is a very important work in terms of renewing the human-nature balance, taking part of the citizens as a part of the transformation process of the city and showing how the change of the city can be possible with participation. (Montagnino, 2018). Aim of Beuys's was to stimulate, provoke people into acting and match towards environmental and social change (Public Delivery, 2021).

Joseph Beuys created a globally unique piece of art for documenta 7 in 1982 with motto "City Forestation Instead of City Administration", which can be seen in many locations throughout Kassel.



Figure 2. https://www.awatrees.com/2019/12/06/joseph-beuys-the-art-of-arboriculture/

Joseph Beuys describes that human has a creative potential to transform life with his thoughts and actions, and that art reveals this potential with the phrase "every person is an artist". He included all the people in the formation of the statue by planting oak trees and thus tried to create sensitivity to ecological problems. Oak was chosen as a reference to the future, especially because of its slow growth and continuous development over a long period of time, and basalt rock formed by the solidification of magma was used as the symbol of the past. Past and future are mentioned side by side together. 7000 oak social sculpture works have a great share in the green texture of the city today (WowKassel, n.d.).



Figure 3. https://www.awatrees.com/2019/12/06/joseph-beuys-the-art-of-arboriculture/



Figure 4. Hafenstraße (Kassel) While it was a treeless street, the road was narrowed due to the rebuilding of the road and the pavement was widened with a continuous tree strip. According to this model, other streets were also rebuilt as part of the artwork.

Project was completed in 1987 by his son. During the five years 7000 oaks were planted and 7000 bazalts were stoned.

No other artwork in the world intervenes instantly in the visual, ecological and social structure of the urban living space in an understandable, radical and sustainable way like Bueys' work. This constantly evolving and growing aesthetic organism has taken place in the constructive interaction of artists, local politics, and public. As social sculpture that has become part of Kassel's public space shaping the cityscape, Bueys' work is a striking example of the power of art to transform urban space. The city of Kassel demonstrates that it is possible to create art-based green spaces.



Figure 5. Wilheimshöher Allees

REACH THE CITY PARK BY FOLLOWING THE ART ROUTE

The city center and green spaces have many functions. One of the most important of these is social integration. When you follow the route where the Strangers statue in the city center forms the first step with other works, you reach the city park. With the space it integrates, each sculpture directs the city dweller to a new space, and finally, by taking it to the riverside, it enables people to meet in the city park.

The art route starts with the statue of Foreigners, which is the first work in the city center. After watching the city park from above in front of the Frame sculpture after about 250 meters, you reach the Stone Ideas sculpture by descending the stairs that called Gustav-Mahler-Treppe opened in Documenta 3 with 100 steps. From here, you walk through the huge trees and after about 400 meters, you come to the Pixcage statue and meet the Fulda River. The art road takes you to the unique city park, just like a green road.



Figure 6. Sculptures on the green art route

Sculptures on the green art route:

1. Foreigners by Thomas Schütte, which emphasizes immigration and immigrants, (Stadt Kassel, n.d.), Documenta 9, 1992.

A group of people clad in colorful folkloric clothing, with their impromptu baggage, the statue of Foreigners, made up of figures from different ethnic and geographical origins who seem to have disappeared, was made by Thomas Shütte. It embodies exclusion and a lack of social integration. As marginalized figures in their precarious situation, they look sadly at the activities of the square below, without being able to participate in the city life.







Continuing to walk on the green art route, approximately 250 meters later, you reach the Frame sculpture made by Haus-Rucker-Co's, which is on display in front of the city theater.

2. Framework Construction sculpture by Haus-Rucker-Co's, aspect of selective vision and perceptual theory, Documenta 6, 1977.





Consisting of two frames, the sculpture allows visitors to demonstrate the selection process that a frame causes.

Visitors entering the installation can see a cross-section of the surrounding reality with the smaller frame, while they become objects of observation themselves.

After the frame sculpture, the route continues using the Gustav Stairs. Gustav Mahler stairs with 100 steps were opened for use in the 3rd Document. After descending the stairs with a view of the park, you can reach the Stone Ideas statue with a walk of approximately 250 meters. The statue is located inside the 150-hectare Karlsaue City Park. Thus, at the same time visitors reach the city park.

3. Stone Ideas sculpture by Giuseppe Penone, which depicts the opposition between two forces (the force of gravity and the weight of life we are a part of) from the perspective of human interaction with the natural world.



The green art route ends with the Pickaxe Statue on the banks of the Fulda River.

4. Claes Oldenburg's work The Pickaxe which recalls the history of the rebuilding of Kassel after the Second World War.





The image of the city has been enriched with art, which has been moved to the public space with the green art route, and it has been possible to direct people to different ways of thinking while making living in its exciting (Tunnacliffe, 2016). It allowed the definition of public spaces such as the city center, city theatre, city park and creating a distinctive urban identity (Courage, 2017).

WHAT THE DOCUMENTA TEACHES-ACTIVATING LOCAL

With the Documenta exhibition, the aim of revitalizing a city and reuniting a country with art has been successful. Taking many works of art into the ownership of the city and exhibiting them in open spaces in the city brought art to the public sphere. It has constantly connected with the local community. However, in addition to this success, it has been discussed how much the local people can integrate with art. Apart from the economic vitality it brought to the city, how much has it been serving the unification of the local people with art?

All these discussions brought about a different application in the 12th Documenta in 2007 that had cooperated with various segments of the population. Documenta 12 Advisory Board members formed working groups and organized regular monthly meeting. These meetings saw the various actors such as artists, Kassel residents and the curator/directors come together in a trusting, open work atmosphere and each of them brought his or her own, specialised knowledge and experience to the discussions (Güleç, 2007). Considering the multi-cultural structure of the city of Kassel, taking the views of these groups and including them in the process will allow the exhibition, which is integrated with the world, to integrate with the local.

During the preparation of this paper the interviews with some Kassel residents, the common point was that local participation should be supported in order to see themselves as a part of the exhibition. It is stated that 12 documenta that this has been partially achieved, and in the 15th documenta it is aimed to merge with the local. It was emphasized that in order to go beyond thinking only as an economic activity, artistic activities in urban areas should be given importance after the end of the exhibition and until a new one is held. It was stated that the participation of local artists should be supported. It has been said that making use of existing local resources during the preparations will serve to unite with the people. In addition, it was emphasized that awareness and art culture should be increased, especially by giving art education. In particular, it was stated that art education should be given to children, young people and the uneducated population. It has been stated that in the city, which has a serious immigrant population, projects especially for immigrants will be beneficial for their integration with the city.

CONCLUSION

Documenta Contemporary Art Exhibition, which has been held for 67 years, has been the best example of how a city's life can be revived through art and how a country can integrate with the world. This striking example brings to mind the question of why not using the unifying power of art in urban design. While showing that the urban public space can be defined through art, it also revealed its strong side in creating

space, where art is a colorful way to reconnect with the environment. On the one hand, it introduced people to different ways of thinking, on the other hand, it created the opportunity to meet in public spaces. Therefore, it is suggested that in addition to occupational groups such as city planner, architect, landscape architect in the urban design of the future, artists should be included. Additionally local people should be included in the design process through artistic activities, for these activities open public spaces should be designed. Thus, art will also encourage local interaction and sense of ownership and identification with place, a sense of society identification and solidarity.

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THE POTENTIAL OF POPULAR CULTURE TO DESIGN URBAN SPACE: A LOCATION BASED ANALYSIS ON KARAKÖY

Neslişah Kesici

Yildiz Technical University
nkesici@yildiz.edu.tr

ABSTRACT

Everyday life is shaped by the influence of popular culture in metropolises. The fame of the consumption commodities of popular culture, especially culture, art, fashion, and communication, spread in waves among different ethnic origins, age and gender groups by producing new lifestyles, new social classes and new spaces in the city. In the example of Istanbul, Karaköy appears as a place produced by popular culture. This settlement describes a sub-region where popular culture is the dominant factor in the production of the space with land uses such as cafes and restaurants. The main motivation of the research is to reveal the spatial reflections of the factors that determine the consumption trends such as eating habits, personal care and sports routine that can be observed on the street level. The research consists of three different methodological stages. Firstly, dynamics of the popular culture on the concepts of everyday life and social identity were examined according to literature review and the parameters of its representation in the space were revealed. Secondly, the study area was divided into streets perpendicular and parallel to the coast and the spatial elements of the popular culture in these streets were examined through street photographs. Finally, simple statistical information based on data obtained from Foursquare, a location-based open-source data application that evaluate the popularity of the places by visitors. In line with these findings, the spontaneous effect of popular culture on space design is being discussed as a new approach in the future of urban design.

Keywords: popular culture; everyday life; social media; location-based data; Karaköy

1. INTRODUCTION

1.1. PURPOSE AND SCOPE

Popular culture, as "the whole of the cultural elements that are produced and consumed quickly", which has gained the acceptance of the common culture of the masses with the effect of globalization, influences the daily life of the citizens. By producing mass consumption trends in fields such as art, fashion, design and communication, it not only affected the economic balances in the city, but also deeply shook the social,

cultural and spatial dynamics (Mukerji and Schudson, 1986). The new "lifestyles" of popular culture with new consumption habits and daily routines reveal a social class of new consumers. When we think of Istanbul in this context, Karaköy, located at the entrance of the Golden Horn coast, which has a great importance in terms of its historical, cultural and natural values, describes a sub-region where land uses such as cafes and restaurants are the dominant factor in the production of popular culture space today, with its transformation. Within the scope of this research, the reflections of popular culture in daily life and public space as one of the triggers of spatial transformation of neoliberal urban policies are addressed. The main motivation of the research is to reveal the spatial reflections of the factors that determine consumption trends such as eating habits, personal care and sports routine that can be observed on the street from the interiors of cafes and restaurants to the public open space. In addition, in terms of research method, parameters specific to the subject are defined, data acquisition and evaluation processes are described, and it is aimed to create a model proposal suitable for development.

1.2. METHOD

The research method consists of three different stages. First of all, as a result of the literature research, the dynamics of popular culture on the concepts of daily life and social identity were examined and the parameters of its reflections in the space were revealed. Secondly, the study area is divided into streets perpendicular and parallel to the shore, and the spatial elements of popular culture are examined with a conceptual matrix through street photographs. Finally, simple statistical information based on data obtained from Foursquare, a location-based venue evaluation application that takes the pulse of the popularity of the places in Karaköy, was obtained and mapped through a geographic data processing system.

The widespread use of location data-based smart devices and the sharing of urban actions such as eating and drinking, shopping, transportation via social networking services such as Facebook, Twitter, Instagram, and Foursquare are guiding for reading popular trends in the city (İmren, 2019). Foursquare City Guide is a local search and discovery mobile application. The app provides personalized recommendations to locations near the user's current location, based on users' previous browsing history and check-in. Until the case of data abuse in the US elections in 2018, it was made available to everyone through the application programming interface (API) (Büyükdemirci, 2016).

Foursquare application was used to obtain data in this research. The location-based information of 161 businesses, whose data can be accessed from a total of 187 businesses located on streets perpendicular and parallel to the coast in the study area, forms the basis of the data set. Accordingly, quantitative and qualitative data such as the name of the place, location, type of business, number of visitors, average score, crowded times, opinions and recommendations about the place, and photos shared by tagging this place were accessed. In the light of these data, the transformation in public space and daily life is mapped through geographical data processing programs and its relationship with the spatial qualities that contain popular culture elements is analysed.

2. LITERATURE REVIEW

2.1. POPULAR CULTURE

The literature review of the research begins with the emergence and definitions of the concept of popular culture, which constitutes the common identity of the masses with the effect of globalization. Popular Culture has spread as a collective culture with the social modernization that took place after the 20th century (Danesi, 2016). This concept, which covers cultural developments and daily practices, is similar to the concept of folk culture in terms of being general and inclusive. In other words, it can be said that popular culture means folk culture for modern societies (Danesi, 2020). The Turkish Language Association defines the concept of popular culture as "the whole of cultural items that are valid for a certain period, produced quickly and consumed quickly" (URL-1).

The experience of popular culture by urban residents by becoming a part of daily life creates a permanent identity effect by constructing new meanings in social memory (Crewe and Beaverstock, 1998). The main facts that feed popular culture are nationality, gender and ideological representations (Ma, 2007). In addition, in order for these elements that make up popular culture to be adopted by all segments of society, they must be astonishing, remarkable and visible (Lee and Bai 2010). Because of these features, popular culture directs fashion by creating a speculative effect in the societies it influences (Milestone, 2008).

In the early 60s, which was the transition period from modernism to postmodernism, popular culture diversified and increased because of the evolution of cultural trends. According to Türe, “different expressions from the society have created countercultures or subcultures that have been constantly changing for decades, and these cultures have made various artistic productions such as innovative literature, design, and fashion” (2016). The idea of globalization rapidly affects the developing world in line with postmodernism and subjects these movements to a capitalist production-consumption cycle. Under the leadership of popular culture, the space's exposure to rapid production and consumption dynamics has also left various traces in the transformation of cities. According to Türe, with the development of technology and increasing immigration towards the city, people with different cultural richness have transformed the spaces in cities where they can reflect their thoughts and life views (2016).

2.2. EVERYDAY LIFE

An examination has been made on the relationship of consumption habits and cultural approaches with daily life and public space, among the sources previously brought to the literature. Everyday life, which continues to exist under the shadow of authoritarian tensions between power and society, prepares the ground for the formation of new images in the urban memory by keeping up with the changing lifestyle of the citizens (Bennett et al. 2013). The citizens, who fulfill their duties in daily life in a productive system, needed alternative production spaces where they could re-create themselves after the production spaces were transformed into consumption spaces, and they were able to meet these needs in third spaces (Mathews, 2010). This spatial transformation as a reaction of the city brings along a sociological transformation (Johnson, 2002). Changing habits in daily life focus on nutrition, sports, personal care and communication. The change in eating habits

begins with the effect of chain restaurants as a product of mass production policies and fast food foods that are prepared and consumed quickly to adapt to the fast flow of life.

2.3. SOCIAL IDENTITY

Social identity is a cultural identity that is assumed to cover the whole nation, society or a wider area beyond micro and sub-identities (Danesi, 2020). Although it is open to criticism in terms of ethical concerns to categorize individuals in the society based on their clothing style, lifestyle or worldview, some social and cultural trends that are widely observed among individuals can be defined by the general society by reducing them to a single concept over time. Since the 1940s, many movements have influenced the society in certain periods, and people who have adopted these styles from hair models to accessories have expressed themselves with this identity by being named in the context of their musical tastes, worldviews or lifestyles. A few of the last representatives of current cultural movements are hipsters, who adopted the free lifestyle that became widespread starting in the late 90s and yuccie, the urban youth expert class that has become dominant in urban space in recent years.

A profile that belongs to hipster culture, well-educated middle- and upper-income families, adapted to urban life but adopted production and free expression as an alternative lifestyle, eating habits based on organic and gourmet foods, keen on photography, cycling and away from mainstream consumer products. exhibits. On the other hand, white collar workers who have adopted the yuccie culture, most of whom are specialized in the entrepreneurial and digital sectors, combine their motivation to earn money with educational equipment and production dynamics, creating new spaces in the city and need new spaces.

2.4. TRANSFORMATION IN KARAKÖY

With the incentives of globalization and neoliberal policies, a new understanding of lifestyle has been established in social practice. In order to meet the consumption needs of this new lifestyle, spatial solution alternatives are created in line with ecological concerns such as sustainability and design in harmony with nature. Global-scale companies leave their place to boutique businesses that appeal to niche tastes, and present local values as a new consumption material. Reinforcing street life, street arts and the presence of social life in the public sphere for the branding of cities revitalize the use of pedestrianized streets. With the awareness of environmental problems such as global warming, alternative transportation vehicles such as bicycles and electric scooters begin to be preferred. In order to meet the new working practices of the white collar, common working and sharing areas are located in the city. Such urban spaces, which were initially identified with the concepts of originality and flexibility, became popular and turned into repetitive and uniform consumption spaces (Öztürk, 2019). Spatial diversity and social inclusion are under threat as a result of changing routines in this new lifestyle. In this direction, the spatial transformation of Karaköy has been exposed to economic, social and spatial factors realized through different actors.

Karaköy was an important trade center located at the nodal point of the land and sea trade axes of the city in the 1990s (Gökşen, 2015). Old production habits that cannot withstand the dynamism of e-commerce, which

has become widespread in line with technological developments, begin to leave the place. In this area with low real estate value in a good location, security problems arose at night due to the loss of street surveillance. The transformation of Karabatak from a small industrial enterprise to an education office was the first factor that triggered the change in the place. It turns into a cafe in a short time as the people around start coming to this training place for coffee. The third wave coffee shops, which were opened at the end of 2011 with the motivation of other investors following Karabatak, made Karaköy an area where young urbanites can spend time in the city. The authentic architectural features and street texture of the spaces in Karaköy have attracted designers and artists to open galleries and offices (Oudeh and Türkoğlu, 2021).

All these factors make Karaköy, surrounded only by commercial functions, one of the most vibrant social attractions of Istanbul. Karaköy, which used to be a production place by lathe workshops, repair shops and electricians, reaches rental prices that its previous residents could not afford and turns into a consumption place because of this transformation. Although the combination of new and old businesses continues to exist in some parts of the place, it will have to be moved from here, especially as an urban scale investment such as Galataport will cause sharp changes in the dynamics of Karaköy. This situation clearly shows how quickly popular culture can consume what it offers in Karaköy, an area that has built the urban memory on long and multi-layered processes.

3. SPATIAL ANALYSIS

The area between Tophane and Galata Bridge, which hosts the most intense commercial functions of Karaköy, has been chosen as the focus of study. The case area is surrounded by Kemankeş and Kameraltı streets parallel to the coast in the south, while Maliye and Tophane İskele streets perpendicular to the coast define the northern boundaries of the area. As can be seen in Table 1, spatial analyzes are carried out on seven streets parallel to the shore and thirteen streets perpendicular to the shore.

Table 1. Streets perpendicular and parallel to the shore determined within the boundaries of the study area

Streets parallel to the shore (p)	**Streets perpendicular to the shore (d)**
Kemankeş	Maliye
Kılıç Ali Paşa Mescidi	Galata Şarap İskelesi - Gümüş Halka
Mumhane	Karaoğlan
Çelebi - Hoca Tahsin - Ali Paşa Değirmeni	Karanlık Fırın - Arapoğlan
Necatibey	Fransız Çıkmazı - Karatavuk - Baş Cerrah - Vekilharç
Serçe	Fransız Geçidi - Akçe - Sakızcılar
Kameraltı	Karaali Kaptan - Kanarya
	Döşemeci - Karınca
	Yuva - Murakıp - Dericiler
	Denizciler - Ali Paşa Medresesi - Gece Kuşu
	Odun Meydanı
	Hamam
	Tophane İskele

The representations of popular culture elements in daily life are analyzed with symbolic representations from the photographs of May 2020 in 20 streets via Google Earth street view. As shown in Figures 1 and 2, the effect of popular culture spilling over from indoor spaces such as cafes and restaurants to public spaces was determined based on streets parallel to the coast and perpendicular to the coast.

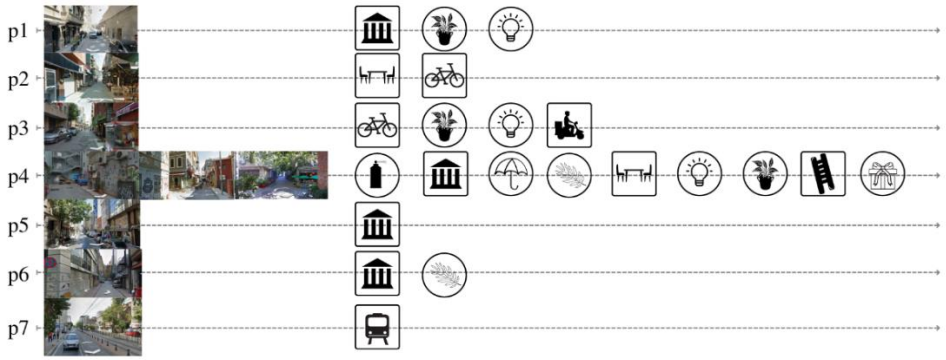

Figure 1. Popular culture representations on the streets parallel to the coast

In terms of popular culture elements, the most intense axis in the streets parallel to the coast in Karaköy is the streets of Çelebi, Hoca Tahsin and Ali Paşa Değirmeni, which are coded with p4. In this axis, there are graffiti, architectural structures and stairs, upper cover elements such as umbrellas, plant assets such as flowerpots and ivy, green elements, seating units such as tables and chairs in the outdoor spaces of cafes. Secondly, Mumhane St. (p3) followed by Kemankeş St. (p1) contains distinctive popular culture symbols such as plant pots, lighting elements, structures with architectural value, and bicycle decoration. Finally, although Kameraltı and Necatibey streets are important in terms of their transportation function and architectural symbolic elements, the influence of popular culture remained limited. In the light of these data, it can be said that the geometric middle of the space between the streets parallel to the coast and the streets close to Tophane, closed to vehicle access or pedestrian priority, are more dominant places in terms of popular culture elements.

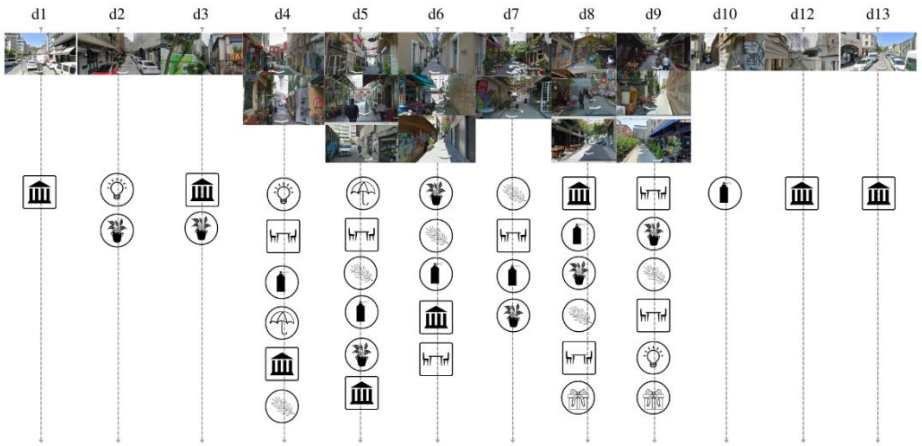

Figure 2. Popular culture representations on the streets perpendicular to the coast

In the analysis of the streets perpendicular to the coast, it is seen that the streets of popular culture with spatial elements such as tables-chairs, lighting, planting, top cover, surprise objects, graffiti, Karanlık Fırın–Arapoğlan (d4), Fransız Çıkmazı-Karatavuk-Baş Cerrah-Vekilharç (d5), Döşemeci-Karınca (d8) ve Yuva-Murakıp- Dericiler (d9) axes are observed. Following them, in the streets of Fransız Geçidi - Akçe-Sakızcılar and Karaali Kaptan-Kanarya, which form the d6 and d7 lines, the influence of popular culture elements continues to exist in the space at a non-negligible level. In the streets perpendicular to the shore, which form the d1, d2, d3 and d10, d11, d12 lines that symbolize the other axes, the reflection of popular culture elements in the public space is quite weak. In the light of these spatial findings, it can be said that the popular culture elements of the area are focused in the center and the visible effect of these elements in the public space is reduced at the periphery of the study area.

4. FOURSQUARE ANALYSIS

Location-based information such as venue type, number of visitors, average score-price data and photo sharing belonging to 161 of 187 businesses located on vertical and parallel streets determined on the Foursquare application were accessed. In line with the distribution of the businesses, whose data were accessed, according to their location on the street, a gradation was made for the number of places in 1 meter for each street. It is seen that the businesses that have an active account on the Foursquare application focus on the area with a slight deviation from the geometric center of the study area in the direction of Kılıç Ali Paşa Mosque. In Figure 3, the density of businesses is shown in a graduation from warm colors to cool colors, red with the first tier, orange with the second tier, green with the third tier, and finally the fourth tier with blue.

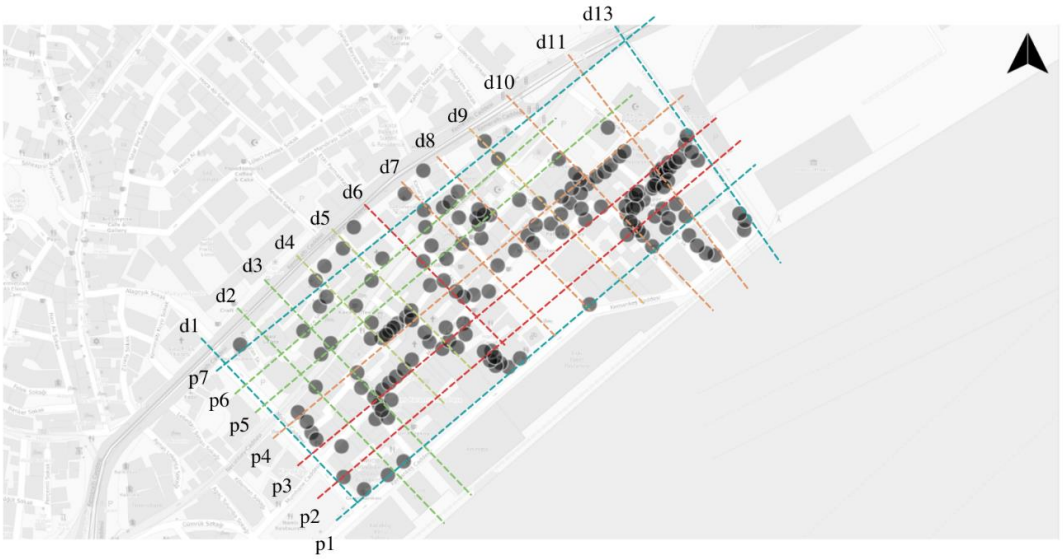

Figure 3. Grading based on the number of businesses per 1 meter on the streets

It is quite remarkable that the spatial density stratification per unit meter on the street is like the analysis of the density of popular culture elements in street sections. This situation proves the increase in popular culture

elements observed in public spaces in the focus of businesses. In addition, the weights of the spaces according to their types are expressed with the graph in Figure 4.

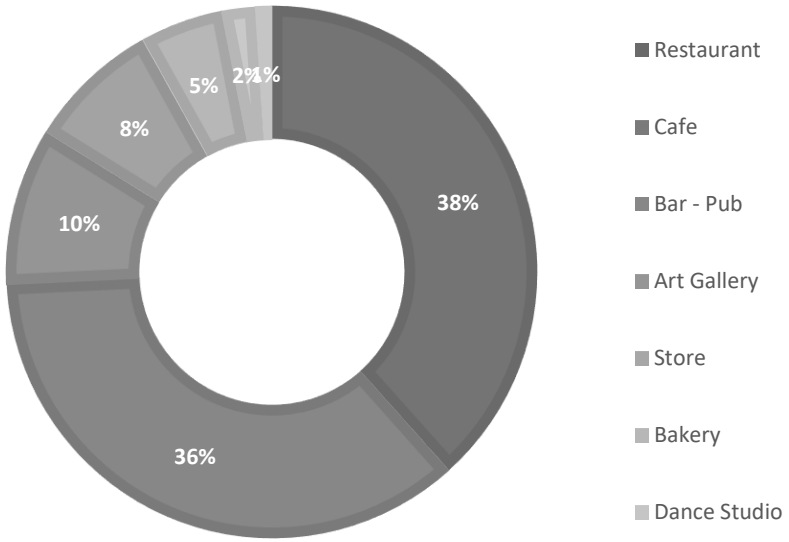

Figure 4. Graph of the distribution of venues in Karaköy according to their business types

About three quarters of the location-based data subject to the research belong to cafes and restaurants that are active during lunch and evening hours. Businesses serving the entertainment industry, such as bars and pubs, are busy on Fridays and weekend evenings. In addition to these, there are different types of businesses that are concentrated in undefined time periods such as art galleries, shops, dance studios and bakeries. Various specialized restaurants such as gastropub, national-international cuisine, burger-steakhouse and seafood are associated with expectations regarding socializing places of daily life developed by the influence of popular culture, such as scenery, prices, stylish decoration, vegetarian-vegan menu and suitable for large groups. The interpretations of the cafes, which vary in different themes such as books, sweets, chocolate and hookah, are sincere, lively, peaceful, quiet and authentic. In addition to these, the comments regarding the expectation that a cafe will be suitable for study are noteworthy. The frequently referenced aspects of bars and pubs are music, terrace, and being a trendy and stylish place. The diversity ranging from the traditional bagel bakery to the "brasserie" and the presence of shops focused on vintage products, antiques and handicrafts in the space carry important clues in terms of the potential of the reflections of popular culture in the space. Figure 5 shows the spatial distribution under eight categories, grouping these businesses according to their similarities.



Figure 5. Spatial distribution of business types

When we look at the spatial distribution of the business types, the bars focus on the cross section between p3 and d9-d11. Although restaurants and cafes show a distribution throughout the space, they are more often found together in some areas. Stores are often located at the periphery of the venue, in areas with higher vehicle and public transportation facilities. The art galleries are located close to each other and in two main focuses on Mumhane street.

4.1 . VISITOR COUNT

Regarding the data obtained through Foursquare, there is a direct correlation between the number of visitors and the average score. It can be said that one of the factors that increase the popularity of the place is the importance of the opinions expressed for the place in such social platforms. On the other hand, there is no significant relationship between the number of visitors and the average price, or between the average score and the average price. According to the relationship between the number of visitors and the type of venue, it has been determined that the businesses that are popular among the visitors are mostly restaurants, cafes and bars.

According to the spatial distribution of the average number of visitors (see Figure 6), it is seen that the popular places in Karaköy due to the high number of visitors focus on the intersection of Mumhane street and Yuva Street. Towards the periphery of the study area, popularity declined. Based on this, it can be said that the space is introverted and its relationship with its surroundings is weak. There is a disconnection with the coast in terms of the relationship that the place establishes with the sea. It can be said that the construction process of a large urban project such as Galataport on the coast, which took many years, has something to do with this situation.



Figure 6. Spatial Distribution Of The Number Of Visitors Of The Enterprises

4.2 . AVERAGE SCORE

According to the average score data, two important inferences can be made from the distribution of the places that score below and above the average. First of all, it is noteworthy that the below-average rated venues focus on the streets perpendicular to the shore at the periphery of the site. Secondly, the location of the places with above-average scores on Kemankeş Street, which defines the boundaries of the area along the tram line, provides information worthy of interpretation.

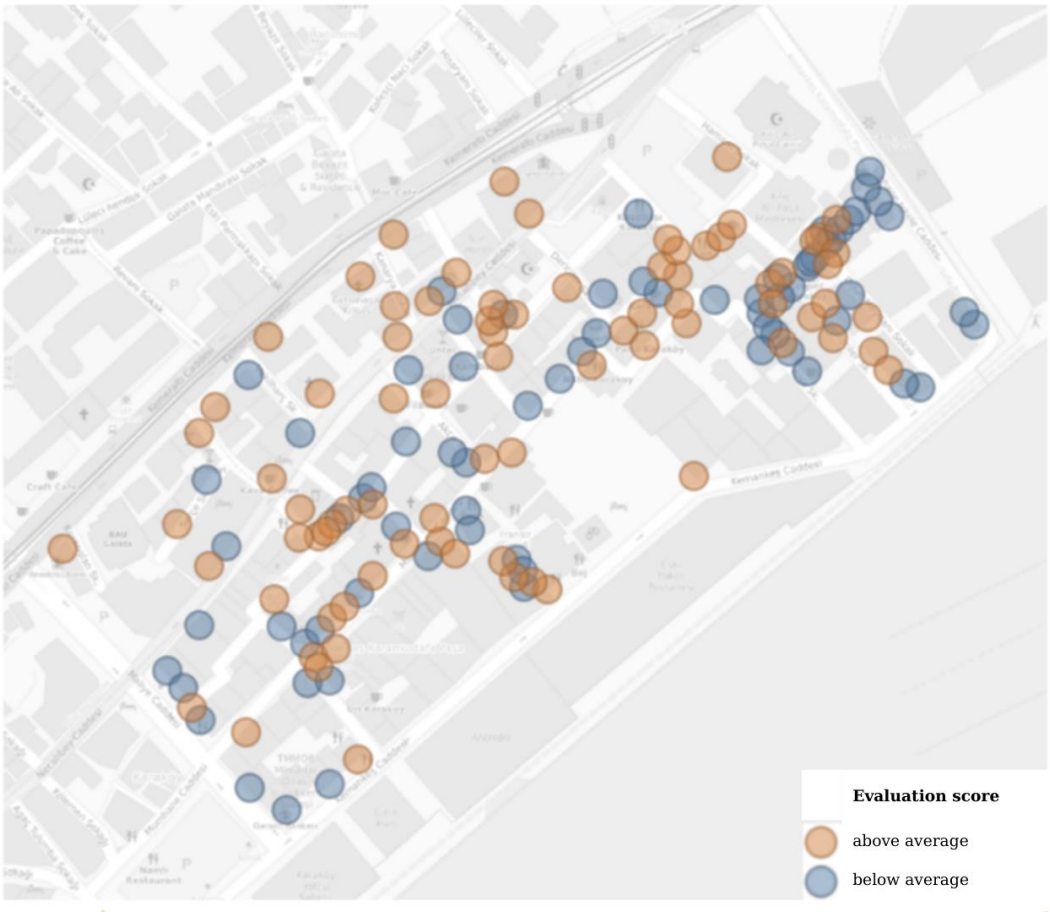

Figure 7. Spatial distribution of average scores of enterprises

4.3. AVERAGE PRICE

According to the average price data, it is noteworthy that the places in the very expensive category are seen at the intersection of Mumhane street and Yuva Street, where the number of visitors is high (see Figure 8). This shows that the places in Karaköy are more popular among the upper income groups of the city. On the other hand, it is noteworthy that the places in the cheap category are located on Mumhane Street, close to Maliye Street. The reason for this may be related to the affordable restaurants opened to meet the food and beverage needs of some of the tradesmen working in the commercial units that have lagged the gentrification process.

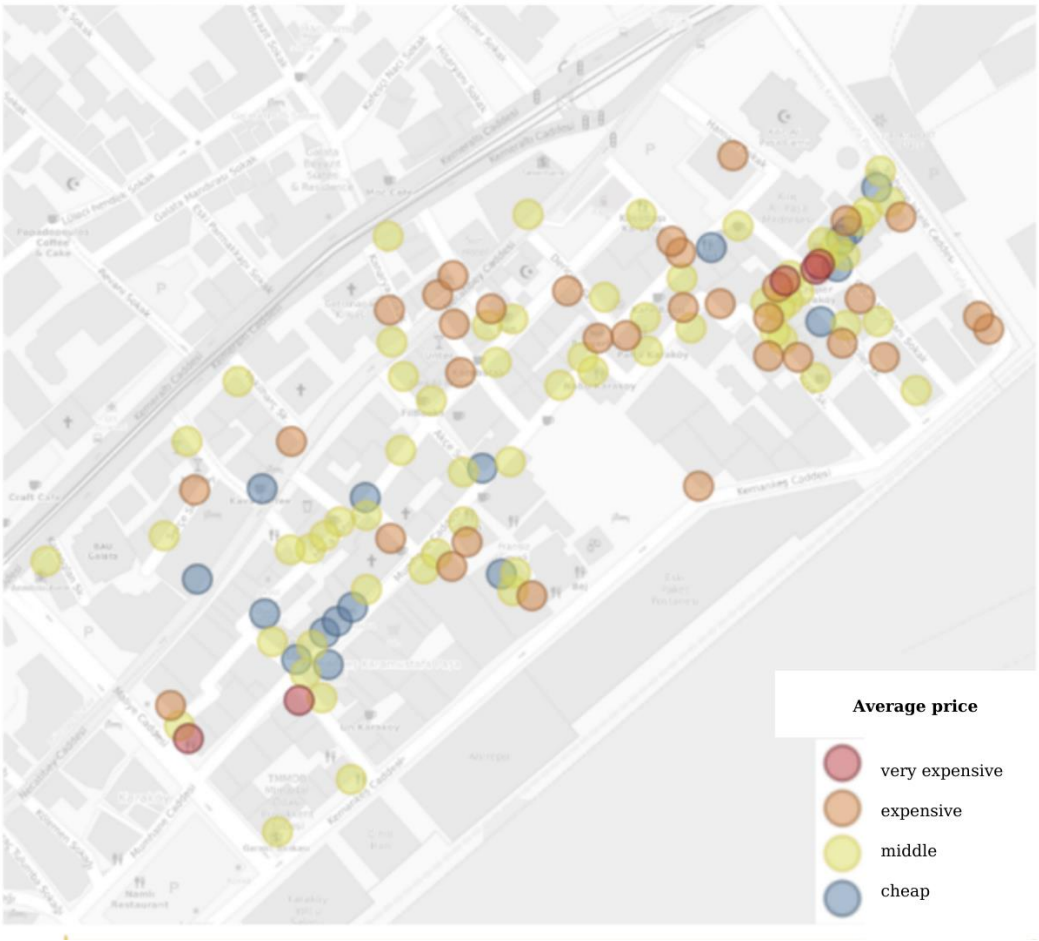

Figure 8. Spatial distribution of average prices of businesses

4.4. PHOTOS

Another data obtained through Foursquare is the number of photos shared in the space. The places where photo sharing in two different categories, indoor and outdoor, are most frequently made, appear as restaurants, cafes and bars on the third (p3) and fourth (p4) street axis parallel to the coast. According to the distribution of the average number of photo sharing indoors and outdoors, although it is observed that more than half of the photo sharing is done indoors, the share rate of photos taken outdoors is not negligible.



Figure 9. Spatial distribution of the number of photos shared in venues

It is noteworthy that the presence of photographically popular places and popular culture elements in public space is high at the intersection of Mumhane street and Yuva street. On the other hand, places that are not photographically popular are concentrated in the areas close to Maliye Street and Cameralti Street, which are at the periphery of the area. In addition, the concentration of photographically unpopular spaces near the periphery of the area, where the reflection of popular culture elements on the public space is weak, evokes a similar relationship.

5. CONCLUSION AND DISCUSSION

The popular culture elements that have become standardized in the interiors of cafes and restaurants also overflow into the public space, transforming the public open spaces of Karaköy, which incorporates diversity in urban memory due to its historical past, into repetitive, temporary and photographic spaces. Streets covered with umbrellas, graffitied walls, exotic plants in handmade ceramic pots, decorative elements such as led lights as a top cover on the street create a "disneylandization" effect by transforming into temporary

photo-taking places for consumption-oriented visitors beyond constructing a unique identity living in the public space.

Elements such as signboards, showcases, facade decorations, bicycles hung on the wall, and lighting, which cafes and restaurants use as attention-grabbing elements, create a complex perception in the space and overshadow the cultural and architectural values of Karaköy. The visibility and the continuity of the activities of these places, which are very rich in terms of historical and cultural values with their monumental and civil architectural examples, original street texture, are under threat due to the factors such as sound, visual and environmental pollution of new commercial enterprises.

Since daily life in Karaköy is structured on the entertainment and gastronomy sectors, it shapes the uses of time and space in the memory of the area. Losing its identity as a labor-intensive production place, Karaköy has become a socialization and consumption place for upper and middle-income young urban dwellers. The factors that produce the original space in Karaköy (architectural quality, street texture, design, sustainability...) have led to the consumption of the space over time. Karaköy's role as a consumption place is supported by large urban investments such as Galataport, which was recently completed and opened. In the future, based on this study, the discussion can be expanded with research on the relationship of Galataport to the popular culture-oriented transformation in Karaköy.

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THE POTENTIALS AND POSSIBILITIES OF APPLYING SPATIAL VIDEO PROJECTION IN THE CITY OF ISTANBUL TO REVITALIZE THE UNDER-VALUED PUBLIC OPEN SPACES

Lima Najjar

Graduate school, Istanbul technical university
najjar16@itu.edu.tr

Fatma Ayçim Turer Başkaya

Assoc. Prof., Department of Landscape Architecture,
Faculty of Architecture, Istanbul Technical University
turerfat@itu.edu.tr

ABSTRACT

Challenges of the 21st century bring out a chaotic interplay between rapid urban development and natural dynamics, which highlights the need to update the ongoing spatial planning and design approaches. This study draws attention to the existence of a vast amount of neglected, undervalued public open spaces (UVPOS) within the dense urban built-up spaces that are used far below their carrying capacities, although they do not own bad physical conditions. Within the pandemic circumstances, existence of these spaces appears as an opportunity when they are handled with a new cyber approach.

The pandemic experiences indispensably alter the users' expectations toward the public open spaces, which bring about a need to develop an upgraded open space network that will handle a combination of temporary and permanent open spaces together with the cyber ones to develop more spaces for inhabitants.

This study attempts to configure out a new, technology-supported cyber spatial layer within the urban open space network to increase the viability and quality of the UVPOS. The research study area is Istanbul but the research results not only for the benefit of Istanbul megacity but also the other megacities examining lack of available open spaces answering the demands of their inhabitants within these pandemic circumstances as well as within the future cities circumstances. The specific technology that covered within this study is the spatial video projection (SVP).

SVP is a digital technology widely spread within urban areas but mainly for entertainment and advertisement purposes. This study attempts to go beyond these uses and discusses the opportunities of this technology adoption to revitalize UVPOS and the possibilities of achieving this within the city of Istanbul. Therefore, this study claims that the SVP technique is capable of generating instant temporary spaces flexible both in function and sphere of influence. Thus, this technique may arrive to be a cyber landscape creator, which constitutes the viability and quality of urban space without any physical intervention.

Accordingly, this study involves a two-phased analysis. The first phase is to discuss the digital screens and their effects on the urban life, including the socio-cultural dimensions and their role in the process of digital place making. From this

perspective a comparison between digital screens and SVP will be made. This comparison is conducted because of the lack of research that discussed SVP for digital place making and UVPOS revitalization. The second phase reviews and analyzes SVP installation that took place within the urban spaces of Istanbul city in the last 15 years. This phase is conducted to investigate this technology's applications within the city and the available capacities to apply installations using this technology. The analysis will include the type of event that the SVP used for, the scale of the installation, and the spatial/contextual relations of the SVP installation within the urban fabric.

Keywords: Neglected spaces, urban revitalization, spatial video projection, urban screens, digital place making.

INTRODUCTION

It is a challenge for today's cities to provide public open spaces and keep their quality. Under-valued public open spaces (UVPOS) become a phenomenon within recent urban fabric. Simultaneously, the digital layer becomes an undeniable part of the city (Pang et al. 2020). Digital technologies allow for a wide variety of solutions on the city scale. This study discusses the issue of UVPOS revitalization by spatial video projection (SVP). SVP as digital technology is a projection-based augmented reality (Mine et al. 2012). It enables the projection of visual content over any 3D object Figure-1 (Zhou et al. 2008). The public open space revitalization is to improve the functionality of the space to attract more people by applying different strategies and tools (De la Roca et al. 2017).

Physical interventions alone are not enough to achieve a long-term revitalization of an urban public open space. The successful revitalization process combines activities considering the social, cultural, and environmental aspects of the space's surroundings (Wahid et al. 2018). It is too dynamic process, and it depend on the local context (Spandou et al. 2010). SVP technology serves this dynamic nature and provides a potential revitalization alternative to the contemporary cities UVPOS.

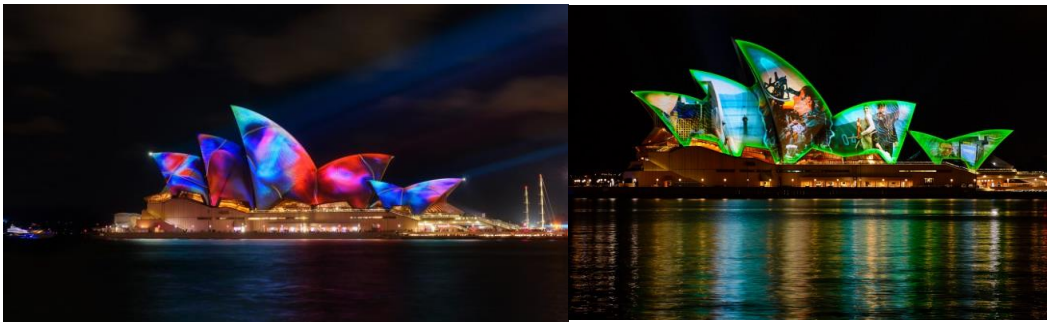


Figure-1 shows SVP installations over Sydney opera house. References: https://www.heavym.net/wp-content/uploads/elementor/thumbs/cover-top-p65arob6gmh47f028draqdraxslxt09qfz9388h910.jpg http://p.ledinside.com/led/belight/2013/11/20131004_215-600x400.jpg

This study discusses the potentials and possibilities of utilizing SVP to revitalize UVPOS. From the reviewed literature in the process of this study, it is noticed the lack of research that discussed the effects of SVP in urban setups. Accordingly, the digital screens and their effects on the urban life discussed, including the socio-

cultural dimensions and their role in the process of digital placemaking. Then, a comparison between digital screens and SVP conducted. After that, SVP installations that have taken place in the urban spaces of Istanbul city in the last 15 years analyzed. This to investigate the technology's applications within the city and the available capacities of this technology. The analysis will include the type of event that the SVP used for, the scale of the installation, and the spatial/contextual relations of the SVP installation within the urban fabric.

URBAN SCREENS AND THE CITY

In relation to this study topic, digital screens discussed within the context of digital placemaking. Urban screens considered as an information and communication technology (ICT) tool which also benefiting from internet of things (IOT). In digital place making, by using variety of ICT and IOT the physical experience reflected in the digital sphere and vice versa (Foth, 2017, Gomez, 2019, Polson & Norum, 2020, Stokes, et al. 2021).

Digital layer able to create more inviting spaces. By referring to Gehl, optional activities increases the possibility of social activities. In this regard, digital mediated activities could facilate more social activities (Seeburger et al. 2015). Urban screens allows information sharing in a fast changing nature, this feature serves to revitalize a particular space within the urban fabric (Behrens et al. 2015, Alexandra, 2019)

Urban screens are contact enabler, it works in two ways to create connection between people and space and between city stakeholders including the local residents, government and visitors (Tomitsch et al. 2015, Pang et al. 2020). Urban screen also, could led to achieve long-term place making goals including socio-cultural and economic value improvement (Tomitsch et al. 2015).

Another long term effect of urban screens as a digital place making tool, that it support the place attachment and affect the perception of space (Stokes, et al. 2021).

A COMPARISON BETWEEN SVP AND URBAN SCREENS

By comparing SVP with urban screens, SVP is also a perception enhancer as it is enable to new and enriched ways to communicate with our surroundings (Azuma 1997, Mine et al. 2012). It also could be considered as a new way of urban design and place making (R. Catanese 2013, Sanaeipoor and Emami 2020). The important characteristic of both urban screens and SVP that they are providing a shared experience within open spaces to be experienced by multiple people (Mine et al. 2012). SVP have the features of urban screens with extra advantage of setup flexibility. While SVP depends on projectors as main equipment this gave it the flexibility of presenting over any 3D object as display which is not avilable for urban screens. SVP beside the posibility of providing an interactive installations which is posible by urban screens also it is provide a more immersive environment. Urban screens have the advantage of longer display time while some screens have the ability to perform in the day light which is not available in the SVP technology. Both technologies (Table-1).

Table -1 shows the comparison between the features of urbanscreens and SVP

Feature \ Technology	**Urban screens**	**SVP**
Perception enhancement	✓	✓
Tool of place making	✓	✓
Shared experience	✓	✓
Setup flexibility (over 3D objects)	✗	✓
Performance during day-light	✓	✗
Interactivity	✓	✓
Immersion	✗	✓

SVP APPLICATIONS IN THE CITY OF ISTANBUL

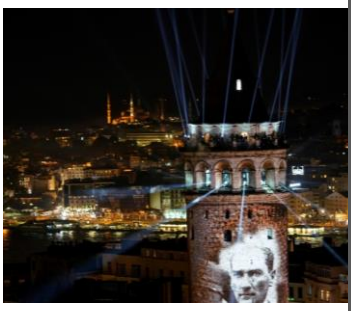
Many SVP installations took place in different public open spaces within Istanbul city. SVP installations applied in different events since 2010. Based on the search for SVP installation in Istanbul within the last 15 years it is noticed that the first SVP installation was in 2010 while celebrating Istanbul as European Capital of Culture (EKİM 2011). Table.2 below show the investigated SVP installations that took place in Istanbul city, in which events they applied, the location of the installation and the year of it.

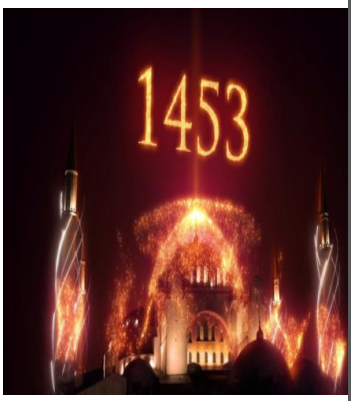
Table - 2 Shows different SVP installations that took place in the city of Istanbul in the last 15 years

#	**Photo of the Event**	**Event Reason**	**Location and Date**	**Building Type**	**Expected Distance Between SVP Display Building and People**
1		Celebrations of Istanbul European Capital of Culture the Installation took the name of "Yekpare" which mean " Monolithic" in English (EKİM 2011).	Haydarpasa Station Dec 2010	A historical railway station built at 1872 in the Ottoman empire period	The Bosphorus seperated between the people and the display building
Reference: https://www.medyafaresi.com/foto-galeri/haydarpasa-garinda-istanbul/131562					

2		Advertising campaign for Samsung Galaxy SIII in Turkey Launch	Rumeli Fortress Bosphorus May 2012	Fortress established in the Ottoman empire period. Now is a museum	The Bosphorus separated between the people and the display building
Reference: https://www.youtube.com/watch?v=-iDe7t1lwws					
3		The conquest of Istanbul 563rd anniversary	Yenikapı Miting May 2016	Events area	Expected to be between 20m to 50m
Reference: https://www.aa.com.tr/tr/kultur-sanat/fetih-dunyanin-en-buyuk-3d-mapping-sahnesi-ile-canlandirildi/580742					
4	 	Celebrating Ramadan month the installations continue for 30 day along the month nights	Sultanahmet mosque Jun 2016	Mosque built on the Ottoman Empire period	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: http://www.yerelhaberim.net/fatih/camii-de-video-mapping-h38494.html https://www.aksam.com.tr/yasam/sultanahmet-camiinde-video-mapping/haber-527794					

5	 	As part of the promotion of the Istanbul Youth Festival	Galata Tower Apr -2018	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.haberturk.com/yerel-haberler/15251612-galata-kulesi-video-mappingle-renklendirildi https://www.aa.com.tr/tr/turkiye/galata-kulesinde-video-mapping-gosterisi-/1129062#					
6		Empire Christmas Festival New year celebrations	Levent 2019 2020	A tree stands on roundabout at Levent district	Expected to be between 1 m to 20m
Reference: https://projectistanbul.com/tr_TR/2010/2020-christmas-tree-video-projection-mapping/					
7		Celebrating 15th of July, the SVP show accompanied with drones show.	Kuleli Military High School campus Jul 2020	Military school established in the Ottoman empire period	The Bosphorus seperated between the people and the display building
Reference: https://www.gercekgundem.com/guncel/197381/kuleli-askeri-lisesinde-15-temmuz-icin-isik-ve-drone-gosterisi					

8	 	The ceremony of opening Galata Tower to visitors after works of restorations.	Galata tower Oct - 2020	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.trthaber.com/foto-galeri/istanbulun-simgelerinden-galata-kulesi-ziyarete-acildi/29379/sayfa-1.html					
9		Celebrations of the 100th anniversary of the National Anthem. Organized by the Ministry of Culture and Tourism	Galata tower March 2021	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.alanyatimehaber.com/istiklal-marsi-nin-100-yilina-ozel-galata-kulesi-nde-video-mapping-gosterisi/39827/					

10	 	The conquest of Istanbul 568 anniversary, the SVP installation was accompanied with sky mapping	Galata Tower Hagia Sophia May - 2021	Galata Tower: Built mainly for defensive purposes in the Byzantine emperor period now is a museum Hagia Sophia: First built as a church in the Byzantine empire then converted to mosque in the Ottoman empire time now used as a mosque also	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.reformhaber.com/genel/ayasofya-camii-ve-galata-kulesi-nde-sky-mapping-gosterisi-h12626.html					
11		The occasion of the 29 October Republic Day.	Galata Tower Oct - 2021	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.hurriyet.com.tr/video/galata-kulesinde-video-mapping-gosterisi-gerceklestirildi-41928127					

12		Korean Cultural Center Celebrated its 10th Anniversary it Turkey in a series of events including SVP installation	Galata Tower Nov - 2021	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://onedio.com/haber/kore-kultur-merkezi-10-yilini-galata-kulesi-nde-video-mapping-gosterisi-yaparak-kutladi-1018072					
13		Teacher day	Galata Tower Nov - 2021	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://haberton.com/galata-kulesinde-ogretmenler-gununе-ozel-gosteri/ https://www.dha.com.tr/gundem/galata-kulesinde-ogretmenler-gununе-ozel-video-mapping-gosterisi-1862248					

14		New year celebrations	Galata Tower 2021-2022	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.bolgegundem.com/yeni-yil-oncesi-galata-kulesinde-buyuleyici-gosteri-8119g-p2.htm					
15		The 177th anniversary of the Turkish Police Service	Galata Tower Apr - 2022	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.hurriyet.com.tr/gundem/turk-polis-teskilatinin-177-yilinda-galata-kulesinde-gorsel-solen-42040400					
16		Celebrations of mothers day	Galata Tower May - 2022	Built mainly for defensive purposes in the Byzantine emperor period now is a museum	Expected to be seen from people close to the area with the distance of 10 m and increased to be visible by people in the surrounding districts
Reference: https://www.aa.com.tr/tr/yasam/galata-kulesine-yansitilan-fotograflarla-anneler-gunu-kutlandi/2582342					

DISCUSSIONS AND FURTHER THINKING

From the table above, most of the SVP installations applied first for national and international celebrations then for advertisement. Most of the installations took place in Galata tower while 11 of 16 installations applied on it. It is noticed also that the frequency of the installations each year increased after 2020 year. The year of 2020 included 3 installations in Istanbul city and 6 in 2021. This was less before, 1 installation in 2010, 1 in 2012, 2 in 2016 and 1 in 2018.

Regarding the spatial, contextual and people interaction with the SVP installation, all of the installations conducted in a spectator screen nature. Meaning, the installations did not have an interactive aspect that led the inhabitant to interact with the presented content. The buildings act like a canvas for the SVP installations. The scale of the installations were in the buildings scale. The distance between people and the installation is the shortest in the case of Galata tower, in other cases the Bosphorus separates between the people and the installation as Haydarpasa station case. In the case of Galata tower the relation between people and installation could be closer if compared to the other installations. This is because that the installation distance is close to people in addition to the tower situation in a square mainly used by pedestrians. The distance is almost the same in the new year tree in the roundabout but the relation between people and the installation is not the same this is because of its situation. While the surroundings people are seeing the installation from the car at first, even if the pedestrian see it the vehicles road separated the direct interaction.

CONCLUSION

From the analysis of the last 15 years SVP installations that took place in Istanbul city, it is concluded that there are technological capacities to apply SVP installations with different scales and qualities. This shows the possibilities to facilitate more SVP installations within the city public open spaces. Accordingly, in addition to the current common uses of SVP for advertisements and celebrations, SVP could be utilized to serve urban development purposes such as UVPOS revitalization. In order to achieve this, there is a need to deal with this technology in different ways and scenarios which include:

Adding the interactive component to these installations that led the people to interact with the SVP installations.

Facilitating input channels for people in the SVP content. For instance, on-site input as in the case of interactive installation or off-site inputs like people messages through social media platforms being presents on SVP installations.

Apply SVP in more urban settings to include more urban elements other than buildings such as trees, roads and any other elements within the public open space.

This study discussed the SVP application within the city from new perspective which is revitalizing UVPOS and provide a primary understanding to the capacities of SVP for this purpose. Accordingly, this study provides a base for further research in this domain. Practice based research is also recommended to test this technology for the specific purpose of UVPOS revitalization either for the case of Istanbul or for cities with other conditions.

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DISCUSSION OF ETHICS AND AESTHETICS IN URBAN DESIGN OVER SYMBOLIC DIMENSION

Selin Aslan

Research Assistant, Gebze Technical University
saslan@gtu.edu.tr

Turgay Kerem Koramaz

Prof.Dr., Istanbul Technical University
koramaz@itu.edu.tr

ABSTRACT

The concepts of ethics and aesthetics have been considered as two fields being associated with each other by many theorists from a philosophical point of view. The 'right' and 'wrong' questioned by ethics can shape the 'beautiful' and 'ugly' judgments, questioned by aesthetics as well, and these judgments can be considered in relation to each other. Changing physical and symbolic dynamics of the built environment can enable to comprehend and interpret the combination of ethics and aesthetics.

The unity of the two concepts appears with ethical interpretation of the aesthetic elements of the built environment. With responsive cohesion theory, Fox (2000) suggests that an ethical interpretation can be made by questioning the parts of the built environment and the harmony they provide. Responsive cohesion theory is considered as the moral center of urban design in the study and the harmony provided by the environment has been examined formally and functionally, in the light of ethics-aesthetic discussions. However, urban aesthetics theory draws attention to the perceptual dimension of the built environment, apart from the formal/physical dimension. This perceptual dimension emerges with the symbolic meaning provided by the environment. Therefore, urban symbolism appears as a third dimension.

In the light of ethics, aesthetics and symbolism discussions, paper suggests formal, functional and symbolic dimensions of responsive cohesion of the built environment; conceptualizes these concepts and creates a framework to support theoretical discussions for future empirical studies; and presents this perspective in analyzing and interpreting the ever-changing and differentiating urban environment.

Keywords: urban ethics, urban aesthetics, urban symbolism, responsive cohesion theory

1. UNITY OF ETHICS AND AESTHETICS

Although the concepts of ethics and aesthetics connote different meanings, they are related in many respects. While the concept of "aesthetics" is defined as "philosophy that examines the perception of beauty and its effect on human mind" (Turkish Language Society, 2021); “ethics” is defined as ‘the study of what is morally

right or wrong, or a set of beliefs about what is morally right or wrong' (Cambridge Dictionary, 2021). That is, while aesthetics questions what is beautiful or ugly; ethical inquiry is about what is right or wrong. Although the judgments of 'beautiful' and 'right' or 'ugly' and 'wrong', which are the subjects of the two concepts have different meanings, they are in relation with each other. The 'right' and 'wrong' questioned by ethics can shape the 'beautiful' and 'ugly' judgments questioned by aesthetics and aesthetical discussions can be a subject matter of ethics as well.

The unity of the two concepts was first put forward by Wittgenstein (1979) as: "Ethics and aesthetics are one". Wittgenstein explains the unity of the two concepts with the fact that they both exceed the limits of language, so that they cannot be the subject matter of philosophy; both are beyond the limits of the mind, thus cannot be evaluated objectively or subjectively; both contain a style and can be measured with a value. On the other hand, it is also possible to see the unity of these two concepts as meronymy, deduced from Collinson's (1985) words; "Just as the aesthetic object is the single thing seen as it were a whole world, so the ethical object, or life, is the multiplicity of the world seen as a single object. In aesthetic contemplation the single object is 'my whole world'; in ethical contemplation the multiplicity of the world is seen as a whole and is 'my whole world'". Thus, it is possible to associate ethics and aesthetics with part and whole, as there is ethics of aesthetics and aesthetic reflections of ethics as well. This paper focuses on the first dimension of their unity, ethics of aesthetic content. The subject of discussion can be an object, structure, building, part of the built environment or city as a whole.

2. UNITY OF ETHICS AND AESTHETICS IN BUILT ENVIRONMENT

As in other fields, ethics-aesthetics discussion also comes to the fore through the ever-changing and differentiated built environment. The ethical dimension of built environment enables to question "what is appropriate to the built environment, which moral beliefs are embedded in it?" and has been a major issue in architecture and urban design in modern, postmodern and current practices. Alexander (2013) argues that aesthetics is considered as the dominant ethics of design, through the ages into now. Here, when the aesthetics is involved, ethical questions arise as "what is appropriate aesthetics to the built environment?" or "what moral beliefs are embedded in aesthetic content of the built environment?". The chapter aims to reveal some remarkable thoughts and criticisms about these questions.

The ethical discussion of urban aesthetics comes to the fore mostly on an architectural scale in the modern period. One of the prominent debates is about honesty and deceit in architecture. It has been argued that in order for the aesthetic elements of the built environment to be ethically right, it is necessary to seek an honest and correct architectural form. According to Ruskin (1849), although good architecture cannot be commanded, it is possible to design and direct the right architecture. He states that: "...the meanness of poverty may be pardoned, the sternness of utility respected; but what is there but scorn for the meanness of deception?" (Ruskin, 1849:61, cited in Taylor, 2000). In other words, it is more important not to deceive the observer through the architecture than to make it look beautiful. In this way, aesthetic value of the architecture may not be the most beautiful but morally right. Appropriate aesthetics of architecture is

associated with the use of right structural, surface, and operative content. However, while it is ethically right to avoid deceiving the observer, there may be some conflicts between aesthetic and moral value. Scott (1999) explains this conflict with the example of the Renaissance facades. According to him, false renovations or added elements in Renaissance architecture, such as a false window, are acceptable for the sake of the balance that they will provide to the design, even if it does not reflect the reality of the period. Although the added element alone does not reflect the honesty of architecture, this can be seen as the right decision when the building is evaluated as a whole. Even if the part is far from being honest, it can contribute to an honest whole. Therefore, the definition of ethical rightness in this regard cannot be determined strictly.

Another discussion about ethics of architecture appears as the search for the right architectural style with the idea that some architectural styles are morally superior to others (Watkin 1977). For example, the Gothic style is thought to constitute the most ethical form because it best reflects Christianity and is closest to the organic form. However, according to Taylor (2000), this point of view reflects only an aesthetic interpretation and is not seen as an ethical questioning. Therefore, the discussion is far from being clear and sustainable.

With the search for appropriate style, ethical discussions have evolved to the search for appropriate aesthetics that well reflects the spirit of age/culture. Design of right form and use of appropriate materials in architecture is associated with being compatible with the technology and values of the society in a certain period. In particular, it is expected that the modern-postmodern distinction can be made with the form and material selection of the architecture. Buildings that reflect modernism are seen to have more rational design, form and function and are expected to reflect this aesthetically. However, this interpretation includes a generalization, and it is not easy to identify what best reflects the spirit of age/time. Besides, some ages-cultures do not have the most characteristic aesthetics as well as some places have no 'spirit of age' (Taylor, 2000).

Taylor (2000) elaborates on these discussions with a new perspective and questions another ethical fallacy, lack of care given to design. According to him, lack of care given to design means lack of care given to public, who have to live with it. If the parts of the design are careless and insensitive, and their combination is far from constituting a meaningful whole, it creates ethical discontent. Ethical discontent can negatively affect aesthetic judgement. When considered from this point of view, the ethical questioning of architectural and urban design aesthetics should be observed in two ways. First of all, the parts and details of the aesthetic product (building or built environment) should be examined, and it should be questioned whether they have been elaborated in a meaningful way. Secondly, the whole architectural/urban design product should be examined and its suitability to its environment and landscape should be questioned.

All these discussions question the scope of the criticized aesthetic content, its period and culture, its harmony within itself and with its environment. According to the specified variables, architectural and urban design works and processes that are incompatible / disrespectful are seen as ethical fallacy by theorists. The main criticism emphasized by all these ethical fallacies is based on the respectfulness of the design by itself, with its environment and with different moral agents, and therefore the cohesion/discohesion it creates within the whole. Fox (2000) puts forward responsive cohesion theory, which brings these discussions all together

and emphasizes the basic premise of each. In the study, responsive cohesion theory is considered as a basis for ethical evaluation of aesthetic content.

3. RESPONSIVE COHESION THEORY AS A MORAL CENTER OF URBAN DESIGN

Fox (2000) defines responsive cohesion theory as the moral center of urban design and indicates that it is the foundation of value theory. This theory, which questions the holistic integrity of design, is explained as a matter of which design suit, fit or in coherence with the context. According to Fox (2000), we judge some forms of the built environment as better than others. For example, out of two buildings that are responsively cohesive and not, we find the one that respects its environment ethically right, and this also shapes our aesthetic judgment. According to Radford (2010), aesthetic appreciation happens if one sees and relates to responsive cohesion in, around and with the place. Responsive cohesion theory is a tool to understand this tendency.

Responsive cohesion theory covers the aesthetic elements that constitute the built environment at the urban scale, their combinations, and the users of the built environment. According to Fox (2000), every new aesthetic element added to or imposed on the built environment should be considered within this ethical framework. Because, when a newly introduced feature can be able to alter its generative and supportive context, it also can modify its environment. Moreover, when a new element changes its generative context, it affects many existing cohesions. Fox (2000) gives an example of new notes added to a symphony to explain this theory. If we add new notes to a symphony that is already harmonious and beautiful, newly added notes may not be compatible with already existing harmony of the symphony. The paradigm can be a musical theme, community or built environment as long as responsiveness to the already existing cohesion is the matter. In a way, the theory reflects and integrates mentioned discussions about ethics and aesthetics in built environment (i.e., Honesty and deceit in architecture (Ruskin, 1849), design reflecting spirit of age/time (Taylor, 2000)). Because in all of the discussions mentioned, ethical interpretation is basically based on the harmony that the object of judgment provides or does not provide with its context.

Radford (2010) discusses this theory in city-neighborhood-street scales and argues that responsive cohesion should be sought in the whole systems and scales. In this context, he concludes that urban design should be responsive to the specific needs of users such as transportation, activities, individualization, socialization, aesthetic appreciation, admiration, making sense of, feeling at home and so on. He argues that in order for the ethical judgment that constitutes or directs aesthetic judgement to be formed positively, the aesthetic elements of the built environment should be in good manner towards each other, that is, there should be no dominance of building or structure. Considering the activity, individualization and socialization needs of the users, he defines the harmonious functionality of the built environment as 'place full of variety where differences are subtle'. In this respect, he argues that historical form-styles cannot meet today's functionality. According to him, the built environment should be reshaped/redesigned according to today's needs, but such changes should not be forced but occur as an inevitable part of human experience, human re-description of lives and environments.

Changing built environment in modern-postmodern period have created a tension in terms of the responsive cohesion. Fox (2000) describes this situation as a conflict of extremes, in his definition 'arbitrary fancies', between rigid forms in massive scale that were rigidly imposed upon the landscape in the modern era, and liberating, free for all and all over the place approach of the postmodern era. These approaches are reflected in today's-built environment as spiritually dead-ending rigidly imposed structures with the modern and playful but to others-somewhat imaginatively desperate postiche with the post-modern. These formations imposed on the space by trends are criticized for endangering the meaningful integrity of the built environment. According to Fox, responsive cohesion theory avoids the monotonous order as well as the changes like arbitrary fancies and shows the way to the built environment that is compatible with living systems, revives the human spirit and forms the basis of the value theory necessary for the future of urban design.

In this respect, Radford (2010) sees responsively cohesive environment as a connection. Since urban design is about making connections between people and places, movement and urban form, nature and built fabric; he defines urban designers as people who 'pull things together' into a coherent whole that responds to its many contexts. So far, the 'things' mentioned here are mostly considered as aesthetic elements of the built environment and their formal/physical appearances. But, urban design aesthetics theory covers symbolic aesthetics, symbolic/perceptual dimensions of aesthetic elements as well. Radford's approach to human needs as making sense of, feeling at home, individualization and socialization supports the idea that urban ethics-aesthetics discussions need another dimension. The research provides a symbolic perspective over the urban ethics-aesthetic discussions in addition to formal-physical-functional dimensions of aesthetic elements. Therefore, besides the concepts of urban aesthetics and urban ethics, whose relational duality is questioned, urban symbolism is discussed as a third perspective related to both concepts.

4. APPROACHING RESPONSIVE COHESION OF BUILT ENVIRONMENT OVER SYMBOLIC DIMENSION

It is possible to interpret that ethical judgments towards the built environment can shape aesthetic judgments, as well as the symbolic reflections of the built environment can affect our ethical-aesthetic judgments. The reason for this is that parts of the city such as streets, squares and buildings must be interpreted by users, and therefore must have a meaningful form and symbolism in order to make interpretations of 'beautiful' or 'ugly' in terms of aesthetics, and 'right' or 'wrong' in terms of ethics. Considering that responsive cohesion is a foundational value of urban design, the symbolic meaning offered by the built environment should also promote this cohesion through urban symbols. This chapter aims to reveal some remarkable discussions about past, present and future dynamics, and threats to the responsive cohesion of the built environment within the scope of urban symbolism.

According to Woodward (1982), settlement form has traditionally offered deep psychologic nourishment for the emotional and spiritual needs of human. He argues that perception varies according to the changing values of society. The role of human in this changing perceptual and associated world should be constantly reanalyzed in symbolic language through urban symbol bearers. Although the symbols that are constantly re-expressed and renewed in changing cultural environments hold great potential for rich exploration,

technological society makes symbols meaningless by denying them. The urban symbols that emerged with this tendency, besides making the existing symbols meaningless, are also far from becoming a sign.

With a similar approach, Knox (1984) draws attention to the changing mode of production with capitalism. Besides, shifts in technology, demographic conditions and cultural life create new 'ethical rights'. Considering that the built environment is a 'product of design', he sees the role of the architects and urban designers as 'manufacturers'. However, with the changing mode of production with capitalism, the built environment has started to be considered as 'product of capitalism' and 'product of power'. Together with the symbolic structures imposed by powerful agents, the urban environment has become 'symbol of power' and 'symbol of success'. In contrast with the mentioned cases, he emphasizes that the meaningful symbolism of the urban environment positively affects the socialization processes and strengthens human-built environment relationship. Therefore, designers and researchers of the built environment should accommodate existential imperatives and cognitive processes alongside the social and economic relations of design.

Lastly, Barlas (2014) argues that forced adaptation or imposition of rational thoughts or movements to the parts of the cities leads to deviation in the meaningful form of the built environment. If the imposed urban symbols do not establish a meaningful relationship with the archetypes of culture in the collective unconsciousness and create a tension between the layers of consciousness, this situation drags society into meaninglessness and thus into a state of neurosis. The social effects manifest themselves as deviation in emotional meanings (e.g., distaste, displeasure) and even mob movements, senseless violence, and crime.

As emphasized with these discussions, aesthetic judgement is not only formed by personal tastes of individuals, but also by the existence of areas that allow individual's need for individualization, socialization, making sense of, feeling at home and so on. This could be possible by the existence of environments that have responsive cohesion in formal, functional, and symbolic dimensions. Considering responsive cohesion theory, the study concludes that all the mentioned variables should be involved in the ethical evaluation of the built environment.

5. A COMPREHENSIVE ETHICAL FRAMEWORK FOR URBAN DESIGN & FUTURE ANALYSES

In the light of all these discussions, the study bases the responsive cohesion theory as a foundational value theory of urban design and proposes three main parameters for the responsive cohesion that the urban environment should reflect as formal, functional, and symbolic dimensions. When this classification is associated with Radford's (2010) view of human needs, formal cohesion is related to the needs of aesthetic appreciation and admiration; functional cohesion is related to individualization-socialization; and symbolic cohesion is associated with making sense of and feeling at home *(Table 1).*

Of these parameters, formal cohesion is provided by the physical dimension of the built environment and its aesthetic components. The prominent views for ensuring the formal cohesion of the built environment are the use of appropriate forms and materials in design discussed by Ruskin (1849) and Taylor (2012), and the use of appropriate style discussed by Watkin (1977). In this context, the physical requirements that a

responsively cohesive environment should contain are no dominance of building or structure argued by Radford (2010); necessity of design to be responsible to age and culture discussed by Watkin (1977); and necessity of design to be careful and properly detailed discussed by Taylor (2000).

Table 1. Proposed Framework for Ethical Evaluation of Built Environment with respect to Ethics, Aesthetics and Symbolism Discussions

	Does the Environment Responsible for People's Needs for... (Radford, 2010)	Responsive Urban Design Should Contain…	Responsively Cohesive Urban Environment Should Have…
Formal Cohesion of Aesthetic Elements	Aesthetics Admiration	Use of appropriate material Use of appropriate form Use of appropriate style	No dominance of building/structure (all have good manners to each other) (Radford, 2010) Design responsive to age/culture (Watkin,1977) Careful design (properly detailed, parts are convenient for whole) (Taylor, 2000)
Functional Cohesion of Aesthetic Elements	Individualization Socialization	Appropriate functions Appropriate activities	Coherent functions (place have full of variety where differences are subtle) (Radford, 2010)
Symbolic Cohesion of Aesthetic Elements	Making Sense of Feeling at Home	Appropriate symbolism	Aesthetic elements not symbol of power/success but have a meaning for all (Knox, 1984) Symbol structures not imposed aliens but coherent parts of whole (responsive to existing symbolism) (Woodward, 1982; Barlas, 2014) Symbol structures responsive to societies values, meanings and norms (Barlas, 2014) Not a single /dominant urban symbol but the whole urban form has a symbolic coherence (with Respect to Radford's (2010) views supported with urban symbolism discussions)

Another dimension of responsive cohesion appears as functional cohesion of aesthetic elements discussed by Radford (2010). He argues that in order for an environment to be responsively cohesive, it should contain

coherent functions that provide, as Radford (2010) defines, full of variety where differences are subtle. Functional cohesion is provided by use of appropriate functions and activities (and use of appropriate forms for these functions, according to Radford (2010)) in urban design and is an important factor for individualization and socialization needs of society.

The last dimension is suggested as symbolic cohesion of the built environment, with respect to the views of Wodward (1982), Knox (1984) and Barlas (2014). Symbolic cohesion of the built environment serves to peoples' needs for making sense of and feeling at home (and also for individualization and socialization processes of human, according to Barlas (2014)). To meet these needs, responsive urban design should contain appropriate symbolism with urban symbol bearers. In this context, symbolically cohesive urban environment should be a place where aesthetic elements are not symbol of power/success but have a meaning for all (with respect to Knox's argument); symbol structures are not imposed aliens but responsive to existing symbolism (with respect to Woodward's and Barlas's arguments); symbol structures are responsive to societies values, meanings and norms (with respect to Barlas's argument); and there is no single or dominant urban symbol but the whole urban form is in coherence (with respect to Radfords's argument supported with urban symbolism discussion).

6. DISCUSSION

Changing social, economic, and political dynamics stratifies the built environment, and as a result, cause physical, functional, and symbolic densification. An ethical examination of these changes requires deep analyses about ethical-aesthetic-symbolic contexts of urban design, which are highly related to each other. By making ethical interpretation through urban aesthetics and symbolism, many inferences can be made about the changing structure of the urban environment.

Fox's (2000) responsive cohesion theory forms the basis of ethical questioning about built environment in the study. Questioned variables with this theory are the parts that form the aesthetic content of the built environment (buildings, streets, squares, structures and so on) and the integrity that they provide. Aesthetic elements imposed on the built environment may damage the part and whole relationship that allows ethical questioning, cause urban spaces to become meaningless and cannot meet the needs of the society. With such changes, the urban environment is suppressed under the hegemony of powerful agents, government, capitalism, and economic forces, instead of serving the users who have to live with it.

The study concludes that, in these present systems and threats for future of urban design, the role of urban design should be about making connections between people and places, movement and urban form, nature and built fabric. And the role of urban designer should 'pull things together' into a coherent whole that responds to its many contexts (Radford, 2010). This only can be possible by placing emphasize on ethical concerns in urban design and questioning ethical content in many dimensions in further studies.

It is expected that the proposed framework as the output of past and present ethical, aesthetic and symbolism discussions, will allow the interpretation, consideration, and discussion of the formal, functional, and symbolic

cohesion of the environment and guide future applications of urban design. On the other hand, the suggestions give direction to future research in order to make an ethical interpretation of the built environment through urban symbolism and aesthetics. It should be emphasized that the proposed framework should be re-evaluated and interpreted specific to the urban area where ethical evaluation will be made. Because in the search for ethically appropriate aesthetic form, style, function and scope, the main criticisms have target generalizations that are out of context. Therefore, responsive cohesion should be examined according to the specific formal, symbolic, functional appearance of the urban environment to be analyzed.

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URBAN SPACE, ART AND AESTHETICS OF DISAPPEARANCE

Esmanur Yavuz

M.Sc. Student, Karadeniz Technical University
yavuzesmanur@gmail.com

Sonay Çevik

Prof.Dr., Karadeniz Technical University
csonay@ktu.edu.tr

ABSTARCT

Disappearance is a concept that emerged with the loss of the reality in the modernization process and makes its presence felt in art as well as in many fields today. Along with the discussion of evaporation, the last, and death, which the postmodern period focused on, especially Jean Baudrillard's explanations about why everything still does not disappear, has been a significant reference point for disappearance and revealing the relationship of this concept with the current situation. Urban space that hosts many arts today, is directly related with this disappearance. Because the disappearance takes place in a trans- zone where all borders are removed, and urban spaces are integrated with this trans. When we look at the disappearances through art in urban space, it can be said that the boundaries of the elements of artist, audience, art object, art space, time, and movement, which are the qualities of art, become unclear. For each art object, the disappearance takes place through different combinations of compromise, and these are revealed at different scales and forms. These trans-regions of disappearances, their effects on urban spaces and their potential to act as intermediaries between the artificial and real worlds have been evaluated. This study presents an evaluation on the art of getting lost with Baudrillard's concepts such as impossible exchange, trans-, apoptosis, simulacrum and simulation, hyper-reality, by focusing on art in urban space.

Keywords: Art in Urban Space; Jean Baudrillard; Disappearance.

1. ENTRANCE: THE RELATIONSHIP OF ART AND DISAPPEARANCE IN URBAN SPACE

The studies on the world and on the location of the world by significant names such as Copernicus, Kepler, Galileo, and Newton, who contributed to the scientific worldview in the modernization process, led to the emergence of reality perception. A person who has access to this information has been dragged into a search for new meaning, value, and reality. When it comes to consumer society, a process begins that causes all these pursuits to melt away (Baudrillard, 2018). The process mentioned here is the attainment of an art of disappearance invented by one's own hands. It brings with it an attempt to eliminate the real world, by directing it to a programmed desire to disappear between the real and the surreal. When this art of disappearance is examined, it is seen that what actually takes place is an artificial world created by people in

an effort to make reality even more real. In the face of this situation, the roles assumed by society, subject and image have changed and lost their relations with reality. In this world where society, subject, and image disappear, a person tries to revive these elements on one side and is included in the disappearance on the other. In this direction, there is a need to develop approaches to physical reality in a world where even human beings have disappeared. Thus, the disappearance invented by the person with their own hands creates a common world between the real world and the artificial world; This can be explained by the concept of apoptosis, which means programmed death. This concept of apoptosis, used by the French theorist Jean Baudrillard between the lines, is an expression of programmed death in which disappearances occur in the developmental process. Apoptosis, one of the concepts of death borrowed from biology, creates signals on the surfaces of cells when things are not needed in the body, dissolving the cells in space, digesting them, and eliminating them. What is examined and emphasized here, is about on trans-things, where everything can replace each other and infiltrate into fields.

Trans-things, which Baudrillard explains as trans-, draws attention to the current situation of the period and expresses that everything is similar to each other and therefore things are constantly trans- with each other. The emergence of trans- in this way causes a relationship established with aesthetics. This relationship needs to be examined in urban space. First of all, the network of relations between art, which is a common stakeholder with urban space, and the art object that creates this art, artist, audience, art space, time, and movement can be looked at. Here, several compromise combinations are seen by melting the boundaries of these qualities of the trance. The loss of the aforementioned borders has created pluralism and the pluralism caused by this trance brings vitality/mobility in appearance, an illusion can no longer exist here. Because today, giving everything an aesthetic appearance, making everything more real and eliminating the differences have led to the loss of the sense of illusion.

The aesthetics of disappearance, urban spaces are defined within the scope of exhibited art. By explaining the relation of each chosen example with trans- in the context of disappearance aesthetics, the boundaries of the art object, artist, audience, art space and time qualities are examined, and some disappearances are explained through visibility, relationality, pluralism, comprise, vitality/mobility, and illusion. In this context, the qualitative research method was used in the study, descriptive analysis was made, and data were obtained through document analysis. The document analysis was carried out through productions, visuals, and articles related to the aesthetics of art and disappearances in urban space. In addition, Baudrillard's concepts were used as a source to explain the aesthetics of disappearance and shed light on the study. In the aforementioned study, which was mainly carried out in terms of concepts, the increasing role of urban spaces with disappearance art was opened to discussion by presenting.

2. DISAPPEARANCE OF SOCIETY - SUBJECT - IMAGE AND DISAPPEARANCE AESTHETIC

Wars in the world; changes in production; the climate crisis; in addition to the invention of technologies such as photography, television, and the internet, the comprehension of consumption, which became widespread with advertising and communication tools, profoundly affected the understanding of the subject, image, and

society in the postmodern period. Especially in this period, there is an effort to convert everything to the level of exchange, when people are convinced that they must find an equivalent response in ideas, words, possessions, and even death. Although everything is perceived in the logic of consumption, the fact that some things cannot be evaluated within the framework of exchange, such as the absence of a substitute for the world, which has led people to a different process. According to Baudrillard, in the face of this situation, people try to liquidate the world and creates an artificial world to take its place. This is where the gigantic technical attempt at eliminating the natural world emerged (Baudrillard, 2018: 19). This attempt, called the impossible exchange, can also be considered as what initiates the disappearances. People begin to learn and produce information about 'what the world will look like in the absence of people, what is beyond the end, and what the person will encounter when the subject is left out' (Baudrillard, 2019:19). This desire has led them to seek a new identity and lost in society, subject, and image.

Sought identities are only appearances and emerged as an image. The identity of society, which is generally known and constructed as the memory of the society, has left its place to the masses that appear with the identity of advertising and pretend to be different. From this point of view, this masses society, which emerged as a form of socialization in the Postmodern period, cause the evaporation of the sociality, in short, its disappearance, contrary to what it seems. The subjects, which play a role in the conversion of the society into a mass society with their advertising identities, also construct an ideal reality for themselves outside the existing one with their new identities. The subject, by giving own freedom to the object which reflecting this ideal reality, almost with own hands, drags ownself into the disappearance. Here, the object representing the subject creates a simulacrum with at least as much knowledge and ability as the subject. In the simulation universe created by simulacra, everything is now like each other. Something appears as everything by getting rid of the phenomenon of analogy. The difference that has been lost here is a issue that profoundly affects the image, as well as being a part of the disappearance of the mass and the subject. An image, that is, a representation feature, is something that allows anything to be interpreted as a sound, a sign, or a gesture/mimic, and can multiply the meaning by diversifying it (Erzen, 2011). However, if these images no longer have a single counterpart, in other words, if the images do not represent a single thing, the pluralism of the images causes effects of the illusion to be lost. In addition, the image gaining a perfect and real appearance is also effective in the loss of the illusion (Baudrillard, 2010b). In this respect, it is important how the art, which is directly concerned with the image, is affected by this situation and how it undergoes a change process with this effect.

When we look in more detail at the elements of image, reality, and illusion that art has been associated with throughout history, it can be seen that these elements are constantly changing and converting. Art, which moved away from the representational nature imposed by religion in the Middle Ages with the Enlightenment period, experienced a rupture in the image. In addition to this, technological developments and the invention of photography have gradually removed the understanding that there must be an imagery behind everything. This change process of the image reached its peak, especially at the ends of the twentieth century, when Andy Warhol tried to give commercial objects an artistic form value. Here, there is the existence of an image that is artificialized and given a power and meaning. Likewise, in Marcel Duchamp's concept of ready-made object,

it can be mentioned that there is such a loss between form and image. The famous urinal, which Duchamp presented under the name of fountain, put an end to the sense of illusion by giving ordinary objects an artistic appearance and brought reality and art to an equivalent position (Baudrillard, 2010b). In this process, the art movements of the twentieth century also influenced the perception of reality, although it was not revolutionary like the urinal, the Campell tins. In the cubist approach, which reshapes the traditional understanding of space, inclusion of the actual movement in art has created a new perception of space-form. In the Futurist approach, which is influenced by the fact that Cubism reflects this movement in more than one moment and angle, it seen that the movement is continued in the content. In addition, the stunning thing about reality in futurism is that art begins to come closer to daily life as the audience is involved in the process with their actions. Performances like theater, including the participation of the audience, in the events called "Futurist Evenings" paved the way for action-based art types where the audience can directly relate to the artist. Suprematism, which we can observe in the process following these developments, is an approach to art in which things are not represented and create its own world of reality. According to Malevich, one of the representatives of this approach, it is stated that the abstract shapes in the works are "filled with the absence of any object and every form is pregnant with meaning" (Antmen, 2009: 82). In conceptual art and minimalism, when the form is considered through the perception of reality, it can be said that the artistic process is carried out entirely mentally. Abstraction, which dominates the entire historical process, whether it has expressionist, geometric or movement-based features, has gradually shown an attempt to present its object, although it is thought to have brought innovations to the concept of art (Baudrillard, 2010b). In other words, by revealing the object, the production of illusion has been terminated, almost transforming the whole world into ready-made objects. Thus, the merging of art and reality put an end to all kinds of creative illusion production. In addition, the fact that art spaces such as art galleries and museums lost their power in these periods and were replaced by urban spaces makes everything more realistic. Artists' seizing the ordinary things of the day in urban spaces and their efforts to sign the residues by turning them into a value and ideology have caused art to lose its imaginary value. Virtual reality is the result of the loss of such a sense of illusion because here the image is tried to be brought to a perfect similarity with reality. Therefore, what is forgotten and overlooked today is that the imaginary and reality cannot be distinguished from each other and that the perfect similarity between them leads to the loss of the sense of illusion. Moreover, if the connection between image and reality is weak, the more the disappearance makes its presence felt, the power of influence will be remarkable (Baudrillard, 2010b). Briefly, after these enormous effects of Dadaism and Pop Art, especially since the 1960s, it can be said that when art became a part of daily life and urban spaces played a significant role in art of disappearance.

Based on all these explanations, it has been examined how people in search of new commodities affect art deeply with the conversion they create on society, subject, and image. What these crucial art approaches basically reveal is the disappearance of boundaries between artistic qualities. In this direction, the subject will be evaluated through the relationship established with art in the next section with the concepts of impossible exchange, simulation, simulacra, hyper-reality, trans-, and apoptosis that Baudrillard included in philosophy.

3. DISAPPEARANCE IN ART AND IN BAUDRILLARD'S CONCEPTS

The disappearance of borders brings us to the fractal phrase. In this respect, it is necessary to talk about Jean Baudrillard's four value systems. These are a natural phase (using value), a commercial phase (exchange value), a structural phase (indicative value), and a fractal phase. Finally, this fractal phase, which was included in the value system and defined today, was evaluated as the disappearance value within the scope of the study. Things, sign, and actions; they disappear by getting rid of their thoughts, concepts, essences, values, references, origins and purposes (Baudrillard, 2020:12). According to Jean Baudrillard, disappearance as a singular event and a desire not to belong to this world is not an extinction, a completely annihilation; on the contrary, what happens here is a disappearance that always leaves some traces behind (Baudrillard, 2019). Because in this fractal phase things proliferate in all directions and at all time intervals like cancerous cells. In this phase, where everything spreads rapidly, comes into contact with each other and can change places, there can be no determination through the traditional aesthetic approach based on contrasts such as beautiful-ugly, right-wrong, good-bad. This situation does not enable a universal aesthetic acceptance or evaluation possible. Therefore, it is not possible for the disappearance as a form to serve a purpose as good or bad (Baudrillard,2019:25). In this respect, the loss of contrasts brings with it a region of change and expansion, where the borders between all fields disappear and things are transferred in all fields. For example, when we talk about art today, it is not just art; it is also included in the fields of daily life such as economy, science and politics. Thus, it can be said that every field is absorbed by other fields and each field loses its autonomy (Baudrillard, 2020a). At this point, concepts are used to explain the fractal phase more clearly (Figure 1.).

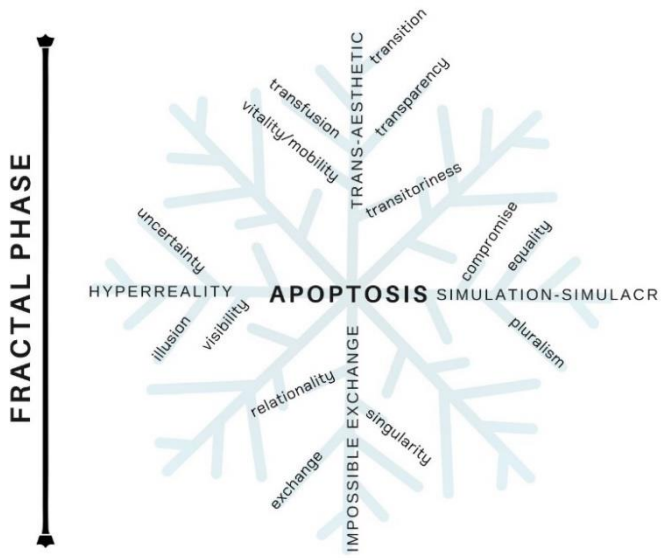

Figure 1. Relationships with fractal phases and concepts

In this phase where every field is intertwined, where everything turns into each other, so the simulation comes into play. Because the simulation has put an end to polarization in all areas by removing every action from a certain thought and a definite judgment; in these areas, everything is allowed to melt into each other. Here,

the simulacrums that want to be perceived as a reality, render all actions meaningless; it turns the meaning into short-term temporary scenarios (Baudrillard, 2020b: 57). Simulation universe that replaces the illusion, is that situation in which signs, fields, values, and things are everywhere. In addition, everything becomes more realistic and hyper-realistic is achieved. In this case, Baudrillard is based on a prefix trans-, which means to across, beyond something. He emphasizes that everything exists in the trans: trans-sexual, trans-economics, trans-politics, trans-aesthetics. The variants of the prefix trans- helps to explain in the situation but the idea of disappearance embodied in trans- can be confused with the state of being an end.

Central to these concepts is apoptosis. Apoptosis death, which Baudrillard uses between the lines and helps explain the fractal phase, is borrowed from biology. Here, three types of death were achieved, namely apoptosis, necrosis, and necroptosis (Guyton, A. C., & Hall, J. E. 2001). Although necrosis and necroptosis do not show viability at the end of the process, there is a functional process in the continuation of apoptosis. Apoptosis, which is the self-killing of cells, is a programmed and singular death in which cells shrink and disappear. An example of this situation is the process in which cells in webbed fingers, seen during the embryonic period, take the known finger shape with apoptosis (Figure 2). Cells initiate the dissolution process by creating signals on their surface. When the reflection of this concept to today is examined, it can be said that the apoptosis process is stopped, and we live in a phase where everything dissolves in each other. In this phase where the apoptosis process is stopped and the disappearance is experienced, it is moving in the universe of things that have virtually disappeared everywhere but could not find the factor that caused their own extinction (Baudrillard, 2018: 47). Here, an existence is not possible unless the disappearance is noticed. Things are looking for ways to exit the fractal phase and return to the past; culture tries to reach this goal by resorting to methods such as re-enactment and copying. However, this effort is doomed to produce everything in existence forever and to disappear again with the proliferation that is revealed.

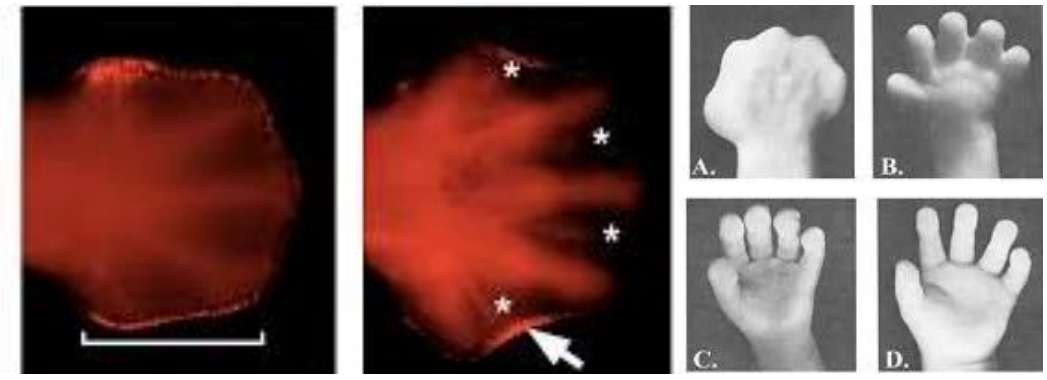

Figure 2. Apoptosis process observed in embryo fingers

Within the scope of the study, it was tried to reveal its relationship with the art of disappearance by focusing on the concept of trans. In the disappearance of art, "trans-" come into play at the point where the boundaries of art qualities are lost. The artist, art object, audience, art space, time, and movement, which are the art

qualities, disappear and thus an unclear area is created in this situation. What happens first here is the artist's attempt to programmatically create the art object with transparency or transforming. These features give the art object the appearance of vitality/mobility. Here, transparency makes it possible to program things to change over time and to manipulate temporary effects (Baudrillard, J., Nouvel, J. & Hays, K. M. 2011). These production of continuous appearances in a pluralism also constantly transform objects. With these attractive views, the audience is invited to participate in the art object. It is presented to the audience, not in a passive manner such as making it valuable, making people believe, making them want to make them do it, having them look at it, as created by the advertising culture, but leading them an opinion. Because at this stage, there is also no difference between active-passive. As a result of the audience's participation in the work, the art object can be recreated and this causes transfuse in roles of art qualities. The artist's action, produced, controlled, encouraged, and mediated, makes their roles to transfuse between the audience and art object. For example, the artist can be a producer and a consumer at the same time, or the audience can create the art object on their own by being included in it.

It allows a visual programming to be done by questioning whether the object is there or not, by presenting various appearances despite the game between visible and invisible. Thus, the perception of uncertainty created in the art space and going from here to the beyond, coming here from the beyond. This uncertainty is due to the loss of far and near perception because the transferring of the opposition between near and far drags the space to disappear. Therefore, transition moves everything away towards an exemplary distance, which is neither near nor far (Han, 2017). Especially the feature of urban space to make everything ordinary, unlike museums, obscures the far-near border. In this case, the audience is in frequent contact with what is on display and the audience's gaze defines a non-physical contact between art objects. This constant contact builds a sense of lack of distance. The lack of distance in question here drags the space to disappear and at the same time the displacement of the opposition between near and far. Transition can drag the art object exhibited in the urban space from its context to an unknown space. The last thing here is transitoriness. All vitality/mobility views on art object render time undetectable. In this situation where there is a constant change, the boundaries of both space and time are uncertain, so it can be mentioned that there is an interruption in the dialogue of time and space. In short, when we look at all these "trans-" concepts, the traces of the movement are basically seen. The transparency in the art object produces continuous appearances, the transfusion between the roles of the artist-audience-art object thanks to these appearances, the transition in the art space, and the transitoriness in time, directly relate to the movement.

Considering all these effects on art, art object, artist, audience, art space, time and movement, the important role of "trans-" in the aesthetics of disappearances is seen. The compromise combinations seen among all these elements are revealed together with Baudrillard's concepts evaluated in the fractal phase, such as the artist being an art object or a spectator, the art object being an art space, the infiltration of movement into these elements. In such an environment, when looking at how art resonates, the concepts of visibility, relationality, pluralism, comprise, vitality/mobility, and illusion are utilized. These concepts continue to exist in urban spaces where they are articulated. From this point of view, it should not be overlooked that this whole network of relations exists within urban spaces.

4. URBAN SPACES AND ART OF DISAPPEARANCE

Art in the 20th century; moving away from the pressure and power of art centers such as museums and galleries, it developed different approaches with the development of technology, such as installation and performance in urban spaces and experienced a process in which disappearances were revealed. In this process, the inability to restore the illusion and the production of too many images caused the urban spaces to be filled with screens and images (Baudrillard, 2010). Within the scope of art, these screens appear as the surface of an architecture, a sculpture, a wall, a body. The surfaces in question, find expression as a transition area between the real and the virtual, beyond being a border. Urban spaces, which can be described as the center of the actions and activities of daily life, in a way contain ordinariness and reality, on the other hand, speed and beyond. This situation causes it to play a mediating role between the real and the virtual. Thus, it can be said that the art of getting lost is an understanding put forward in urban spaces.

Being able to read the disappearance in the urban space can be achieved with the elements of artist, art object, audience, art space, time, and movement, which are undoubtedly the qualities of art. The combination of these elements of art turns into an experiential phenomenon between the physical and the virtual, while presenting the unlimited view of a common world established between the real and the artificial world. However, an important point here is that these views in urban space are produced as synthetic views without a computer. These appearances result from the compromise between the art object, the artist, the audience, the art space, time, and movement through trans-, that is, they all come together at the same time or in different combinations on a plane. This situation emerges together with the ideologies of visibility, relationality, pluralism, comprise, vitality/mobility, and illusion obtained by superimposing physical reality with synthetic appearance.

Urban spaces integrated with trans- create the aesthetics of disappearances with artistic appearances that are in constant motion. In this context, Jean Nouvel's Foundation Cartier structure, Anish Kapoor's Cloud Gate sculpture, Daniel Buren's striped installations, Xavier Le Roy and Scarlet Yu's Still Untitled performance art, which can establish a relationship between the real and the virtual, are approached as an art object and the subject is evaluated. In the study, disappearances were tried to be revealed together with the ideologies of visibility, relationality, pluralism, comprise, vitality/mobility, and illusion.




Figures 3 and 4. Jean Nouvel, Fondation Cartier, 1993, France; An exterior view

In the Fondation Cartier structure, which is considered as an art object within the scope of the study, are seen the effects of apoptosis and fractal phrases (Figure 3). When evaluated in terms of its relationship with trans-, first the transparency of the art object comes to the fore. Jean Nouvel allows to program the art object visually. Creating various appearances with surfaces and finding its architectural identity in a surface logic, Nouvel is the representative of a perception logic that shows us that consumption-communication culture is presented to us by the two-dimensional interface (Baudrillard et al., 2011). From this point of view, it can be seen that the artist uses transparency and therefore reflection in creating a virtual or mental art object. Thus, the art object gains the impression of vitality/mobility by producing many appearances. Although the artist creates the work in a planned way, he does not dominate all these appearances. Therefore, the artist also become an audience and roles tranfuse. This compromise on the Fondation Cartier that can be accessed with Nouvel's says,

> "...when I look at the facade, I do not know whether I see the reflection of the sky or the sky in transparency... Then when I look at the tree through the three glass panels, I see whether I see the tree from the front, from the back, in transparency, or whether I see the reflection of the tree. I never know. When I plant two trees parallel to the glass panel, I don't know if the second tree really exists or if it's a real tree." (Baudrillard et al., 2011: 15).

These words also give information about the art space. Nouvel's making the art object invisible by playing with transparency destroys the perception of space. When approaching the facade bordering the road, the user is questioned whether the building is there or not (Figure 4). The audience is in doubt as to where it is. In addition, transition has caused the creation of non-distance in the art object. In this art object, which tries to give the impression of vitality/mobility, and the audience is in contact with all the appearances produced by the art object. Thus, they have lost the relation between near and far. Also, these vitality/mobility views trap time in a temporary moment, that is, transitoriness. The space and time are interrupted.





Figure 5 and 6. Daniel Buren, Striped posters with a bus bench, Los Angeles; Other one of them

The art object, 8.7 cm wide, made of vertically repeating white and colored stripes, is a disappearing object in which no image is used (Figure 5). These striped objects, Daniel Buren uses them constantly on surfaces, are like a signature. The art object, which can be considered as an example of the 'signature fetish' presented by the consumer society, in this respect, bears traces of ideology related in Duchamp's the urinal and Warhol's signature (Figure 6). Here, it can be mentioned that the art object replaces the artist, there is a role transfusing. Buren gave artistic value to ordinary objects of urban space. An ordinary bus, billboard or seating element in the urban space is selected and highlighted by marking these strips. This art object without image, which Buren planned and arranged, not only serve to emphasize, and reveal the parts of the city, but also to remove the object that forms its outer structure, that is, its frame (Apa, 2007). Basically, the art object, which finds a frame for display in the urban space with its inner striped structure, becomes a part of what it transforms its borders. Here, the artist plays with reality and ordinariness in urban space, the resulting appearance is questioned whether it belongs to this world. However, it should be noted that in this example, audience participation did not create much compromise compared to other examples.

The art object presents its various appearances through the contact formed as a result of the widening of the gaze. In this installation, the gaze is transferred beyond the frame. The audience, who constantly enlarges and shrinks his point of view, is in transfer between these vitality/mobility views. According to Buren, when the audience looks, he first notices the space occupied by the art object, his gaze gradually shifts to its surroundings, namely to the architecture, the society, the people around (URL-12, 2022). Therefore, the audience touches hundreds of things with a simple glance and gradually access to all the limits. When approached from this point of view, The art object makes the urban space a part of itself, as well as the fact that the urban space creates vitality/mobility views, which also affected the perception of time. The layered expansion of the focus in the perspective and the contact of the art object with its environment bring that transitoriness.



Figure 7 and 8. Anish Kapoor, Cloud Gate, 2004, Millennium Park, Chicago; A detail from the Cloud Gate interior

Cloud Gate, in which concave and convex mirrors are attached together, is like a small simulation model that has taken the place of the world in urban space (Figure 7). By using reflective surfaces together, all the reality

going on in the environment is tried to be reflected, it is almost an animation of existence. Here, the sky, cloud and sun present a copy of the moving world, and the audience is included in the reflections that occur as a part of the whole. At the same time, the fact that the form and surface point to more than one image arising from these reflections starts to disappear by creating a pluralism in meaning, such as the bean, the gateway, the world simulation, the Yoni and Lingam symbol. What this pluralism brings to the object is only the impression of vitality/mobility. The views, which are constantly changing and where various reflections occur, play perception games on the audience rather than representing something. However, it is also the viewer who creates these images. Considering that the constantly changing and various reflections are created by the audience, it can be said that the art roles transfused. With his work, which gives the impression of vitality and movement, the artist transfusion his role to roles of the audience and art object.

Anish Kapoor, famous for his reflective surfaces, plays with the reflections on the surface about the concepts of far and near that he bends, twists, enlarges, and shrinks, thus the changing perception of distance challenges the space. As Kapoor stated, the interestingness of a mirrored object is related to what it can do to the space, it turns the world upside down, creates confusion about the space, and makes the objects unreadable (Kilimci, 2012: 163). In particular, the curved form in the interior transfers people to another place (Figure 8). This transition makes much more intensifies the disappearance by dragging reality. When all these effects are evaluated, it can be mentioned that space and art object are in transition. Also, a temporary perception of time in the various views created intervenes in the space. transitoriness makes a collapse between space-time.





Figure 9 and 10. Xavier Le Roy & Scarlet Yu, Still Untitled, 2017, Münster; other view of the performance.

Baudrillard's concepts and disappearance can also be seen in this performance titled Still Untitled on the concept of sculpture (Figure 9). Xavier Le Roy and Scarlet Yu, produced together with a team of artists, performed this art object by appearing in the urban space at any time and place without any prior announcement. In this performance, artists arranged their sculptural forms with various body movements

and dialogues (Figure 10). First of all, when the structure of performance art is examined, it is seen that the artist is already an art object and there is a compromise in the beginning. These embodied sculptures, acting like a simulacrum, interrupt the routines of the audience by interfering with the daily time of the spectator in the urban space. Contrary to the usual attitudes and behaviors in daily life, the movements presented by the artists and after that the audience follows the performance process, his own body unwittingly leaves with a potential embodied statue (URL-14). Thus, it can be said that all the roles of this art object, artist and viewer are transfused and there is no difference between all these elements. The art object, the artist and the audience encounter each other in the urban space in transfusion.

The space where the art object is exhibited first starts with the embodied sculptures of the artists, from there it leaps to the audience, and as everyone turns into an embodied sculpture, the urban space is created as an area where identical sculptures multiply. With the loss of the border between the artist and the audience in this pluralism, it is not possible to evaluate things close or far from each other. Urban space causes the space to disappear with lack of distance. All of them transfer to beyond but only movement remains. Another issue that Xavier Le Roy and Scarlet Yu think about in this work is time. Here, they construct another reality independent of the real-time; real and synthetic overlap each other. Xavier Le Roy mentions that he is more interested in this moment when he feels that it saves time rather than wasting it or making it productive (URL-14). Although this performance is thought to take place over a certain period of time, the fact that everyone is included in this performance, and it does not last for a long time does not make it possible to determine the time. In this work, which meets the audience in the urban space, time is interrupted, fragmented, and reconstructed in transitoriness. Thus, work acquires the quality of being indefinite and placeless.

All these art objects are read as a part of the art of disappearance in the urban space where they are placed. These works, which are considered as a singular art object, were included in this disappearance process with the appearances they produced. The reconciliation between the artist, the art object, and the audience, the art space, time, and movement the fact that the whole process affects each other and leaves the impression of vitality/mobility cause the disappearance of art in the urban space. This network of relations has been tried to be revealed by using Jean Baudrillard's concepts of trans-, apoptosis, simulacrum and simulation, hyper-reality.

5. Conclusion and Suggestions

At the end of the 20th century, the debates focused on the concepts of ephemerality, evaporation, death, and the end, while bringing up the question of why things still do not disappear, attention was drawn to getting lost. Although the reflections of these concepts on the space were not emphasized before, it is seen that today's developing technology and its creations on reality try to make its existence visible especially in urban spaces. The concept of apoptosis, which is used to explain the fractal phrase, reveals the temporary and disappearing face of urban spaces, while facilitating the understanding of trans-. Considering that art in urban space, which is considered in the context of the aesthetics of disappearance, can take on new identities and create trans-, exhibits an approach that questions the boundaries and relationships between the art

object, the artist, the audience, the art space, time and movement. In the urban spaces where the disappearance takes place, these art qualities' boundaries are blurred with the trans- creations of art, for instance, roles of the artist-art object-audience transfuse, and the space can replace the art object, and time is disconnected from the context, and the movement gives the art object the appearance of vitality/mobility. The combination of art object-artist-audience-art space-time-movement qualities among themselves reveals the existence of disappearances.

Problematizing the disappearances in this context, the study proposes to use these concepts, especially trans-, apoptosis, simulation, simulacra, and hyperreality, to analyze and explore the network of relations between the artist, the audience, the art space, time, and movement. With these concepts of Jean Baudrillard, it is thought that dealing with art and disappearance in urban space can reveal the creative potential provided by trans-things. When this potential is approached from the framework of art, it can be further expanded with physical experiences, perceptions between reality and beyond, neurological approaches, created virtual identity, and pataphysical meanings can be significantly effective in diversification of discourses. In addition, all these effects and actions that emphasizes the role of urban space. The fact that the reality of the world surrounded by screens from all sides is becoming more and more realistic with technology today, causes new worlds to exist and to question what is real. People can exist in these new worlds with their new identities and avatars, but they will not be able to break away from their physical reality and will need some transitional zones. In this respect, considering the real world and the hyper-realities that are attached to this world, there is the creation of a trans-, permeable space between the two areas. Urban spaces, with social aspects, can play a mediating role here. In other words, with the effect of trans-things, a portal is created between the real and the virtual in the urban space, and disappearance is aroused. The integration of trans-zone with urban spaces and the use of art as a tool at the same time provide an opportunity to experience the real and the beyond. In this direction, the study presents a pioneering view of today's current situation and needs by explaining the disappearance aesthetic in this cross-section.

Disappearances, which are considered as a concept that can characterize the current situation and needs, have become a part of aesthetics in urban space with the role it has assumed in art. This aesthetic approach is examined in the context of the examples discussed, and an understanding is focused on apoptosis and trans-things. It is thought that this study, which is handled on urban spaces, can contribute to other theories and approaches. In addition, this study can also be examined with different types of art and art products that use technology as a tool.

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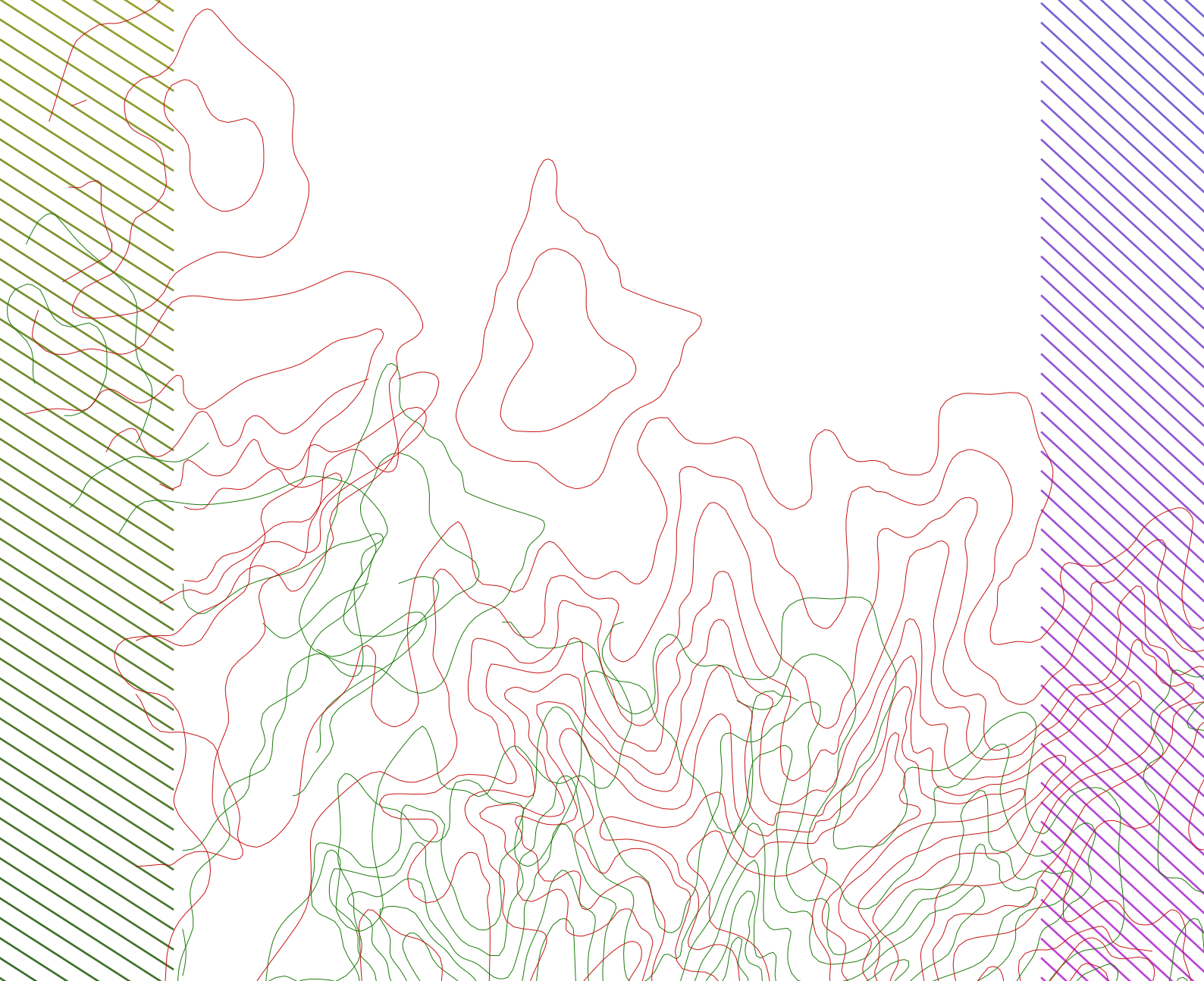
Session VIII

New Tools, New Approaches and New Understandings



GEODESIGN AS A NEW APPROACH FOR FUTURE OF URBAN DESIGN

Pınar Ergül Taşkıran

Architect (MSc), PhD student, Izmir Institute of Technology
pinarergul@iyte.edu.tr

Koray Velibeyoğlu

Prof. Dr., Izmir Institute of Technology
korayvelibeyoglu@iyte.edu.tr

İpek Akpınar

Prof. Dr., Izmir Institute of Technology
ipekakpinar@iyte.edu.tr

ABSTRACT

Being adapted to live with nature is the longterm issue for the sustainable urban development. By thinkig that origin of sustainability on ecological issues, it is evolved and enlarged also in social and economic issues. However, unsuitable developments on ecological quality and human well-being have brought complex economic, social, ecological and spatial problems. On the other hand, urban design directs the people to understand the dialogue of urbanity and making place together (Wiryomartono, 2020, 102). In this sense, urban design is cognizant of these major transformation (Madanipour, 2006) and takes a crucial role in a global word. The problems and major changes in the urban environment relatively lead to emerging several approaches in urban design. As a new approach, geodesign is an 'integrative theory approach to sustainable urban design' (Aina et. al., 2013; Bianco, 2017, 17), and adaptable as multidisciplinary approach (Bianco, 2017, 17). By taking consideration of the first way of environmental movement by Ian McHarg's (1969) ecological approach under the light of 'design with nature' which includes 'ecological balance, integrating landscape planning with environmental science', then it is followed by the second wave of environmental movement with the idea of 'synthsezing the concerns ecological balance, cultural values and human needs' by Steinitz (Ping, 2015, 196). Steinitz prepares the geodesign approach which includes basis of ecological dimension of McHarg and improves McHarg's ecological approach with the social dimension, and also integrates it with technological dimension through Geographic Information System (GIS) into landscape architecture. In this way, geodesign approach prepares the visual and social values in addition to ecological issues into design (Ping, 2015, 196). Even geodesign framework is established for landscape architecture (Hollstein, 2019, 65), it is also applicable for other disciplines and professions. In this way, geodesign approach is multi-scale which can be adapted from regional to local scale. Geodesign approach is 'an evaluation of general design or plannning process' and 'geovisualization and integration of multiple information types coupled with rapid and iterative quantitative modelling' with 'public engagement' which also differs from linear traditional way of designing and planning (Slotterback et al., 2016, 71-72). Steinitz (2014) also states that "Geodesign applies systems thinking to the creation of proposals for change and impact

simulations in their geographic contexts, usually supported by digital technology.". Moreover, geodesign approach is an innovative and comprehesive approach, and produces impact simulations with real-time feedback through democratised collaborative and decision-making process inbetween designer, planner and stakeholder consensus for design and planning studies from different disciplines and practices.

In the alteration of the approaches through the time, dynamics of urban design will continue to change and elvolve. Recently, the combination of the impact of technology, and social and ecological based of design is emphasized. Given these circumstances, geodesign approach gives comprehensive framework to better understand the context of city and to design the city in analytical way by its tool and its way of system thinking. On the other hand, while there are variety of examples which are adapted with respect to the geodesign approach in urban planning and landscape architecture in recent developments, there are limited implementations in urban design. In this study, it is aimed to ask the question of where geodesign stands into urban design by unveiling positive aspects of geodesign approach by its new strong methodology – such as democratisation, collective thinking, participatory design, etc. and negative aspects of geodesign approach by its challenge for adapting urban design – such as limiting the creativity, difficulty for integrating human creativity into the digital interface, etc. In this study, the opted methodology takes the form of case studies, and also the study provides an overview for executing the geodesign approach as a new approach in urban design from the literature review. The study, first of all, establishes the theoretical insights into the definition and evaluation of urban design, and then, defines the emerging approach of geodesign as a new approach for future of urban design and explores the geodesign case studies. Finally, the study gives a critical evaluation about geodesign approach in urban design. According to the limitation of study, there are few examples of geodesign approach in the urban design practice. Even though there are constraints of geodesign approach in its applicability to urban design, it is deciphered that geodesign approach has a potential for future sustainable way of living with the future imprrovements in the approach. This study may contribute to the research on the links between geodesign approach and urban design for future of urban design by its presenting future possible urban scenarios.

Keywords: urban design, future of urban design, new approach, geodesign

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1. INTRODUCTION

From ancient times, mankind gives attention to the nature and adapts itself to the natural condition. However, after industrial revolution with increased ability through technological improvements, and there has become a drastic shift into the approach of urban environment. Rather than adaptive design to nature, it turns into opposite as human dominated urban environment. This progress has been started to critize for sustainable way of living. The importance of the ecological dimension on the urban environment has also been emphasized, and then, social and ecological dimension with spatial dimension were integrated. It also continues to be evolved by tehnological dimension as new approaches. To encounter with complex social, ecological and spatial problems, alternative solutions were created like geodesign approach which has rised with parallel to technological innovations in planning and design tools.

By thinking 'sets of global trends' which are 'increased environmental and social risk, ubiquitous information technology, and growing demands for and growing threats to democracy and public participation' (Steinitz, 2013; Steinitz, 2020, 1), geodesign approach gives comprehensive framework to better understand the context of city and to design the city in holistic way by its strong methodology. Geodesign approach is a new way of thinking for planning and design. Besides, it is believed by Muller and Flohr (2016, 102) that ' 'designing

with nature,' or Geodesign, is our next evolutionary step.' To look further the boundaries of projects, it encourages the designers and planner in the process of their project. It provides a sustainable approach by 'using geography as its source of guidance' (Amoroso et. al., 2019, 13). On the other hand, in recent developments, while there are examples which are adapted with respect to the geodesign approach in urban planning and landscape design, there is limited example in urban design. The study analysis the gap between geodesign approach and urban design. In this study **(Figure 1)**, firstly, it establishes a brief theoretical interpretations of the definition and evaluation of urban design, and then, geodesign approach for future of urban design. Thirdly, it unveils by examining the case studies which are used geodesign approach in urban design, and lastly, it is given a critical evaluation of geodesign for future of urban design.

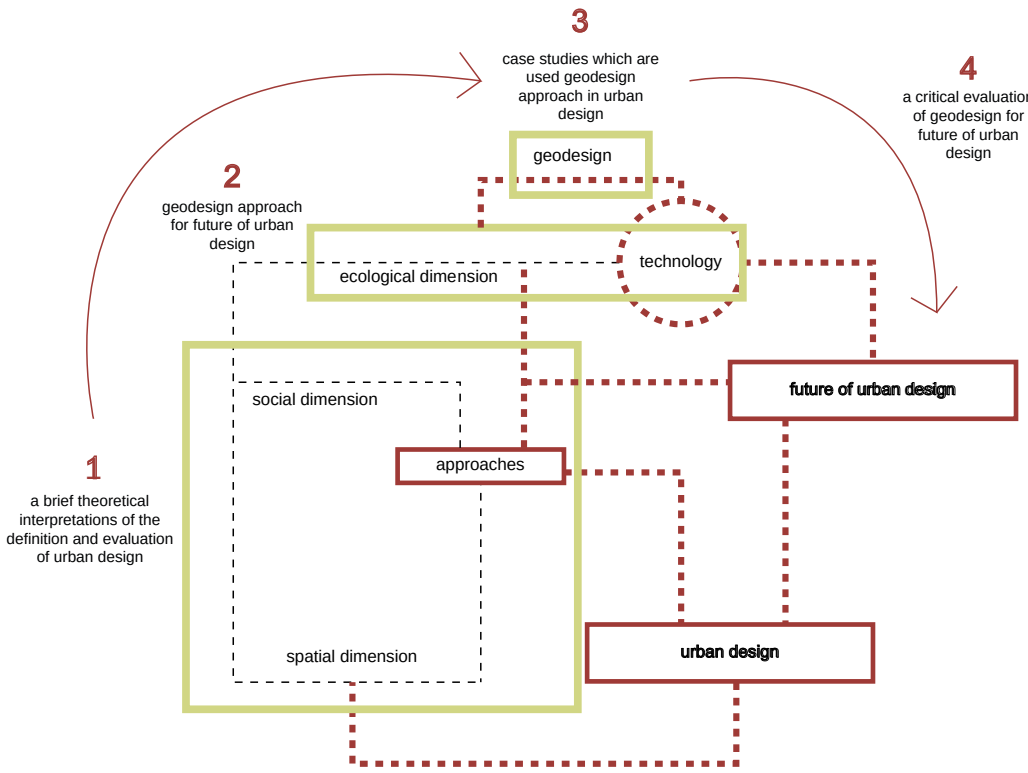

Figure 1. Flow of The Study

2. DEFINITION AND EVALUATION OF URBAN DESIGN

Urban design is originated by the replacement of civic design (Parfect and Power, 1997, 204, Hall, 2001/2007; Wiryomartono, 2020, 103) and the aim is 'to create, establish, and sustain the liveable urbanity based on most of the local characters and resources' (Wiryomartono, 2020, 106). According to urban design as a second-order design, it suggests that urban design is a bridge between urban planning and architecture without

intersecting into two fields and these two fields don't cross to each other **(Figure 2)** (George, 1997, 155). Moreover, Lang (2006, 420) conveys the various observers' approaches about urban design which lies at the intersection of three professions of architecture, landscape architecture and city planning. Howewer, Lang (2006, 420) adds civil engineering as a forth field **(Figure 3)**. It is the fact that there has been doubt on the definition and nature of urban design within the academia. While it is tried to define the meaning of urban design, it also makes a confusion. Like Kreditor (1990, 157) states that 'Attempts to erase confusion by offering a definition, no matter how well-meaning or profound, nearly always make matters worse.' Besides, Appleyard (1982, 122) claims that there 'never will and never should be a single view of urban design'. Rather than having one definition, it can be multiplied to understand. Furthermore, urban design is discussed by Madanipour (2007, 13) as ambiguity of urban design through seven parameters of confusion which are 'the scale of urban fabric', 'visiual or spatial emphases', 'spatial or social emphases', 'relationship between process and product', 'relationship between different professionals', 'public or private sector', and 'objective-rational or expressive-subjective'. Madanipour (2007, 22) also argues that urban design needs broad definition to solve these ambiguities and states that 'Urban design can be defined as multidisciplinary activity of shaping and managing urban environments, interested in both the process of this shaping and spaces it helps. Combining technical, social, and expressive concerns, urban designers use both visual and verbal means of communication, and engage in all scales of urban socio-spatial continuum.'.

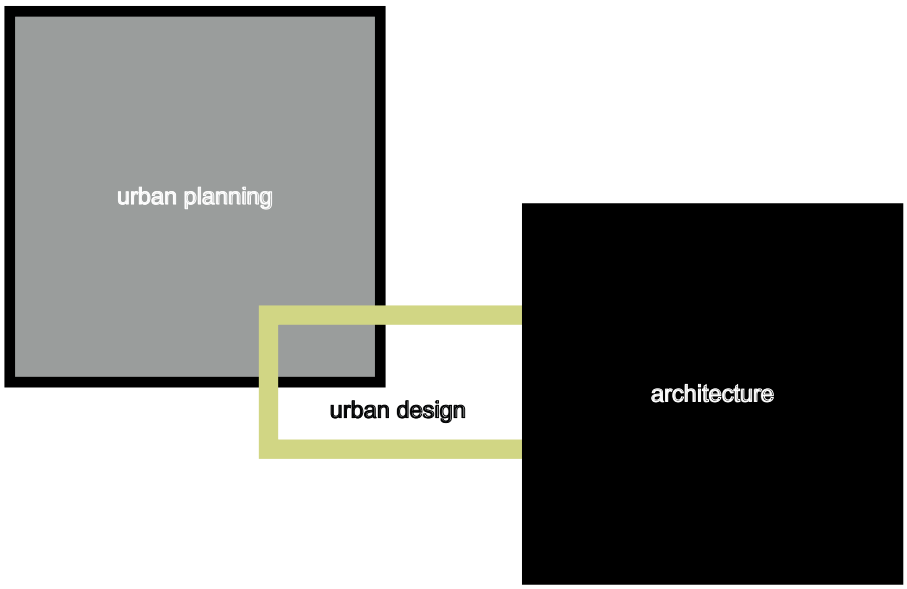

Figure 2. Urban Design between Architecture and Urban Planning
(Adapted from, George, 1997, 155).

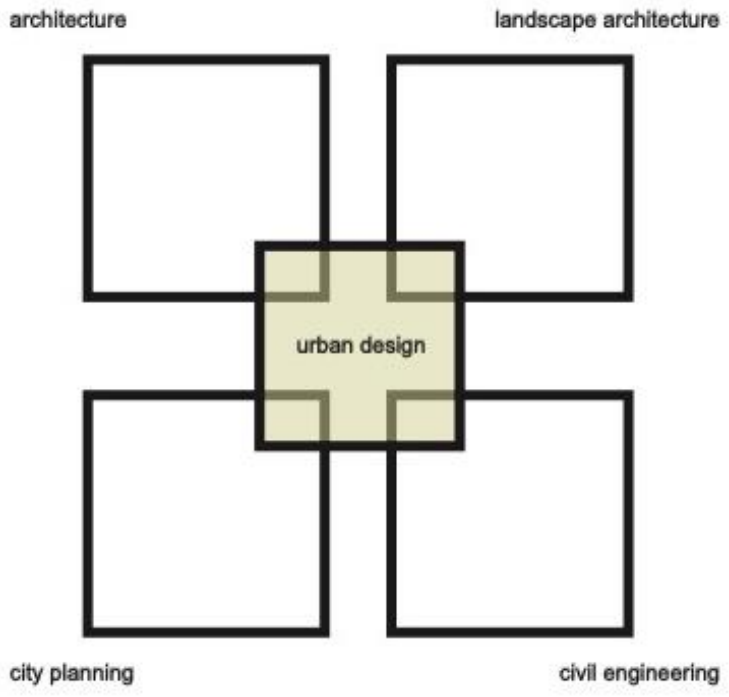

Figure 3. Relations of Urban Design with Other Fields (adapted from, Lang, 2006, 420).

Over time, the scope and objectives of the urban design have changed. (Dias et. al., 2014, 497). By thinking the cities and settlements from past to present, they have also been evolved their meaning and ways of designing. From 'primarily market places' to 'primarily centers of industrial production' and then 'primarily center of service provision and consumption', urban form has been altered in historical eras (Carmona et al., 2003, 24). Basis of 'market place' has aimed to 'security and defense' and to come together for people's needs which clearly shows that social aspect of 'essence of the urban' in cultural sense and after having technology, all of the settlements and spatial form of cities has been shaped by increased mobility and communication technologies (Carmona et al., 2003, 24). The Industrial Revolution in the eighteenth and nineteenth century, urban form was composed by small settlements and after Industrial Revolution, social and economic problems are occurred because of rapid population increase. Furthermore, nineteenth century cities design and planning was opposed by reactions. Taking consideration of Camilo Sitte (1889) who is against to 19th century 'rigid set of street systems' in planning with emphasizing needs of visual experience, there has been raised into thinking of cities with its artistic tradition in urban design, and all of contributions until this period did not have social dimension of life (Jarvis, 1980). Since 1960 in post-industrial urban form, different from modern industrial cities was engendered with their new forms and mainly the social impact on urban land. As Kevin Lynch (1960) with 'The Image of City' and Jane Jacobs (1961) with 'The Death of Life of Great American Cities' were highlighted social usage approach to urban design (Jarvis, 1980). Moreover, by the end of 1960s, social and environmental criteria are merged with their critical impacts on design process (Alexander & Poyner, 1967; Jarvis, 1980). Jarvis (1980) indicates that physical, environmental, and social parameter with

people's behavior, while using urban environment in everyday life, were noted and shape urban life. During the period of 1960s and 1970s with its increased attention on the environmental issues, scholars and practitioners start to emphasize an ecological approach to urban planning and design (Wu, 2008, Wang et. al., 2016; Heymans, 2019, 2). By beginning of 1970s and 1980s, alternative approaches have revived with 'user experience and user involvement in design' having 'social situations' and combined 'user's and designer's experience' together as participatory urban design (Jarvis, 1980, 31) **(Figure 4).** Jacobs and Appleyard (1987, 120) claim that 'process' of creating 'good city fabric' is essential. 'It is through this involvement in the creation and management of their city that citizens are most likely to identify with it and, conversely, to enhance their own sense of identity and control.' (Jacobs and Appleyard 1987, 120).

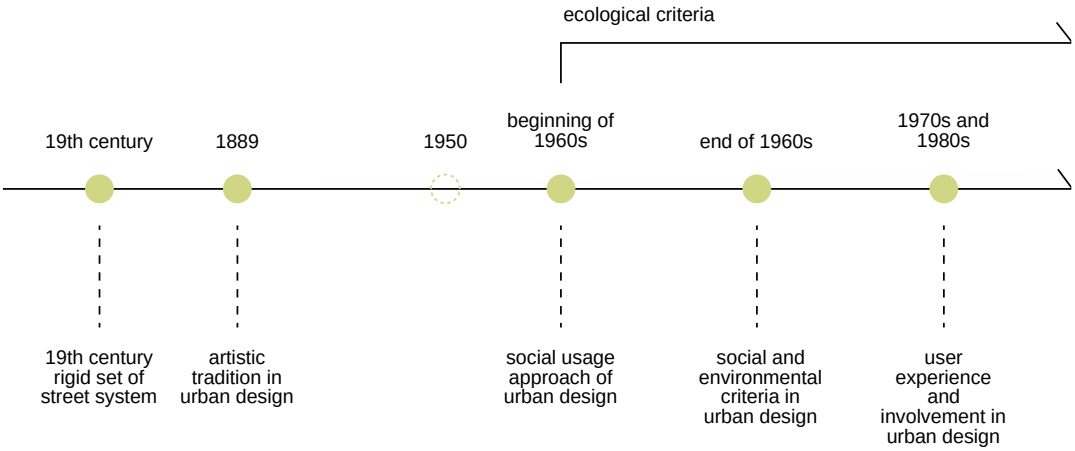

Figure 4. Evaluation of Approaches in Urban Design (Jarvis, 1980).

Today, as urban design stands with its primary role for sustainable way of life in terms of the "triple bottom line" that underlines the three parameters of life – economic, social and environmental (Dias et. al., 2014, 497), it is emerged that there is a 'need to change the design attitude, envisioning scenarios with a new different point of view on future transformations, which does not immediately advance solutions but reflects on the formulation of the right questions', and this also brings to develop 'a collaborative approach in which the different individuals involved, starting from the professionals, share their knowledge and influence each other.' (Orsenigo, 2018, 170). Moreover, over 50 years **(Figure 5)**, increased interest to combine ecology and urban planning and design is reshaped 'more holistic socio-ecological systems approach to urban planning and design from the 2000s onward.' (Heymans, 2019, 14). Likely, under the light of McHarg who is known from his 'essential information for integrating natural process into city design' (Moudon, 1992, 344), McHarcg's (1969) book of 'Design with Nature' underlines social, psychological, environmental and biological dimensions. Theoretical framework of McHarg (1969) **(Figure 5)** inspires the ecological design with socio-ecological use. The problems and major changes in the urban environment relatively comprise new approaches. It it improved by Steinitz (1995) **(Figure 5)** with his preliminary work of 'A Framework for Landscape Planning' and Steinitz (2012) **(Figure 5)** develops a model for geodesign approach in 'The Steinitz Framework for GeoDesign'. This process can be summarized by two environmental movement. After the first

way of environmental movement **(Figure 6)** that is Ian McHarg's ecological approach which includes 'ecological balance, integrating landscape planning with environmental science', it is followed by the second wave of environmental movement with the idea of 'synthesizing the concerns ecological balance, cultural values and human needs' by Steinitz (Ping, 2015, 196). According to Steinitz geodesign approach, it is included the basis of ecological dimension of McHarg and improved the social dimension of McHarg's approach, and also integrated it with technological dimension with Geographic Information System (GIS) into landscape architecture. In this sense, geodesign approach prepares the visual and social values into design and planning in addition to ecological issues (Ping, 2015, 196). Geodesign approach is a new model in urban design for future transformation.

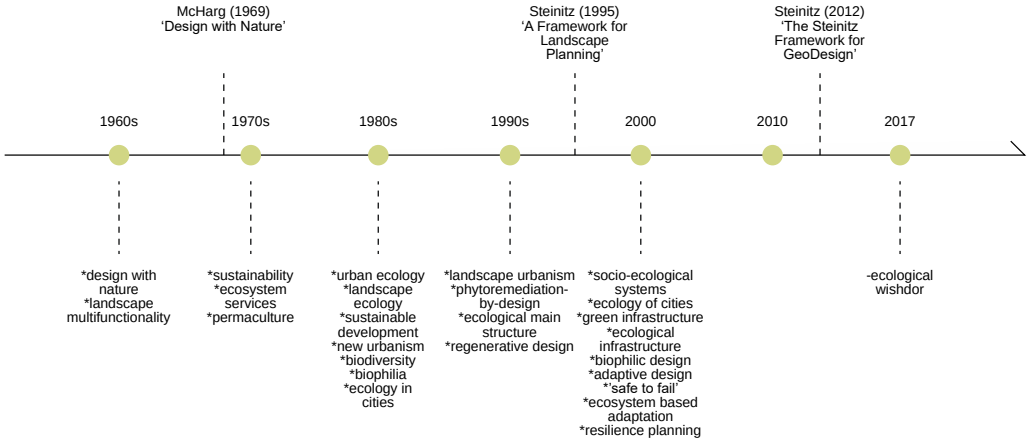

Figure 5: Chronological Order of Development of Ecological Urban Planning and Design Concepts (adapted from, Heymans, 2019, 14).

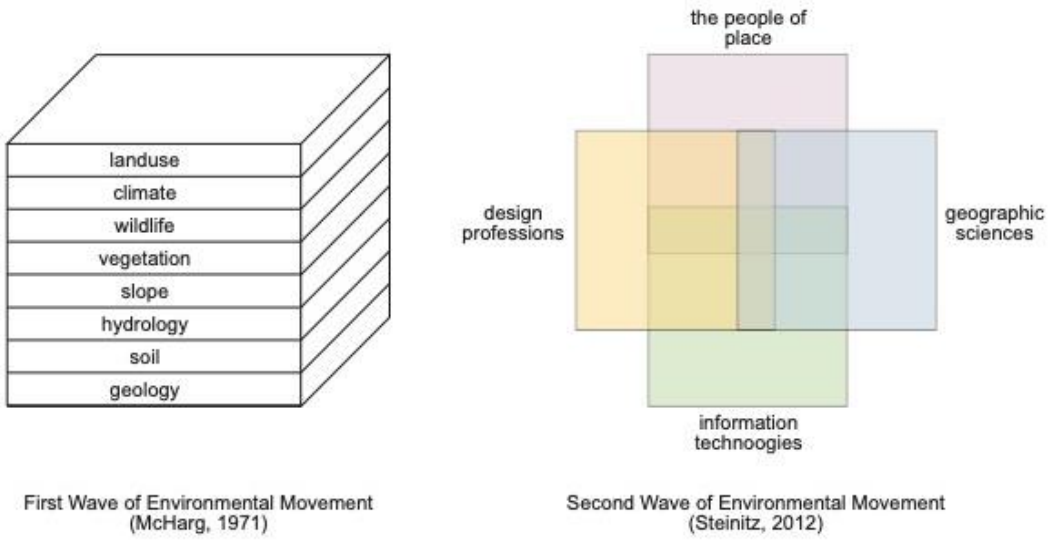

Figure 6. Ecological Movements (adapted from, Ping, 2015, 197).

3. GEODESIGN APPROACH FOR FUTURE OF URBAN DESIGN

Today, by the rapid increased new data and multidimensional way of analysis of the built environment, 'new analysis techniques are emerging, and the gradual application of GIS technology and Geodesign concepts in the field of urban design provides quantitative analysis tools' (Feng et. al., 2022, 2), and it enables the 'new opportunities for the measurement of traditional unmeasurable data' (Knecht et. al, 2019; Feng et. al., 2022, 2) Geodesign approach as an 'integrative theory approach to sustainable urban design' (Aina et. al., 2013; Bianco, 2017, 17), 'combines environment-oriented planning principles, geospatial technologies and stakeholder inputs to address the planning problem from an interdisciplinary point of view in order to make informed and evidence-based design choices.' (Lee et. al., 2014, Van Der Hoeven, 2016; Cocco, & Campagna, 2018, 2). McElvaney and Walker (2013) claim that "Geodesign is an iterative design method that uses stakeholder input, geospatial modeling, impact simulations, and real-time feedback to facilitate holistic designs and smart decisions." According to Wissen Hayek et. al. (2016), they concludes that '… geodesign, looking at new models of design practice required to solve pressing social and environmental problems. 'Geodesign is neither theory nor discipline, it is a methodological process (Lanfranchi and Fonzino, 2018). Moreover, to achieve sustainable solutions and portray of geodesign approach, Steinitz's (2012) geodesign components are described as an involvement of several 'design professions', 'information technologies' for quick feedback and dialogue between people from different positions, people who are affected by changes as 'the people of the place' and 'geographic science' together in his book of 'A Framework for Geodesign: Changing Geography by Design'. All components should act equally and aim to change the environmental and socal issues better. In Steinitz (2012) geodesign framework, it reflects collaborative and multidisciplinary design process to face with complex challenges which deals with a broad range of sizes, scales, cultures, contents and time by aiming to create efficient solutions. Geodesign approah is a systematic approach and even geodesign approach is originated for landscape architecture. However, geodesign approach can be also adapted in various scales **(Figure 7)** from regional to local scales (Abukhater & Walker, 2010, 29). Geodesign approach is also collaborative community thinking through different scales and deals with spatial, ecological, social and technological dimensions togehter. Geodesign approach aims to understand the context, simulate the future alternatives and reduce the risk before it is designed or planned.

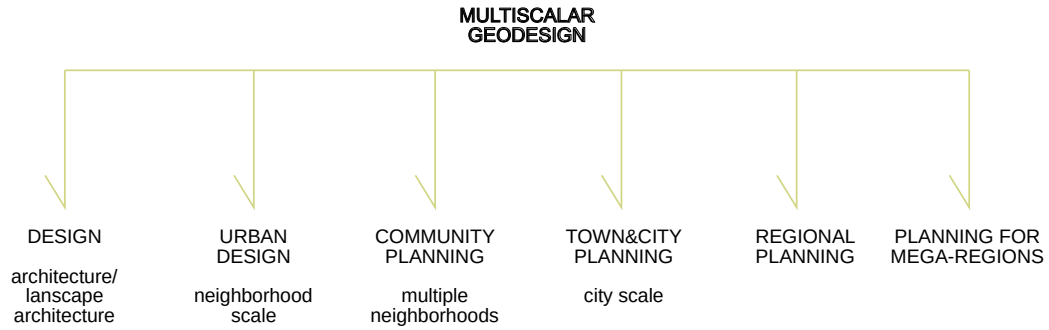

Figure 7. Multiscalar Geodesign Approach (Abukhater & Walker, 2010, 29).

Framework of geodesign **(Figure 8)** includes the several questions to guide participant during the collaborative process of geodesign which is related to landscape change for future alternative designs according to spatial, environmental and social processes to reach an optimal option (Steinitz, 2012). In the group of six questions **(see Appendix)**, the first three ones is connected by the past and present conditions of study to answer working well or not in the 'assessment process', and the last three responds to the future condition of study to evaluate proposed design alternatives and their impacts in the 'intervention process' (Steinitz, 2012). In addition to these conditions, the model is composed by three iterations which is linked to six questions in sequence should be answered. The first iteration includes from first question to sixth question intents to answer 'why' geodesign study has to occur, and then the second iteration is reverse of first iteration which follows from sixth question to first question to answer to 'how' to apply the study (Lanfranchi and Fonzino, 2018). Lastly, thirth iteration is originally pursue the questions from first to sixth to answer 'what, where and when' (Lanfranchi and Fonzino, 2018). After completing three iterations, results can be divided in two way which are answering 'yes' or 'no'. If result is yes, decision ends positive, or if result is no, decision is not satisfactory and it should be turn and start from second iteration or begin from the first iteration until it successfully ends (Lanfranchi and Fonzino, 2018).

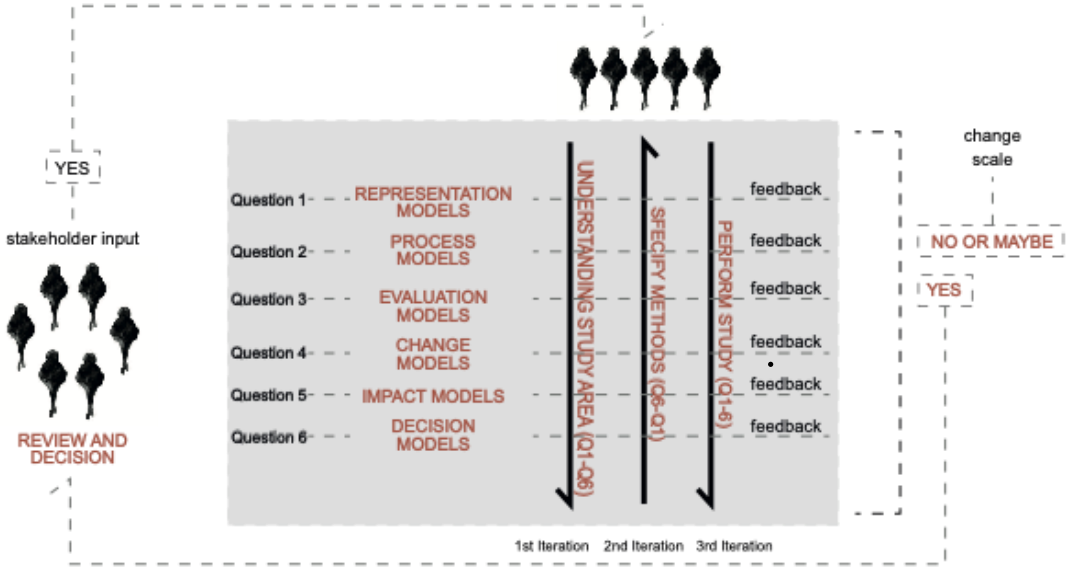

Figure 8: Geodesign Framework (Steinitz, 2012).

The study summarizes the key dimensions of geodesign approach (Table 1): (1) data-driven urban design, (2) system thinking, (3) participatory and collaborative appraches, (4) multifunctionality, (5) geography-centered multidisciplinary science (6) iterative modelling, (7) use of high resolution data and (8) mixed spatial methods. In the table 1, it is used these concepts to explore the systemic dialogue to geodesign approach.

Table 1: Key Dimensions of Geodesign Approach

Key Dimensions of Geodesign Approach	**Highlights from Key Dimensions of Geodesign Approach**	**Author**
(1) data-driven urban design	For urban designers, designing cities as complex systems cannot solely rely on designers' anticipation, concepts or creative thinking. New technologies have also changed the way we understand cities. Technologies enable researchers to digitally think of the non-digital aspects of cities by using computer simulation and modeling (Batty, 1997). Urban planners, architects and builders use Geographic Information System to visualize, design, monitor and manage the physical urban environment from large-scale urban to small-scale building systems. Empowered by these new tools and technologies, cities are now far more designable than ever before. Urban design is becoming data-driven.	(Yang & Yamagata, 2019, 1383-1384)
(2) system thinking	A systems perspective sees the world in a holistic way, looking at the relationships and interactions between parts, predicting their behaviours and seeking to devise integrative solutions that produce desired outcomes' (Arnorld & Wade, 2015, Jennings et. al., 2017) Systems thinking provides a platform for a more holistic approach in which urban areas, particularly cities, are considered as complex living systems. (Da Silva et. al., 2012).	(Heymans, 2019, 2).
(3) participatory and collaborative approaches	As planning and design move to more participatory and collaborative approaches that bring together diverse interests in working toward consensus (e.g. Bryson, Quick, Slotterback, & Crosby, 2013; Healey, 1996; Margerum, 2002a), Geodesign offers a critical support mechanism. Collaborative approaches are well-recognized for their ability to produce improved outcomes (e.g. changes in social and environmental conditions) and outputs (e.g. plans, models, data) (Koontz & Thomas, 2006; Mardarano, 2008). As summarized in Margerum (2002b), collaborative processes are intended to engage participants in a joint search for information.	(Slotterback et. al., 2016, 72)
(4) multifunctionality	Emerging trend in planning and design is a focus on multifunctionality, acknowledging that the best performing land- scapes, communities, and organizations are more resilient (Fisher, 2013; Walker & Salt, 2006), more competitive (Mettepenningen et al., 2011), and more equitable (Werrij, 2000). In order to consider the tradeoffs and synergies within multifunctionality, decision makers must have informed, inter- connected, and legitimate insights into the various ecological, social, and economic functions of landscapes. In short, multi-functionality requires a systemic understanding of the coupled human-environmental system in question (Jordan et al., 2011, 2013).	(Slotterback et. al., 2016, 72)
(5) geography-centred multidisciplinary science	In landscape architecture, McHarg was one of the first to encourage collaboration between different disciplines (McHarcg, 1969). To that point the field had been "dominated by narrow views and singular values" (Miller, 2012). McHarg assembled a group of scientists from various disciplines in geographical, biological, social and physical sciences to study landscapes, environment and human's role in natural processes (Miller, 2012, McHarg, 1969, McHarg, 1996). This expanded McHarg's focus on landscape to geography, human ecology, social ecology, urban design and urban planning. Geodesign borrows from a wide variety of domains: architecture, landscape architecture, urban planning, engineering and traditional sciences to form a comprehensive and complementary view of landscape design (Dangermond, 2010).	(Gu et. al., 2018, 3)

(6) iterative modelling	The iterative modeling or prototyping approach is associated with design theorists such as Schön (1983), the design thinking movement (Cross, 2011) and agile software strategies. Steinitz (2012) employed an iterative strategy built on interlocking models associated with six questions. How should the landscape be described? How does the landscape operate? Is the landscape working well? How might the landscape be altered? What differ- ences might the changes cause? Should the landscape be changed? This approach links models of representation, assessment, and intervention through progressive stages of inquiry.	(Muller & Flohr, 2016, 103)
(7) use of high resolution data	Geodesign also relies on use of high-resolution and collected data. High-resolution data sources include centimeter-scale topography generated by technologies such as LIDAR and detailed behavioural data describing patterns of use and preference. The increasing availability of high-resolution and spatially referenced topography and survey information permits site-level data to be integrated into a GIS. With this integration, sites can be analysed using quantitative tools, compared to other sites, and analysed (Muller & Flohr, 2016, 103). as part of broader systems.	(Muller & Flohr, 2016, 103-104)
(8) mixed spatial methods	A wide variety of methods are used in Geodesign applications: social surveys, ecological models, engineering models, policy analysis, and many others. These parallel the proliferation of spatial methods that have come into use over the past decade or so. Over time, these may lead to fundamentally new approaches to problems of supporting public decision-making. On the representation side, decisions about scale and generality are obviously important for presentation. On the project development side, an understanding of interactions, overlaps and hierarchies among systems – social, ecological, and built – is an underpinning of the interdisciplinary environmental design approach.	(Muller & Flohr, 2016, 104)

4. EXAMPLES OF URBAN DESIGN WITH GEODESIGN APPROACH

4.1. NORTH CAROLINA EXAMPLE

4.1.1. PROJECT INFORMATION

The workshop was conducted in the urban design studio in the term of spring, 2014 in School of Architecture at the University of North Carolina at Charlotte. In the article of Lee and Gamez (2017, 337), it is explored how the geodesign approach works in urban design studio for challenging climate change within concentrating 'on urban morphology, development patterns, and environmental characteristics of the city in order to identify new interventions that can support a new set of relationships between urbanity and nature' in North Carolina coastal cities. In the studio, study area is selected in Wilmington NC, USA. Taking into account of experiencing hurricane and flooding in North Carolina, the project concentrates on estimating the future settings and strategies for 2100 with analyzing the existing situation by the collaboration of City of Wilmingston's Department of Planning (Lee and Gamez, 2017).

4.1.1. POSITIVE AND NEGATIVE REFLECTIONS FROM THE PROJECT

In the workshop for North Carolina coastal cities, students have both give reflections for using geodesign approach in the project. According to interview with students, positive and negative reactions on geodesign approach are given in the table 2.

Table 2: Positive and Negative Reflections of Geodesign Approach from North Carolina Example (Lee & Gamez, 2017, 359-363).

Reflections from North Carolina Example	
Positive Reflections	valuable tool for designers (Lee & Gamez, 2017, 359) better analysis and visualisation of the site (Lee & Gamez, 2017, 359) advantage of using maps as a communication tool to interact with stakeholder (Lee & Gamez, 2017, 359) mapping exercises enabled the class to become more knowledgeable (Lee & Gamez, 2017, 359) alternative way of planning and designing resulting in a more informed design decision (Lee & Gamez, 2017, 360) scenario-based approach for solving problems that may be ideal to use different tools for different types of anaysis for each scenario (Lee & Gamez, 2017, 362) opportunity to develop greener and more resilient infrastructure and urban that can withstand future climate change (Lee & Gamez, 2017, 363)
Negative Reflections	some fundemental limitations embedded in geodesign concept due to its analytical and technical nature (Lee & Gamez, 2017, 360) not fully conclusive because there are other factors that were not considered in the GIS analysis (Lee & Gamez, 2017, 360) still need to work on other rendering software such as CAD and Adobe programs (Lee & Gamez, 2017, 361) not quite realized in the project due to lack of familiarity to subject matters that were supposed to support the class with engineering metrics and/or scientific measures to enable the process (Lee & Gamez, 2017, 361)

4.2. TAINAN AXIS EXAMPLE

4.2.1. PROJECT INFORMATION

By concerning the 'urban flood resilience under climate change', the study of Wu and Chiang (2018, 1) prepares the 'insights into the concept of urban lagoon transformation introduced by the International Landscape Design Competition for Tainan Axis Transformation hosted by the Tainan City Government in 2015'. Project examines the geodesign approach for 'advance urban planning and design towards flood resilient city in a changing climate'. The aim of the study is 'to narrow down resilience from an all-encompassing concept to applied ways in terms of disaster (flood) related resilience (Fekete & Fiedrich, 2018)' (Wu & Chiang, 2018, 1).

4.2.2. POSITIVE AND NEGATIVE PROJECT REFLECTIONS FROM THE PROJECT

According to the competition project which is called 'International Landscape Design Competition for Tainan Axis Transformation' for Tainan City, below **table 3**, there have been stated both the reflections for using geodesign approach in the project.

Table 3: Positive and Negative Reflections of Geodesign Approach from Tainan City Example (Wu & Chiang, 2018, 11).

Reflections from Tainan City Example	
Positive Reflections	enables people to understand and deal with the complex data analysis, design optimization, and decision support in adapting to climate impacts (Wu & Chiang, 2018, 11) incorporates flood risk factors to simulate the extent of flooding in the city (Wu & Chiang, 2018, 11) provides a platform for interdisciplinary collaboration on which solutions to key future design problems can be identified (Wu & Chiang, 2018, 11) devises more accurately to optimize related solutions (Wu & Chiang, 2018, 11)
Negative Reflections	still in its infancy stage, and the number of research and academic units that have explored it remains few (Wu & Chiang, 2018, 11) rarely used in practice by those in the urban design field (Wu & Chiang, 2018, 11)

4.3. DISNEYLAND EXAMPLE

4.3.1. PROJECT INFORMATION

Workshop is conducted by an urban design team from the Georgia Institute of Technology, Tongji University, and Disney Research China (DRC) 'on a near-zero-energy district for a 2.7 km2 site adjacent to Disneyland in Shanghai' in 2016. In the workshop, it is unveiled 'how to deliver an economically feasible, ecologically sensitive, and performance-driven design proposal that aims to create a sustainable, low-carbon, near-zero-energy district'. (Yang et. al., 2018, 184-185).

4.3.2. REFLECTIONS FROM THE PROJECT

According to the workshop for Disneyland in Shanghai, positive and negative reactions on geodesign approach are given in the table 4.

Table 4: Reflections to be Developed on Geodesign Approach from Disneyland in Shanghai Example (Yang et. al., 2018, 187-189).

Reflections from Disneyland in Shanghai Example
knowledge system in the field of urban design needs integration and need to systematically capture existing knowledge; variables, algorithms, and quantitative methods can then be developed based on this knowledge (Yang et. al., 2018, 187)
can also exploit and integrate advanced technologies in individual urban systems, but collective efforts are needed to extract and transform the rules, criteria, and technologies into databases and algorithms (Yang et. al., 2018, 187)
lacks systematic analysis and quantification and relies heavily on an anticipatory approach (Yang et. al., 2018, 187)
parametric modeling tools and performance-simulation tools data that are available for validating these modules and simulation tools remain very limited (Yang et. al., 2018, 187)
needed of collaboration between academia and professionals in order to systematically collect, accumulate, and share data (Yang et. al., 2018, 187)
have difficulty understanding how their decisions impact other disciplines' design decisions (Yang et. al., 2018, 189)
still need to be clarified in order to devise mechanisms for collaboration and synthesis in the interdependent relationships among disciplines and across design hierarchies (Yang et. al., 2018, 189)

5. DISCUSSION AND CONCLUSION

Geodesign approach as a new approach in the fields of landscape architecture, architecture, planning and design, and it enables also that for planners and designers to deal with complex analysis and their optimization with geodesign technologies. As differing from traditional way of designing and planning which is based on individuals' experiences through linear process, geodesign approach is a participatory, scenario-based and iterative method which works with feedbacks importantly that merge design options and define the possible best ones during collaborative working by different disciplines. While facing with complex contemporary developments, urban design also has been challanged to complete approach to sustainable urban development by using geography as a guidance within changed design paradigm. Geodesign approach has the capability of the integration for all type of disciplines or different scales of the projects for future places with increased participation and sustainable solutions. However, while the term of geodesign is widely used, the research on the geodesign approach and its application in urban design is quite limited. Besides, it can be noted that geodesign approach is rarely used in the field of urban design. In the literature, while geodesign approach is a powerful approach in designing and planning for future sustainability, another point of view defends with it. In this context, under the light of reseachers, the study provides a critical evaluation below:

According to Pickett, et. al. (2013, 11), urban design can be arranged by its social and cultural values, importance of creativity, highlight on the site history and conditions, concerning with a 'combination of soundness, usefulness, and beauty' and dialogue with 'landscapes in a way that hews closely to the ecological definition'. While geodesign approach is rising on practice, it should be applied more comprehensively 'by incorporating ecological systems thinking'. (Gu et. al., 2018, 18).

Gu et. al. (2018, 17) define some challenges and gaps for geodesign approach: (1) theoretical gaps which 'operationalizing the framework is difficult because it involves complex systems and dynamic processes', (2) practical gaps that 'there are challenges within geodesign collaborations in coping with the differences between disparate contexts and groups of people with different backgrounds and its inherent multidisciplinarity makes the process challenging for professional practice' and (3) technology challengers which there are challenges in adapting geodesign tools and models from disparate sources'.

Li and Milburn (2016, 8) claim that it is challenged for 'the integration of human creativity into the digital interface'. According to the designer, it is tended to solve the design problem with 'an incremental, piecemeal, sequential approach' (Li & Milburn, 2016, 8).

According to Hollstein (2019, 64) Steinitz framework limits and controls with 'exact parameters of a design study or research project, then it could easily be interpreted as being overly rational and stifling of any individuality or creativity'.

Foster (2016, 93) states that 'Designers and scientists both seek answers through curiosity, however their means and outcomes are different.' Design interesting with discovering new opportunities about 'how things can be', while 'science is interested in a better understanding of how things are' (Fast Company, 2006; Simon, 1969, Foster, 2016, 93).

According to Pelzer et. al. (2014, 331), the idea of disagreement with geodesign approach is caused by 'fundamental differences between disciplines'. With thinking of urban designer's way of design, it is generally used much more sketching and some visualisation programmes, on the other hand, geodesign approach even combines sketching and drawing, but it is mostly occured by qualitative analysis through iterations (Pelzer et. al., 2014, 332). Pelzer et. al. (2014) claim some constraints and solutions for urban designers in geodesign approach. They prepare the barriers and solutions for them in the **table 5**.

Table 5: Constraints and their solutions for geodesign approach in urban design
(Pelzer et. al., 2014, 337-341).

Constraints	**Solutions**
Not all dimensions that are important for urban designers are currently included in GIS-based tools.	trusting and combining GIS as a analytic tool and urban designers as intuative and creative experts dealing with experiential and systematized knowledge
A GIS-based tool is perceived to restrict creativity.	having more user friendly and intuitive software and hardware in the future
Fuzziness is a virtue for urban design that is often not supported by GIS-based tools.	not starting too early with complicated and integral calculations and being carefully to decide when in the process these are conducted
It is difficult to break with old habits.	enhancing the integration of Geodesign and urban designers

To sum up, although geodesign approach is criticized by many scholar, there is possibility on new emerging approach to combine with new possibilities in future of urban design. Moreover, as a solution, it is strongly supported to combine its collaborative system thinking with an imaginative way of designing (Pelzer et. al., 2014, 342). Therefore, there is an opportunity 'for democratically managed cities, more equitable societies and sustainable futures' (Wilson,2015, Borges et. al., 2015; Gu et. al., 2018, 18). With taking consideration of having lack of implementation of geodesign approach in urban design because of being as a recent development, it limits the geodesign approach to enlarge for future of urban design. In the study, theoretical framework of the urban design was first revealed and followed by theoretical insights of geodesign approach and its key dimensions. Thirdly, three examples with geodesign approach in urban design are evaluated, and lastly, the constraints and solutions are indicated for geodesign approach. It has been clarified that the geodesign approach has potential for future of urban design and for other fields. This study fills the gap between urban design and geodesign approach dialogue by providing a series of dimension for geodesign approach and unveiling its potentials and weakness for future of urban design. Because of the of limited practice of geodesign approach in urban design, it can be further developed by an urban design workshop.

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APPENDIX

GEODESIGN FRAMEWORK (LANFRANCHI AND FONZINO, 2018, MCELVANEY AND ROUSE, 2016 AND STEINITZ, 2012)

Steinitz (2012)	Lanfranchi and Fonzino (2018, 4.11, 4.12)	McElvaney & Rouse (2016, 3)	Steinitz (2012)	Steinitz (2012)
Questions	Answer	Example	Process – Response	Models
Q.1. How should the study area be described in content?	A.1. The answers are representation models, and they represent information and data on which the study has been built.	spatial data layer, imagery, photographs, reports, and other relevant data: e.g. transportation system, waterways, building footprints, parks and open spaces, etc.	Assessment Process - Past / Present	Representation Models
Q.2. How does the study area operate?	A.2. The answers to this question represent the process models, information for the analytical assessment of the study area.	natural and social processes: e.g. erosion and sedimentation, the hydrological cycle, ecosystem functions or demographic changes, etc.	Assessment Process - Past / Present	Process Models
Q.3. Is the current study area working well?	A.3. The answers to this question represent evaluation models. Here the cultural knowledge about the study area of the decision-makers makes the difference.	site suitability layers and other composite maps with McHarg's overlay method: for constrains; e.g. earthquake, flood or erosion hazard zone protected habitats, etc., for opportunities; e.g. favorable slopes or solls, proximity to existing transportation systems, etc.	Assessment Process - Past / Present	Evaluation Models
Q.4. How might the study area be altered? By what policies and actions, where and when?	A.4. The answers to these questions represent change models. They will be created and compared within the Geodesign study, and they will be used as newly generated data to project future conditions.	sketching of design alternatives surface or data layer within GIS application	Intervention Process - Future (alternative scenarios)	Change Models
Q.5. What differences might the changes cause?	A.5. This question is answered by impact models. They represent assessments produced by the process models under changed conditions.	real-time or near-real-time simulation using dashboards or charts of various kinds	Intervention Process - Future (alternative scenarios)	Impact Models
Q.6. How should the study area be changed?	A.6. This question is answered by decision models, which as the evaluation models with the pros and cons of each decision factors, are highly influenced by the cultural knowledge of the decision makers.	considerations of policies: e.g. regulations, capital improvement programs and considerations of values into decision process	Intervention Process - Future (alternative scenarios)	Decision Models

DICHOTOMY OF INDUSTRY AND NATURE: CONCEPT OF DEVELOPMENT OF WYSPA PORTOWA (HARBOUR ISLAND) IN GDANSK (POLAND) USING THE BASIS OF COMPOSITION THEORY.

Magdalena Opania

Faculty of Architecture, Silesian University of Technology
magda.opania@gmail.com

Agata Twardoch

Faculty of Architecture, Silesian University of Technology
agata.twardoch@polsl.pl

ABSTRACT

This article presents a method for planning the development of a post-industrial area, using the design methods typical of the creation of a graphic composition. The aim of the article is to present this method and evaluate its usefulness in planning processes, focusing on the adaptation of areas that represent valuable landscapes. The main method used in this article is the Research by Design method, which allows drawing conclusions for its application based on the analysis of the performed planning works.

The research is based on a project carried out by Magdalena Opania as part of a master's degree thesis at the Faculty of Architecture of the Silesian University of Technology (Gliwice, Poland), Department of Urban and Regional Planning, under the supervision of Professor Agata Twardoch. The theme of the project underlying the conducted study is a vision for the development of Wyspa Portowa (Port Island) in Gdansk, which is characterised by dichotomous industrial and natural landscapes of high, but difficult to reconcile value. The work deals with the characteristic area on the edge of the dense urban fabric and the possibility of their development and coexistence, as a future direction for the development of conflict border areas. Several problem questions were formulated:

- What should be the strategy for the development of an area comparable to the area of a city centre?
- How should the strategy guide the development of residential, industrial, green and recreational areas?
- Can artistic interventions be the beginning of a process to change the landscape? - How is the space of a city read and remembered?
- How can the harmonious development of industry and environment be ensured?
- Can opposites attract/complement each other?

The aim of the project was to elaborate a framework action plan based on functional needs and revitalization requirements. The project work distinguished several thematic aspects: (1) artistic activities, (2) the perception and mental image of space, (3) the problem of water design and its role in the city, (4) the importance and possibilities of designing the natural.

Keywords: research by design, methods of urban planning, landscapes, spatial development, post-industrial area

1. INTRODUCTION

The article presents a method of planning the development of a post-industrial area using typical design methods for creation of art compositions. Dynamic and often uncontrolled urban sprawl, leading to chaotic urban edges, as well as insufficient awareness of natural values and their impact on the quality of life in cities, are a current challenge for urban planning. The authors identify the core of the problem of dichotomous industrial and natural landscapes, usually located at the edges of the urban fabric, and highlights the possibilities for their development and coexistence, which they see as a forward-looking direction for the development of conflict boundaries. The work focuses on the possibility of revitalising the areas through the introduction of a framework action plan, which could be represented as an abstract composition, forming the core of functional and spatial transformation.

1.1. THE IMAGE OF THE WYSPA PORTOWA ISLAND

As a kind of palimpsest, Wyspa Portowa is a functional and scenic spatial collage that is the result of development over centuries. The island's location in the Vistula Delta and its close proximity to the Gdansk Bay have a direct influence on the development of its history and functional conditions. The proximity to the main water trade routes led to the settlement of port, shipbuilding and shipping areas. But, water also played an important role in the development of natural and recreational areas. These two predominant functions of industry and nature influenced the polarization of spatial structure on both sides of the island.

The coastal landscape of the harbour island is characterized by:

- a dynamically developing economy, mainly associated with the activity of international port terminals and complementary infrastructure – transport, warehousing, logistics, industry (especially shipbuilding),
- the great biodiversity of marine avifauna,
- vulnerability to natural events due to climate change – frequent storms, floods, droughts, rising water levels,
- an attractive recreational area accessible to both locals and tourists,
- a multifaceted identity, complemented by objects of historical and cultural heritage
- good living conditions,
- high-quality landscape bordering on a compact urban fabric,
- the lack of coherent spatial planning and policy, which leads to continuous fragmentation.

The psychogeographic record of Wyspa Portowa created after visiting the processing area proved to be a synthetic representation of its true character after further analysis of the terrain. Its collage form points directly to the complexity of the problem and multi-layered challenges. It also refers to a diverse spectrum of problems, ranging from landscape to small spatial interiors.

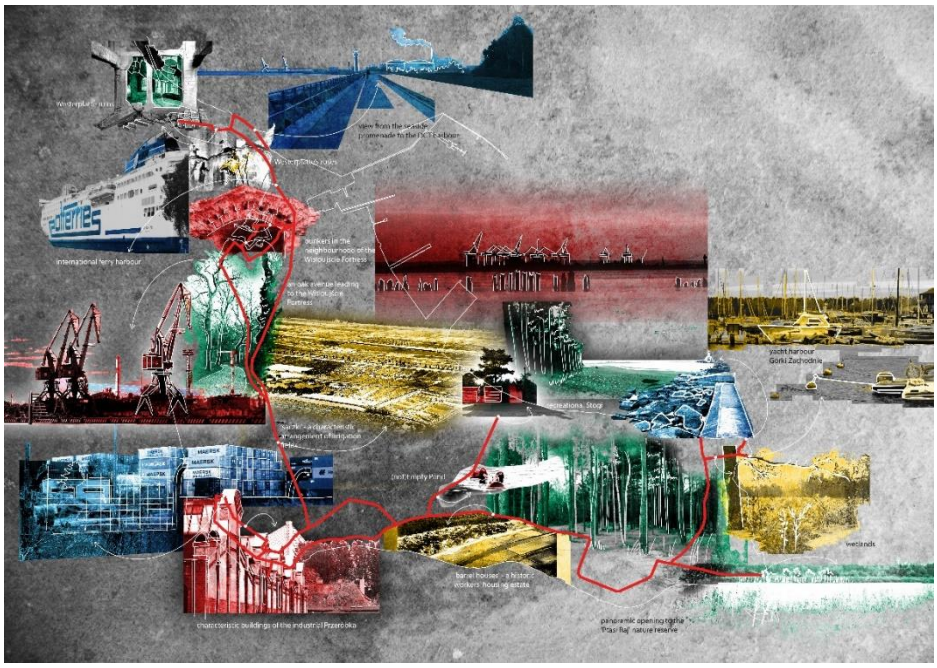

Figure 1. A psychogeographic record of Port Island.

1.2. DICHOTOMY AS A RESEARCH BASIS

Any image that shows Wyspa Portowa, be it a map, a photograph or even a site visit, allows us to distinguish the two dominant factors that shape the area – industry and nature. The dichotomy of cultural and natural heritage, as well as the dynamic and developing industry is what makes Wyspa Portowa unique. To ensure harmonious coexistence, it is necessary to define a strategic framework for development, to take into account the existing potential and to use it for future functional and spatial solutions. Perceived as opposites, they form a whole. This gives rise to the possibility of introducing the concept of “dichotomy” in relation to island issues.

The term “dichotomy” (from the Greek “dichotomos” – divided into two parts) refers to duality. It describes the division into two mutually exclusive parts that complement each other. In mathematical logic, it refers to the determination of separate subsets A and B that exhaust the set X, which means that each element of the set X belongs to either A or B. In psychology, dichotomy of thought is an error in the thought process characterized by seeing only the extreme aspects, without any possibilities in between.

The consideration of such a subject leads to the conclusion that, despite the strong contradiction between industry and nature, it is important to recognize a continuum between them that allows a different and original view of the subject.

1.3. COMPOSITION – SPATIAL PLANNING RELATION

Given the complexity of the problem, it is important to find ways and solutions that allow a coherent and balanced synthesis. Instruments that have been considered for centuries as an interdisciplinary link, taking into account not only tangible but also intangible and significant properties, can be artistic activities. Their application allows a holistic view of a large area and abstract connections to preserve and emphasise existing values, as well as to point out new development paths.

Introducing the basics of painting, Vassily Kandinsky defined three elementary components of composition – point, line and surface. The abstract association with the spatial planning process shows that the common denominator of both activities, artistic composition and spatial planning, in their complexity and the way they are created, is the flow from the general to the detailed. The continuation of this comparison could consist in assigning an appropriate elementary form to each spatial activity after analysing its spatio-temporal functioning.

The proposed directions of development - when written on a blank sheet - form an independent composition, but when transferred to the map - form a graphic record of concrete interventions. Thus a catalogue of solutions is created, the framework of which is described by a graphic symbol. Among the punctual solutions we can distinguish land art points or lookout towers, from the linear - walking and cycling landscape axis, and the surface - water parks, which are also flood protection.

Once the dominant forms of actions are defined, the space-time event acquires a compositional dimension. It becomes a graphic form in its own right, carrying a causal charge that, when combined with the other elements, results not only in a harmonious layout but, more importantly, in a coherent space-time programme. This raises the question: How can the theoretical foundations outlined above be combined with the possibility of a functional-spatial programme?

1.4. COMPOSITION – SUPREMATISM - ABSTRACTISM

Seemingly chaotic fragments of building fabric turn out to be a coherent and ordered whole – the city - after thorough analysis of their interrelationships. Knowing how it works, it is possible to find its location and explore it further. As with composition, it helps to understand the message when the rules are known. This relationship makes it possible to compare the city to a composition, understood as the order of the whole. It is applicable in all fields of art, in each it has a different role and is characterized by different elements.

The factor of composition... very often subjects the divergent influences of the factors to a general idea of construction and derives from it the correct form... it crystallizes either as the individual result of the creative work of the individual or as the product of the collective work of a number of people or even generations.

The dominance of all other factors over the composition factor goes hand in hand with the decline of urban culture and often reflects the chaos in the culture and civilisation of a country and a particular historical epoch. The periods in which the composition factor outweighs other factors are the periods of a high level of urban planning in the city (...) the periods in which the need for harmonising interaction is most noticeable are often completely absent (Wiśniewska, 2012).

The creation of the new spaces is preceded by a graphic design protocol that is a symbol of foreseeable future scenarios and uses a language close to art – graphic elements. Their relationship to each other determines the context that are to be created first in the perception of the recipient and then in the space. Art theorist Vasily Kandinsky treated plastic elements as "living beings" and compositions as "separate worlds" characterized by their own dynamics and balance (Kandinsky, 2019). He described the primal elements – point and line – as elementary components of the composition of the painterly work and also described their relationship to the plane they create. He also distinguished elements (primary and secondary), construction and composition as necessary for the study of paintings. The same elements are used by urban planners and architects when creating planning concepts. By making an abstract connection and transferring it from the micro scale of painting to the macro scale of the region, one can see similarities in relationships and make direct connections between graphic recording and creative action.

Vassily Kandinsky distinguished between two types of art - representational and abstract. He defined the former as a veiled and attenuated representation of an element, while he described abstraction as pure, unadulterated, and complete communication. At the heart of abstractionism, an art movement that emerged in 1910, was a complete detachment from reality, the abolition of representations close to nature in favor of an autonomous body of work that illustrated the artist's subjective sensations through the pure arrangement of colors, lines, planes, shapes, and bodies. The figurativeness of painting was abandoned and instead a construction of basic elements was created. This direction is divided into the geometric, also called cold or inorganic, and non-geometric or organic, warm. The forerunner is considered to be already mentioned art theorist Vasily Kandinsky, who created the first work of the new direction – the Abstract Watercolor.

2. COMPONENTS OF ARTISTIC COMPOSITION WITH EXAMPLES OF THEIR EMANATION IN SPACE

In this part of the paper, the authors describe the following components of Suprematism composition and compare them to the elements used in urban planning.

2.1. POINT

The point, despite its small size, holds creative potential and is the beginning of every composition. Spatial actions can be characterized by a similar causal force, which is the initial impulse for the transformation process.

"As a geometric creation, a point is invisible. It must therefore be considered as something immaterial. Materially speaking, it is equal to zero. However, this zero conceals various "human" properties. In our imagination, the geometric point, this nothing, is the expression of the greatest conciseness, the most eloquent restraint. The geometric point acts on us as the closest and most unique combination of silence and eloquence." (Kandinsky, 2019).

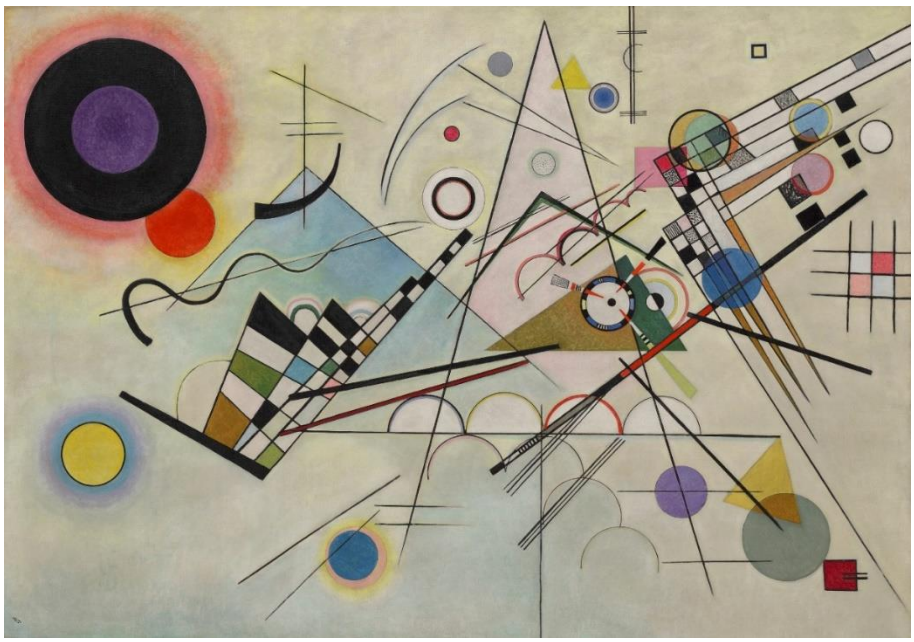

Figure 1. Composition 8, Vassily Kandinsky, 1923

Kandinsky writes that the point is to become a symbol that can work for the uprooting, the revival of something previously dead. This happens with the help of the inner shocks it carries, which allow us to have a deep experience, as well as through the effect of external shocks, which are interpreted as a violent break with traditional habits, as damage. The emerging relationships gradually show us the potential and power of the point.

The emergence of a point can also occur through a collision. In painting, it is the contact of a tool (pencil, pencil) with the physical surface of the painting (cardboard, canvas). Through this first contact, the surface of the painting is fertilized. A developing point can become a surface the moment it is compared with the surface it is on. Its form in the abstract concept is perfectly round, of infinitesimal size. Only when it passes over into being, it can take infinitely many kinds of forms.

The philosophical description of the dynamic character of the point and the painterly condition of its creation can be reflected in the creative activities that take place not only on the surface of a sheet of paper, but also in space. It points to the validity of locating this kind of potential in space. It proves that an original punctual action, can considerably expand the spectrum of its effect due to strong internal tensions. Moreover, Kandinsky indicates that the point is the form with the smallest time span.

In architecture, points appear in the form of vertices, jags that emerge from intersecting planes while giving them their origin. In urban and spatial planning, they can appear as compositional dominants or accents. In development strategy, on the other hand, they can become activating points, flagship projects.

Land-Art



Figure 3. Broken Circle / Spiral Hill, Robert Smithson, 1971

The direct reference of art to space at the urban scale, characterized by punctuation, are land-art objects. Based on the perception of space, it often not only uses the environment as a material, but also draws attention to its problems, qualities and meaning. This makes it a legitimate art form, located at the urban fringe.

Art in Space



Figure 4. Little Sun, Olafur Eliasson, 2013, practical application of an element of art

Thanks to the mass media, contemporary art has penetrated many areas of life in our time. The developing pop culture has meant that art is no longer accesible only to connoisseurs. It is charcterized by the courage of artists to express their views and by the independence of the work, which is often a combination of seemingly incompatible elements, is independent and speaks for itself. The development of technology has popularized installations, collages, light visualizations, animations, comics and computer graphics. Art has also become present in the form of everyday objects. It has found expression not only in the form of artworks, but also in happenings and manifestations. The artist no longer creates 'art for art's sake' but challenges himself to 'moving' the viewer. The art objects in space, even if they are small, punctual realizations, nevertheless establish a strong relationship with the viewers and can thus have a causal power.

Acupuncture Design

A design process that can be implemented in urban space, which is a synthesis of point-source activities and uses them as a basic building block for transformative strategies is acupuncture design.

Just as good medicine depends on the interaction between doctor and patient, successful urban planning is about eliciting healthy responses in the city, probing here and there to stimulate improvements and positive chain reactions. Intervention is about revitalization, which is necessary for an organism to function and change.

Reality - Olafur Eliasson

A versatile artist and architect whose work focuses on experimenting with natural factors such as light, water and air in conjunction with technic solutions. The issue of perception, especially colour, often appears in his works.

- Five orientation lights



Figure 5. Five orientation lights.

location: Tuscany, Italy | date: 1999 | materials: stainless steel, colored glass, halogen bulbs, Fresnel lens

In hilly landscape of Tuscany, five small laterns were placed to illuminate the surroundings with different colors of light. Each lantern emits its light through a Fresnel lens, surrounded by a granular housing of colored glass. In this way, the area is mapped using a color code rather than the usual cartographic means.

- Vær i vejret



Figure 6. Vær i vejret

location: Copenhagen, Denmark | date: 1999 | materials: bronze, stainless steel, water, pump, nozzles, controller, wind sensor

The vertically positioned circular hoop was located in Ordrupgaard Kunstpark and oriented on a north-south axis. On the roof of the museum, a device is mounted to test the direction of the wind. When its direction changes, 36 streams of water gush out of the ring evenly distributed around the perimeter, creating a mist. The artist drew attention to the influence of weather conditions on each work of art exhibited outdoors, and by extension to the inherent element of art exhibited outdoors - weather. The artwork captures an invisible element, showing the air, atmosphere and wind, which maintain a constant potential for action.

- Ice watch



Figure 7. Ice watch.

location: Copenhagen, Denmark / Paris, France / London, UK | date: 2014 / 2015 / 2018-2019 | materials: 12 glacier blocks

Twelve blocks of ice that broke off from the Greenland ice sheet and were collected in Nuuk Fjord were displayed in visible and distinctive public places. The main goal of the work was to raise awareness about climate change through the opportunity to interact directly with melting Arctic ice. The Happening was carried out in three locations, always being linked to UN global meetings on climate change.

2.2. LINE

A line in the light of classical Euclidean geometry is a primary concept. Connecting two points, building all spatial forms, and indicating direction in perception, it is also an inherent element of the living environment. The broad spectrum of its functions in the city, from the delineation of traffic routes to defining the boundaries of areas, can also be extended to the role it plays in creating the urban experience.

> *"A geometric line is invisible. it is the trace of a moving point, the result of its movement. It arises from motion by destroying the point's inertia, its absolute state of rest, and thus by leaping from the static into the dynamic. The line is therefore the opposite of the greatest element of painting - the point. Strictly speaking, it may be considered an element of the second degree." (Kandinsky, 2019).*

The formation of a line is determined by the action of one or two forces on a point (single, multiple changes of two forces, simultaneous action of two forces), the amount and type of which affect its nature. A straight line is the simplest simple movement of a point to infinity under the action of a single force, resulting in the creation of elements - direction and tension. Kandinsky distinguishes three basic types of straight lines: horizontal (cool, due to its passivity of being a base), vertical (warm, as the action of height appears) and diagonal (cold-warm, as it deviates by an equal angle from the two previous ones). The other types of lines are merely variations. Rotation of the basic line types with respect to a common center leads to their thickening until a plane is formed. A line gains greater dynamism when two forces act on it, alternately or simultaneously. The possibility of expression from the coolest to the hottest provides the possibility of transcribing every phenomenon of the internal and external world into a linear notation. Lines arising directly from straight lines are broken by the single action of forces. They are distinguished by angle: acute (45˚), straight (90˚), obtuse (135˚), and of arbitrary angle. When we make modifications to the segments by changing their lengths or creating combinations of angles, a complex broken line is created. When two different forces act on a straight line continuously, it transforms into a curved line, whose structure is an arc. A variation of this is the wavy line, which can be formed from fragments of a circle, irregular lines, or a combination of both. The combination of a straight line and a curve determines the creation of a compound line. A linear contrast is created by a straight line with a curve. The actions on the lines forming the form are pressure and relaxation, interaction of direction, button. Assemblies of lines are created by rhythm, repetition or quantitative reinforcement.

Any spatial form is an extension of a linear form. Architecture is dominated by vertical and horizontal lines, so that it is cold-warm or warm-cold. We also find lines in urban composition, where they delineate axes or directions, and abstractly determine connection vectors.

Psychogeography

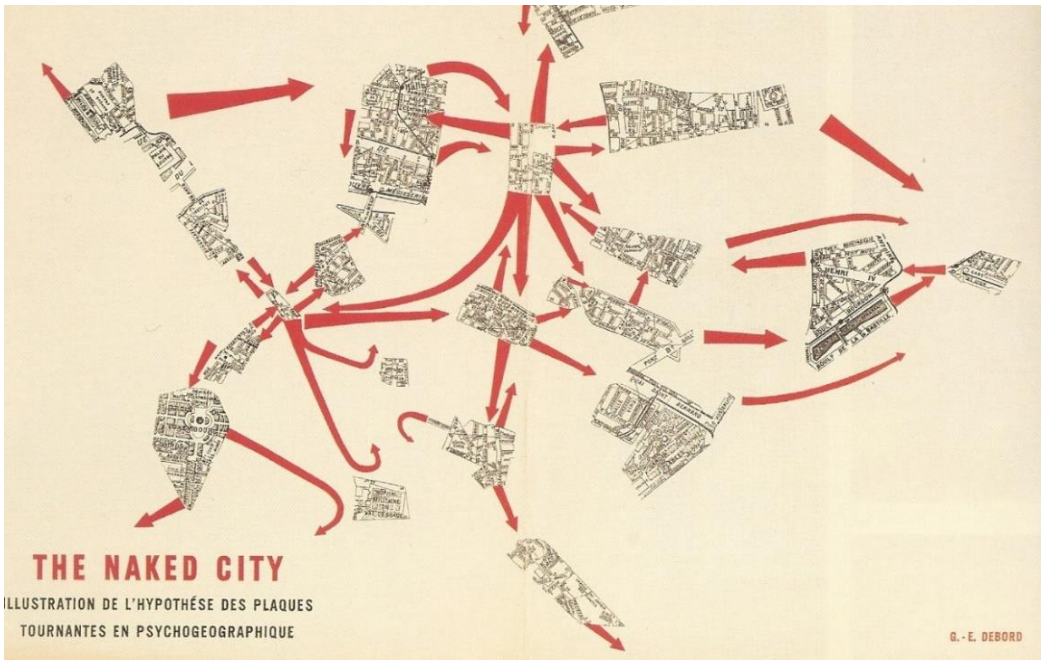

Figure 8. A psychogeographical record of a map of Paris, Guy Debord, 1957

Exploration of the new space can take various forms: strictly marked routes connecting important points, thematic routes (nature, history), can be based on communication links, ways of getting 'somewhere' or 'to someone'. Due to the individuality of the recipients, each of them will be remembered in a different way, resulting in different sequences of images of the city. Their meaning and permanence, when mixed with specific places, build mental maps. Therefore, the psychogeographic record of place, based on the line as a direction of movement, but assuming 'wandering' that enhances the experience of the city, is an adequate cognitive tool.

The Impression Curve

The predominance of car-only traffic routes in the space means that it can only be experienced from the road, which is the most common linear form found in the built fabric. The duration of this experience depends on the mode of transportation, which in turn affects the time of perception of the place. At the same time, the visual features of the urban environment and the properties of the experience associated with them affect the perception of the passage of time.

Taking into consideration spatio-temporal conditions Kazimierz Wejchert proposes introducing the concept of 'curve of impressions' which is a supplement of the urban composition. Its graphic record is to illustrate the rise and fall of average viewer's tension impression while walking through the given sequence of interiors. Recorded on a scale-free graph, the line is to be used to compare the values of spatial elements and their ensembles. The horizontal axis of the graph corresponds to the location of the given view openings, and thus

is also a record of time. On the vertical one there is a scale of tensions of impressions, from 1 to 10, where 1 corresponds to a monotonous layout, devoid of architectural and urbanistic values, or a limited view, and 10 indicates ensembles with high architectural and urbanistic values, dominating the city's structure, complemented by dominants that constitute its identity in the landscape. Wejchert's analyses, taking into account pedestrian traffic as dominant in the city, indicate that the traffic route, in order not to become monotonous, should provide change of image every 2-3 minutes. In case of vehicular traffic, due to higher speed and consequently lack of possibility to perceive details, some fragments merge into a whole, forming only a compact background, while very strong and different dominants or view openings stand out. It also gives the opportunity to observe the dynamics of the architecture, its apparent movement and lightness, resulting from the rapid change of the observer's position.

Reality - Marginal De Esposende Redevelopment

Firmly rooted in the tradition of the site, the small Portuguese work, located on the banks of the river, subtly works with it, inviting contemplation of a new spatial relationship.

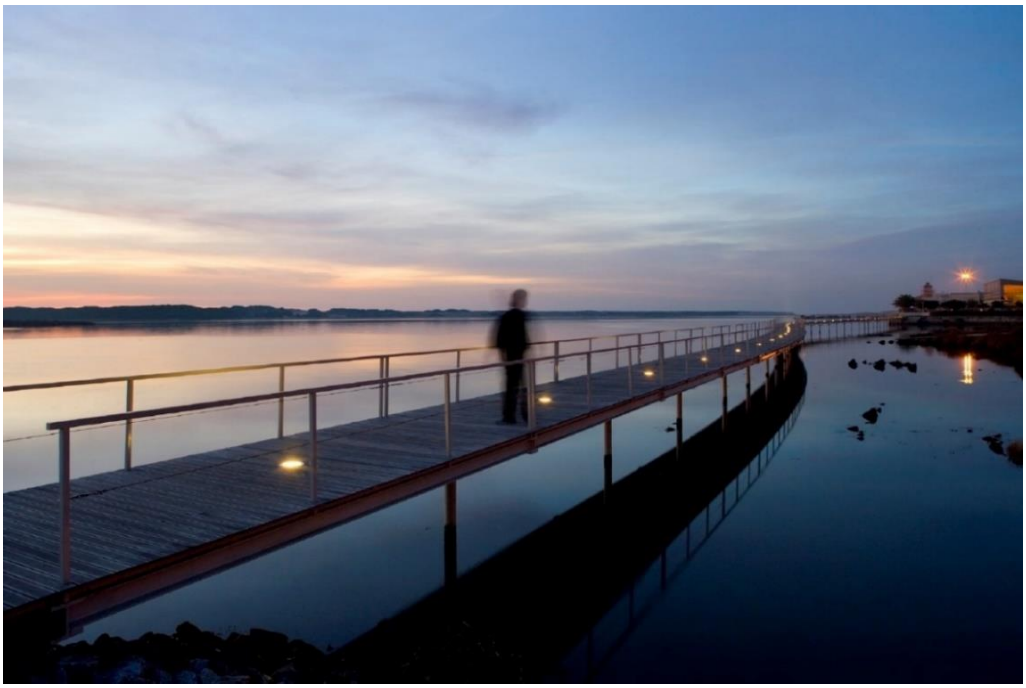

Figure 9. New landscape shots.

location: Esposende, Portugal | project: 2017-2019 | implementation: 2007 | authors: Victor Neves Arquitectura e Urbanismo

Esposende is a small town located in the north of Portugal. The project proposed by the office Victor Neves Arquitectura e Urbanismo, in collaboration with the Municipality of Esposende and the Maritime and Port Institute, was part of an overall management plan for the area on the banks of the River Cávado and the implementation of the functional programme envisaged. It consisted in the reorganization of the public space

adjacent to the riverbank and the creation of an urban recreational area, surrounded by several buildings with functions related to boating. The main objective was to preserve and enhance the qualities of both the existing landscape and identity, as well as its status as a priority public space.

Originally, the construction of five metal glazed cubes, measuring 5x5x5m, was planned. The cubes were eventually not realized due to financial and legal reasons.

The authors of the project emphasize that the idea of the project was to give the main priority to the natural landscape, avoiding artificial design interventions and without using 'foreign' materials. In addition, the aim was to raise awareness about the local fauna and flora.

The intervention was to combine two key elements that shape the waterfront area - a pathway defined by an elevated footbridge and indeterminate edges modelled by tidal fluctuations.

The central element of the composition is the elevated footbridge, creating opportunities for new experiences of the site and introducing an element of playfulness. The footbridge also provides an area of natural water retention. Plastics were used to emphasize the intervention in the urban-landscape composition, as well as to designate spaces with a specific functional program focused on education.

A small and economical intervention in the form of a path extended towards the water provides a new landscape shot of the city.

2.3. PLANE

Some fragments of the city, due to the similarity of their details and relations, are subconsciously combined by the viewers into homogenous wholes in order to simplify them. They become homogeneous planes that constitute independent units or play the role of a background for clearly dominant spatial-functional elements.

By picture plane is meant (...) the material surface that underlies the content of the picture. (...) is limited by 2 horizontal lines and 2 vertical lines, which constitute it as an independent creation (Kandinsky, 2019).

The plane is created by closed broken or curved lines. As Kandinsky writes, it can carry elements in two ways: emphasizing the picture plane through the action of the weight of elements, the loose floating of elements located imprecisely. The closer the form is to the edge of the plane, the more it gains in tension until it reaches it, and thus disappears.

A kind of 'canvas', i.e. an urban field of action, is a landscape context which, formed by natural and artificial elements, has become 'second nature'. Determination of planes with unified characters enables proper indication of the directions of transformations of individual areas, understood as a coherent whole.

In-Between Space

In addition to the dominant areas of industry and nature, there are also areas on Port Island that are seemingly empty, belonging to no one, lingering in a kind of hibernation.

In the mental construction of urban spaces, as well as in their graphic record, gaps can be seen between the specifically defined planes, fragments of understated form and function, which nevertheless allow to indicate the shape of strong character.

The cityscape consists of both broken urban tissue and natural forms. Distinguishing individual parts is only possible if there is a space in between, a kind of background for the others. Despite its name indicating rather insubstantiality, it represents the potential of landscape notation. Marcello Brison, philosopher, gives it a key meaning, writing about architecture that "*it needs to distinguish certain spaces in order to exist at all, it needs, even before it defines itself, the space in-between as the capacity of space to be marked, in other words: it needs a break which, only by virtue of being intrinsically empty, can take on the sign signifying division*." *(Barison, 2019).*

- Gilles Clément's Third Landscape



Figure 10. The space's need to 'become something'.

There is a disconnect between the actual ecological quality and the designed landscape. Appearance does not account for quality; quality accounts for appearance. Picturesque conventions associated as inherent to nature are often mistaken for actual ecological value. The need to represent nature aesthetically influences misunderstandings in ecosystem design. According to Lowenthal and Prince, people *see their area through their favorite and customary glasses (*Lowenthal, Prince, 1965)*,* and the landscape reflects a time-spanning succession of visual biases and idealized images. The disparity between ecology as a science and cultural perceptions of nature *requires translation of ecological patterns into cultural language (*Lowenthal, Prince, 1965). Valuable ecosystems, characterized by disorder, are enclosed in orderly frames to conform to established patterns.

Gilles Clément, a French landscape architect, botanist, entomologist and writer, emphasizes the value of self-creating ecosystems. In his 2003 Manifesto for a Third Landscape:

> *What is third state? - Everything.*
>
> *What has it been so far in the political system? - Nothing.*
>
> *What does it demand? - That it become something* (Clément, 2019)

The third landscape arises in abandoned areas, which he describes as places once used. The origin of the third landscape requires a landscape perception's rejection through the prism of industry, which allows us to see the existence of undefined areas, belonging neither to the light nor to the shadow, most often located on the periphery, in places difficult to access by machines. Devoid of similarities, they develop the only common feature - a refuge of diversity, pushed out by other areas. The range of abandoned areas is conditioned by the degree of intensification of the urban fabric - the looser, the more frequent their occurrence. Their creation is inevitable, as any development leads to it. After the cessation of activity, the area spontaneously evolves into a secondary landscape, characterized by strong dynamics. Initially populated by pioneer species with short life cycles, which then give way to species with prolonged life cycles, striving for stability.

Expansive human activities generate an increasing number of abandoned areas, thus reducing the number of original communities. The third landscape and its preservation depend on the collective consciousness, constituting its shared fragment. As a challenge, Gilles Clément points to the maintenance of diversity, whose possibility of evolution is reduced when major changes are made. The evolution of the third landscape in cities takes shape in the form of a network whose eyes are closed in suburban areas. However, the closure of green systems limits the possibility of diversity evolution. The boundaries of the third landscape are defined at the borders of farmland or cities with those of scrub, wasteland, heathland, fallow or woodland edge. Each of the derelict areas evolves into secondary forest, which is ecologically much more diverse than primary forest. However, the proximity of these two woodlands provides continuity of diversity. The duration of the tertiary landscape is undetermined, despite its mediating potential. Dependent on adaptation to environmental change and biological cycles, it is unpredictable. Resistance to the passage of time is guaranteed by the instability of natural systems. In relation to society, the third landscape can function as recreational land, unproductive land, but also as natural or sacred land. Giving a status and defining any activities targeting abandoned land prevents the existence of a third landscape. Culturally, this type of land is seen as an opposition to urbanized land. In the conclusion of the manifesto, Gilles Clément encourages the presentation of the third landscape as a common space of the future, creating the conditions for its development.

Landscape Urbanism

A field that can help develop a holistic synthesis of the planes present on the Port Island is landscape urbanism, whose goal is to connect the various components of the city by indicating synthetic solutions to the connections between the built fabric and natural forms.

> *"In many disciplines, landscape has become the lens through which the contemporary city is represented, and the medium through which it is constructed." (*Waldheim, 2006).

Weronika Wisniewska notes in urban planning the marginalization of spatial landscape management, in favor of spatial management. The concept of landscape urbanism suggests that the city has the ability to create landscape, blurring the boundaries between what is artificial and natural, urban and suburban, indicating the appropriateness of a holistic approach to the urban design process, taking into account the simultaneous shaping of the landscape and the city without opposing them. James Corner notes the interdisciplinary nature of landscape urbanism, which brings together particular issues in landscape architecture, urban design, landscape ecology, and engineering (Corner, 2006).

Reality - Sendero Pinar De La Algaida

Recognizing and providing opportunities for existing ecosystems to thrive, while 'opening up' areas perceived as inaccessible brownfields, realized with respect for the forces of nature.



Figure 11. Restoring access to non-space areas.

location: El Puerto de Santa Maria, Spain | project: 2002 | realization: 2002 | authors: Ramón Pico Valimaña, Javier López Rivera

The project involved the recovery, shaping of access and public route in the marshes integrated with the open space of the Bay of Cadiz, within the Natural Park in the municipality of Puerto de Santa Maria. The proposed intervention stems from two main reflections. The first is the identification and understanding of the different landscapes that the path connects, their natural characteristics and their level of anthropopression, as two

basic components. The second is the recognition of this human intervention and its inclusion in the history of the landscapes themselves, as elements that must be respected and included in the discourse of the project, so that everyone can construct their own reading and interpretation of the landscape.

According to the architects, the project's greatest merit lay in its main objective - to restore a forgotten, abandoned and inaccessible periphery, consisting of a now-defunct salt brewery and an adjacent pine forest, to the city. The intervention area has been rescued from the pressures of urbanization by being protected within the Gulf of Cadiz Natural Park, becoming both a place of rest and recreation and a buffer to control the rapidly growing urban conurbations.

The park's endless horizontal plane consists of mud flats, riparian and salt marshes, intertwined or even overlapping, creating textural contrasts between water, land and vegetation. The counterpoint in space is the pine forest that appears on the horizon. Three dominant ecosystems are identified in the project area:

- An artificial landscape formed by man-made wetlands to the north, surrounded by dikes, which protect the traditional salt exploitation of the Gulf of Cadiz, an important part of the history of the development of the urban agglomeration
- A natural landscape made up of marshy plains criss-crossed by winding canals which provide the ecosystem with a source of energy
- The Pinar de la Agaida park, which has a natural appearance but is of artificial origin, having been planted on the site of an old forest used for timber extraction and burned during the War of Independence

The intervention ran the risk of over-softening the site, restoring the purity of the environment and thus obliterating traces of a harsh past. The designers therefore proposed to combine this ambiguity by designating places intended for contemplation of the landscape, leaving the wood, scrap metal or metal elements, already subjected to the transformations made by the forces of nature, carried by the sea.

The resulting path connects three distinctive areas, wrapping around the landscape and running through areas already disturbed by human activity - the existing trails in Pinar de la Algaida and the outer walls surrounding the salt plains. Recycled materials, crushed rubble from neighbouring communities, were used in its construction. On the other hand, railroad sleepers were used in the areas where it transforms into a footbridge.

2.4. COMPOSITION

Composition serves the purpose of ordering individual graphic elements. Using the principles of its creation in relation to the city, it is possible to define a system of transformations, enabling the creation of logically coherent space. *"(...) composition is nothing other than a strictly correct organization of living forces, closed inside the elements in the form of tensions." (Kandinsky, 2019).*

As Vassily Kandinsky wrote, "*the content of a work of art finds its expression in the composition, i.e. the internally organized sum of tensions necessary for its creation." (Kandinsky, 2019)*. The individual elements and construction, through internal subordination, are meant to serve specific purposes. The theorist

compares the world to a cosmic composition consisting of an infinite number of independent and decreasing compositions. A harmonious composition may consist of contrasting, even disharmonious, ensembles.

Referring to Henri Focillon's theory, Jan Kubec notes an interesting idea, describing a work of art as "*a system of continuous development of coherent forms and history as a superposition of geological layers that allow (...) to read every fraction of time; past, present and future simultaneously." (Kubec, 2017).* Such an understanding of the work of art, and consequently of composition, allows us to see the analogy to the structure of the city and to compare its functioning to the relationships created on canvas.

Composition of The City's Mental Image

The analysis of the observer-space relation allows to create the image of the city taking into account its emotional reception. As factors conditioning the way the space is experienced Wejchert points out the form/structure of the environment together with its individual distinguishing features and functions/significance of particular fragments or the whole ensemble.

The perceptive ability of the receiver allows to create the image of the elements of the city that Wejchert describes as crystallizing, constituting its easy to remember characteristics. Lynch's research conducted in Boston, Jersey and Los Angeles allowed him to indicate five significant elements that make up the image of the city. These are:

- Road - traffic routes along which the observer moves,
- Edge - linear elements in the form of side references, constituting the border (barrier or link) between two areas,
- Region - fragments of the city that have an individual feature affecting the recognition of their two-dimensional surface,
- Node - strategic points of concentration in the city, between which the observer moves, having the property of focusing,
- Landmark - reference elements operating from the outside.

Lynch underlines that none of the above-mentioned elements can exist independently, that they are inseparably connected with each other, creating the composition of the image of the city. The interaction of individual elements influences their subconscious grouping into complexes, which are intermediate structures that ultimately build the city as a whole. Their graphic record may vary depending on the scale, point of view, time of day or year, or long-term processes of changing reality. Inaccurate and distorted illustrations, however, are topologically consistent and one can see their conformity with the existing state.

Composition in the visual arts is a way of organizing visual elements into a whole. As in painting, distinctive structures can also be seen in the graphic records of environmental images created by observers. According to Lynch, these are:

- Free composition - clearly chaotic arrangement of elements without any connections,
- Positional composition - directional relationships of disorderly parts,
- Flexible composition - loose and flexible, but clear connection of elements,
- Tight/rigid composition - strong connections of parts formed with increasing number of relations.

The importance of composition in the creation of space is emphasized by the author, noting that "*we are constantly busy trying to organize - construct and recognize - our rolling. Different environments are more or less susceptible to such efforts. Transforming cities should allow for a form that does not thwart but supports these organizing efforts." (*Lynch, 1959).

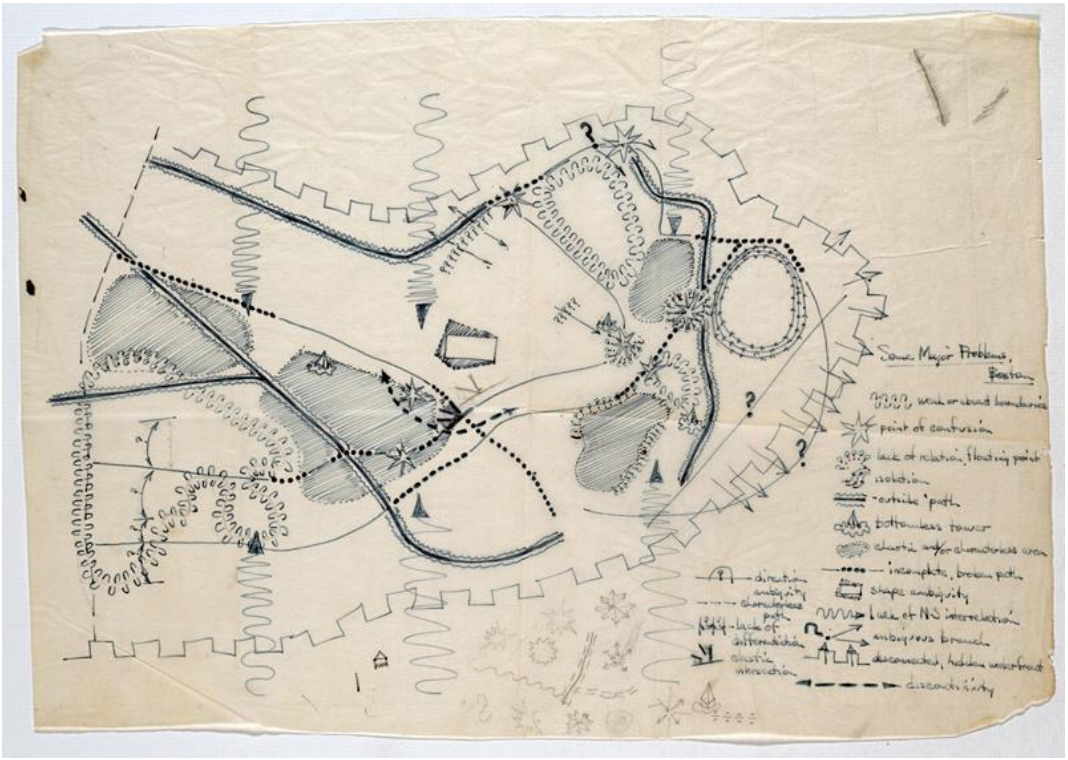

Figure 12. Graphic record of a mental image of Boston, Kevin Lynch, 1954-1959

Garden Composition

Given the significant amount of green space, an analysis of the history and design practices of landscape gardens, which were the first to break the bond with the building they surrounded, may be helpful in developing a blueprint for the transformation of borderlands. They opened themselves up to the existing landscaping, attempting to establish a relationship with it so as to ultimately influence the observer's experience.

Establishments for centuries that utilized and emphasized the natural beauty of nature were the gardens of the Far East, which transferred large-scale natural forms into miniature garden solutions. After the strictly

ordered and geometric garden forms of the Baroque, in the 18th century the art of garden design turned to picturesque forms that were irregular and had spatial continuity or even became landscape arrangements in their own right. In opposition to carefully formed trees and their rows, geometrically arranged bosques, irregular groups, groves, and flowerbeds were introduced to emphasize the perfection of natural forms and provide a background for views and landscape openings. The straight and geometric lines of avenues and canals were replaced by irregular paths and free-flowing streams and bodies of water, together forming a path of impressions. In contrast to the Baroque, the focus was on the individual and his contemplation of the natural beauty of nature, arranging picturesque compositions.



Figure 13. View opening on La Crescenza as a perceived beauty of nature, Claude Lorrain, 1648, oil on canvas

Reality - Park La Villette

The combination of independent layers built by points, lines and planes not only ensures the introduction of elements of surprise, but also opens up the possibility of free exploration of the park space. A clear arrangement of one of them influences the creation of a strong identification sign.



Figure 14. The intersection point of independently shaped park's compositional layers: points, lines and planes. location: Paris / France | project: 1982 | realization: 1982-1998 | authors: Bernard Tschumi

In 1982, a competition was announced in Paris to revitalize the abandoned and undeveloped land left behind by the French wholesale city market and slaughterhouse. The design by Bernard Tschumi was selected from 470 submissions. Unlike the other proposals, his vision was not to create a traditional park, whose form is determined by nature and landscapes, which is characterized by its picturesqueness. Tschumi describes La Villette as a socio-cultural park, comparing it to a building that is discontinuous but has a single structure, combining found values and emphasizing new activities. The idea was to create an open space of activity and interaction, evoking a sense of freedom of exploration, based on an overarching organization that provides visitors with points of reference.

The park design presents a conceptual strong framework for action while suggesting various forms of modification and change. With this flexibility, the park's identity can be preserved while still being able to implement current state or institutional policies. the park represents a structure independent of the use, without an imposed hierarchy, contradicting the traditional link between architecture and the specific function defined by it.

The composition was created by superimposing three independent systems - points, lines and planes. The layering of the systems creates a park, generating a series of calculated tensions that reinforce the dynamism of the site. Each of the three systems exhibits its own logic and independence. The idea of totality is based on a new concept introduced by Tschumi - 'folie' (French for insanity, madness), which refers not to the specific attributes of an object, but to its imagery. 'Folie' is thus meant to describe the closed perfection of the system to which the object refers. In conjunction with the grid, they are supposed to create a form - a product of the process - by which abstraction became reality.

Point

The program requirements indicated by the competition objectives were first broken down into a series of fragments, which were then arranged around a common denominator: a point grid of 'foils', with 120m intervals. Each point represents the key 'foils' of the program. Initially, each has the form of a 10x10x10m

cube, which can be further formed depending on the functions to be designed. The red base cube is designed to create a repeatable and recognisable symbol of the park. The orthogonal grid is the simplest representation of the territory, providing a framework for the irregular terrain and facilitating orientation in an initially unfamiliar space.

Line

The lines designed by Tschumi are the main pedestrian routes through the park. Unlike points, they do not form any orderly structure, crossing and leading to different parts of the park. There are three dominant lines:

- Two axes, covered by open structures 5m wide
- The north-south axis connects the gates of Paris and the metro station la Villette with the Porte de Pantin, while the east-west axis connects Paris with the suburbs.
- Free-roaming 'cinema' promenade
- A path connecting the different thematic sections of the park, closing into a loop. It crosses the axes at various points, determining unexpected encounters with existing or programmed nature. The promenade is a key element of the park, creating view sequences and picture frames.
- Avenues of trees connecting key activity areas

Plane

The planes are defined by activities requiring wide spaces for play, fun, exercise, entertainment, and markets. Each is programmatically defined and characterized by individual textures corresponding to their programmatic needs (sidewalks, grass, sports, tree canopy).

3. APPLICATION OF THE METHOD

3.1. PROJECT STRUCTURE

The project started with analyses covering the whole of the Port Island, which were then used to determine the strategy of its development. The defined composition principles and envisaged actions were then used to create a master plan for the detailed areas (Wisloujscie, Przerobka). Due to design challenges and complicated structure of the district, it was decided to develop the area of the envisaged post-industrial cultural zone. As a complement to the planned solutions. The towers are a kind of leitmotif and are independent of individual spatial solutions, view towers mapping the landscapes of the Port Island were proposed.

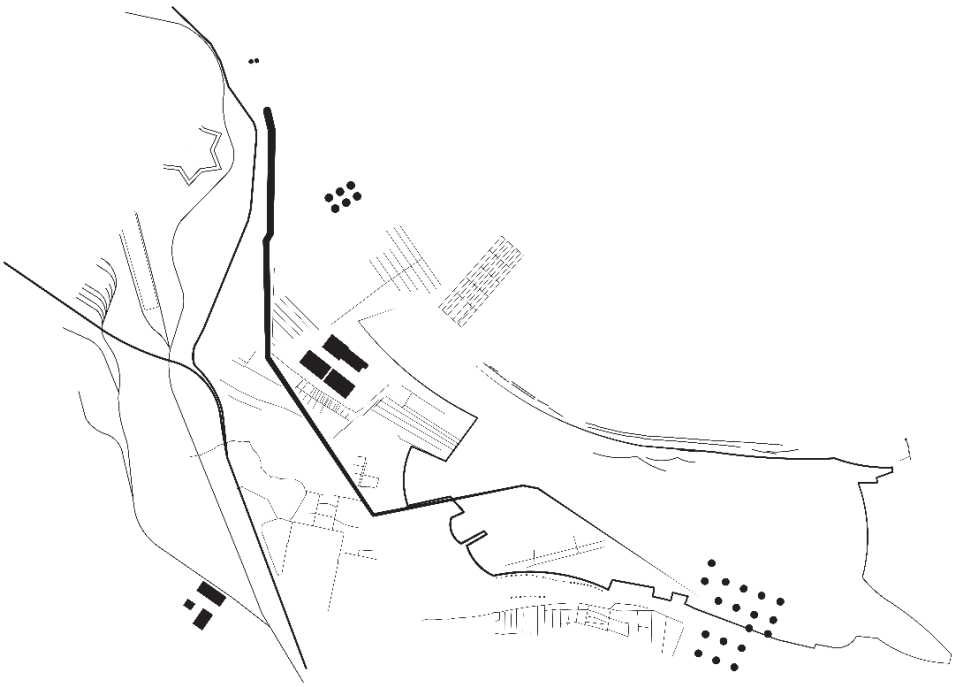

Figure 15. Landscape-composition analysis as a reference for the composition of development strategies.

Composition

The landscapes of Port Island, amazing in their diversity, served in the project both as a canvas for the painter, providing a background for developmental changes, and as elementary parts of the work, in the form of an appropriate record of the direction of transformations.

Using the design guidelines formulated, the development of the strategy was based on an abstract compositional notation, supported by the art theory of Vassily Kandinsky, defining point, line and plane as its elementary components. A composition by the painter attached to his theoretical work on the analysis of paintings was used as an inspiration. In combination with the compositional and spatial analysis, which takes into account the determinants that defines the overall perception of the island, it allowed to create a site-specific composition. The proposed composition contains existing elements and uses them to determine the directions of transformations, linking with the spatial structure of the Island. The main compositional axis is a marked landscape axis using the area above the main heating main to create sequences of views. Groups of parallel lines define the location of irrigation channels. The whole is 'tied' by a freely shaped line marking the ecological corridor.

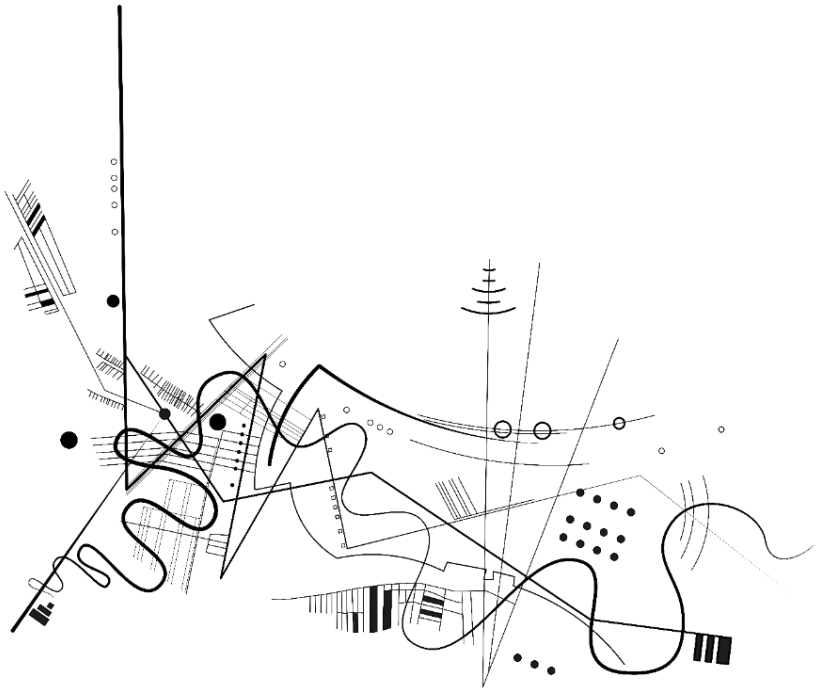

Figure 16. Composition of the Port Island development strategy.

Strategy

The compositional record, defining the dominant form of spatial activities, served as a template for determining the Island's development strategy. It was divided into seven main parts:

1. Landscape axis - defining a system of landscape axes connecting points of high viewing value and emphasizing the identity of the Port Island.
2. Hydropark - utilization of the existing network of canals and irrigation fields (seepage) to create a melioration system ensuring anti-flood protection of areas at risk of flooding.
3. Waterfront - a continuous system of waterside spaces bordering the Dead Vistula facilitating pedestrian, bicycle and water transport for the inhabitants of the Island and being an attraction for the residents of Gdansk and tourists.
4. Post-industrial park - enhancement of the qualitative values of post-industrial sites with emphasis on their characteristic features through their reuse for service, residential and natural purposes.
5. 4. nature - creating an ecological corridor existing between transportation routes with the use of spontaneously developing plant communities.
6. Nature trails - promotion of Port Island and its unique features by setting out walking trails in places of high natural and landscape value, complemented by small land art interventions.
7. Water art - promotion of recreational and leisure advantages of Stogi beach and changing the perception of this place.

Within each of the main parts, projects, their objectives, activities, responsible entities and beneficiaries have been designated. Responsible entities are identified according to the scope of their activities, as defined in their statutes and the scope of activities of each entity.

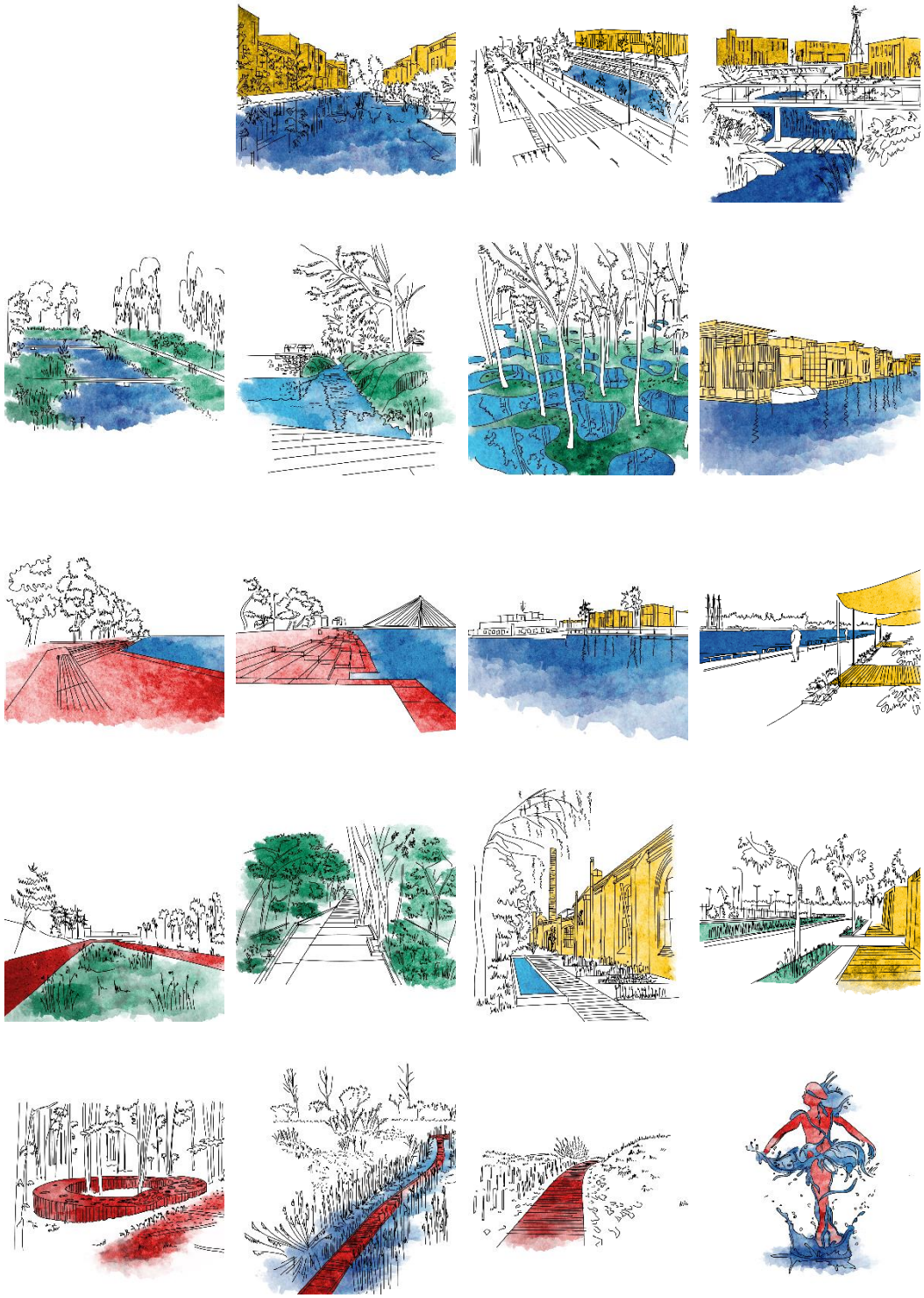

Figure 17. Illustration of actions envisaged under the strategy.

3.4. WISLOUJSCIE

The area around Wisloujscie Fortress is one of the few green areas in the western part of the island, dominated by industry and shipping. The fortress is listed as a cultural heritage site, protected within the Natura 2000 area (due to the habitat of bats that inhabit it), and aspires to be listed as a UNESCO World Heritage Site. The elimination of the ferry connection with the New Port district, located on the other side of the Dead Vistula River, negatively influenced the communication accessibility of the area, which currently can only be realized by car or bus communication.

As in the case of developing the composition for the whole of Port Island, the preparation of the composition of the detailing area takes into account the dominants and characteristic spatial structures. Using them as base directions, a graphic composition was designed that, unlike the one envisaged for the island, refers directly to the planned functional and spatial arrangement, delimiting the axes, dominants and functional zones. The key compositional axis connecting the waterfront with the area of Wisłoujście Fortress, with its characteristic outline in the form of a star, and the green areas located to the north-east of it. The lines shaped freely correspond to the main pedestrian communication routes. The lines marked out by Sucharskiego Street and the railroad tracks were also used to define the spatial form of the inter-communication green route.

The main goal of the master plan developed for the area was to make use of the potential of the existing natural and cultural assets and activate the area by introducing the function of higher culture services, naturalistic park, and experimental housing development.

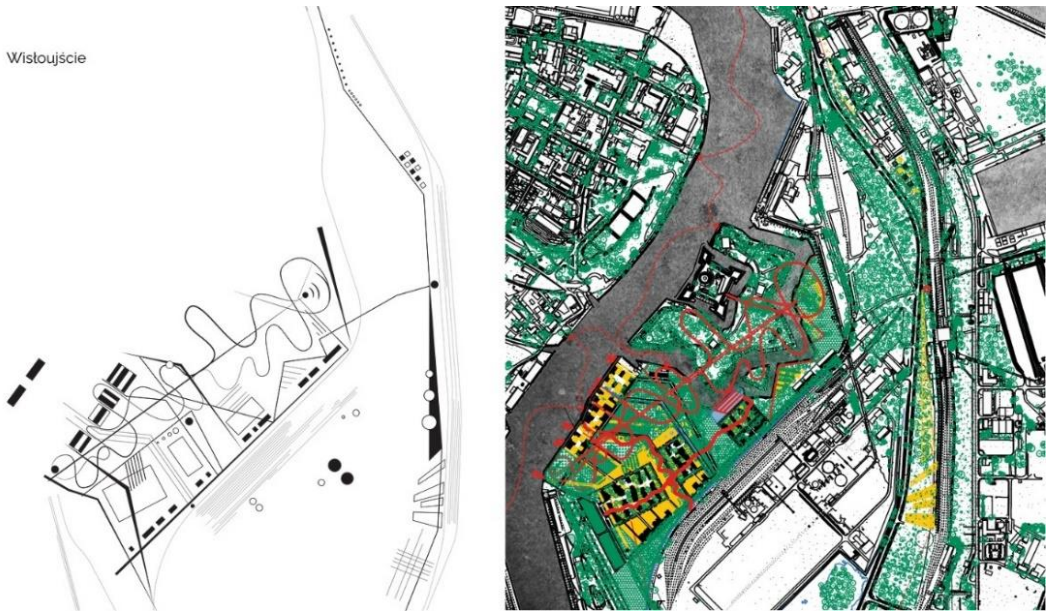

Figure 18. Composition and masterplan for Wisloujscie detailed area.

3.5. PRZEROBKA

Przerobka (ger. Troyl) describes the former bridge abutment connecting Gdansk with the Port Island. Located most to the west, Siennicki Bridge is the oldest bridge on the island. It joined the two shores in 1912, and through it, a streetcar line connecting the city center with Stogi beach was led. After the war damage it was rebuilt in 1947. The railroad bridge also dates back to the early twentieth century and was built in connection with the need to connect the railroad with the shipyard, the Northern Port, the industrial areas and the train repair shop. The cable-stayed bridge is called the John Paul II Bridge of the Third Millennium and was built in 2001. Being a road bridge, it is part of the Gdansk bypass and connects the car traffic on the whole island with the wider national and European transport network.

Przerobka is characterized by a diverse functional-utility structure, the elements of which will be transformed in the near future. Moreover, this place is a kind of gateway to the island.

In developing the composition of the area, analogous methods were used to those used previously for the whole island and the Wisloujscie area. It became crucial to incorporate the existing, diverse and compact urban tissue into the newly designed spatial-functional system. The developed area is dominated by spaces connected with railroad transport - railroad tracks, turnouts, and sidings. However, the main existing compositional axes have become road connections, while the spatial dominants - buildings of repair plants. The scheme also incorporated elements indicated in the graphic record concerning the whole island, above all, the free line of the ecological corridor and clusters of irrigation canals. Abstract functional connections were also delineated with arcs and dynamic curves. Similarly to the Wisloujscie area, the developed composition has an urbanistic character and refers directly to spatial solutions. Its strongly ordered fragments are determined by the foreseen function of the non-burden industry, technological park, and a supplementary function for the prison - cultivated gardens. Referring to the scale of the historic industrial buildings, quarters of single- and multi-family buildings similar in size were delineated. An important element is also the line in the lower part of the composition which is to constitute a record of the planned activation axis of the Dead Vistula waterfront.

The main objective of the master plan developed for the area was to determine the boundaries and the manner of shaping the urbanized areas and the project for revitalization of the former train repair plant areas, including the post-shipyard areas bordering the waterfront of the Dead Vistula River and restoring the functional waterside spaces to the city residents.

3.6. POST-INDUSTRIAL CULTURE ZONE PRZEROBKA

The post-industrial character of the railroad repair shop buildings and the space between them affects the potential of the area located between residential development and industrial and shipping facilities. Currently the area is disorganized, functionally incoherent, and may be perceived as degraded. However, recognizing and emphasizing its value as well as systematizing the functional-spatial structure may guarantee the creation of an attractive public space.

The presence of art as an impulse for action, taking a variety of forms, was treated as mandatory. Extensive workshop buildings were allocated to large-scale services - a concert hall and a theatre. Their raw character is to be used and emphasized by the renovation works carried out in accordance with the conservation requirements. In buildings of smaller surface an art gallery was located, exhibiting works of local artists. In the western part of the largest of the buildings there will be workshops for local craftsmen.

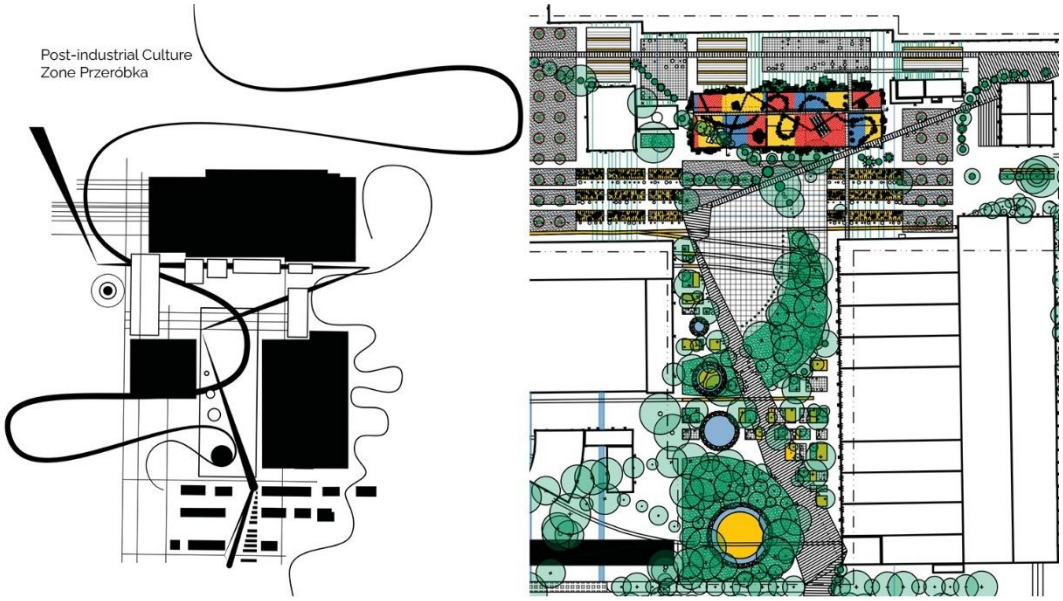

Figure 19. Composition and masterplan for Przerobka detailed area.

4. SUMMARY

The dichotomy of cultural and natural heritage and a thriving and developing industry is what makes the urban peripheries so unique. Ensuring their harmonious coexistence requires establishing a strategic development framework that takes into account existing potential and leverages it for future functional and spatial solutions. Such measures can take the form of a protocol using the elementary components of the work of painting set by Vassily Kandinsky - point, line and surface. The proposed directions of development written on a blank sheet of paper constitute an independent composition, but when translated into a map, they become a graphic record of specific interventions. In this way a catalogue of solutions is created whose framework is described by a graphic symbol. Point solutions include land art points or lookout towers, linear solutions include a pedestrian and cyclist landscape axis, and the planar solutions include hydro parks, that are at the same time flood protection.

The beginning of a complex process to transform a run-down area, referring to Kandinsky's theory of art, becomes acupuncture measures to simulate activity among residents and attract new investors. The development strategy based on free composition makes the functional-spatial structure flexible and takes into account the phases and the core of activities, which affects the effectiveness of the measures.

A strategic view of the natural-industrial linkages is universal. The compositional structure of the functional-spatial structure is important for each scale: planning, urban planning and architecture. Both approaches are presented on a selected example of degraded areas.

The conducted study has shown that it is possible to plan the development of a post-industrial area by applying the design methods typical for creating plastic composition, such as (1) tool to connect the strategy with the real spatial development, to transfer the strategy to the real livin environment, (2) stimulating imagination through artistic form, influencing design effects and a way to use the privileges of art, such as linking and influencing feelings to achieve better project outcomes.

The landscapes of Harbour Island, amazing in their diversity, served in the project both as a canvas for the painter, providing a backdrop for developmental change, and as elemental components of the work, in the form of an appropriate record of its direction.

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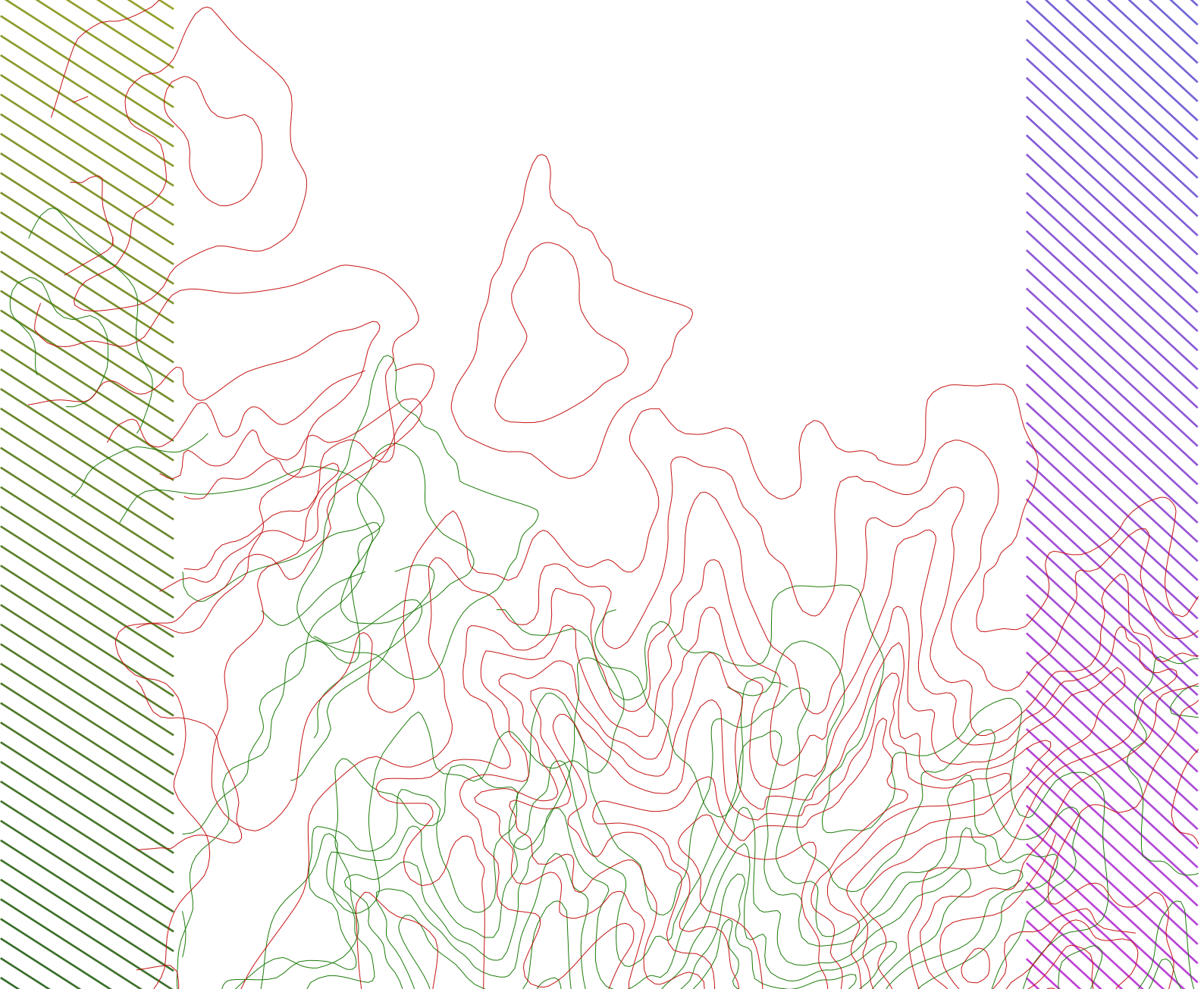
Special Session

International Perspectives on Urban Design

Istanbul Planning Agency (IPA), Public Design Office



INTERNATIONAL PERSPECTIVES ON URBAN DESIGN

PARTICIPANTS

Ajuntament de Barcelona, Xavi Matilla

Beijing Municipal Institute of City Planning and Design, Zhang Chen

Superpool, Selva Gürdoğan

Oyun İstanbul, Başak İncekara

İstanbul Planning Agency - Public Design Office, Başak Çelik

MODERATOR

Gökçer Okumuş, IPA Public Design Office

SUMMARY *

In this special session, online presentations were made to bring together international local governments to share their visions, urban approaches and innovative urban design practices. With the invitation of IPA Public Design Office and Mimar Sinan Fine Arts University; Ajuntament de Barcelona and Beijing Municipal Institute of City Planning and Design as international participants; IPA Public Design Office, Superpool and Oyun Istanbul contributed to the program as local participants.

Participatory design approach was the main topic of this session. It was important to bring together approaches from Europe, the Far East and Turkey in the middle. Seeing that the participatory design approach can be successful all over the world, albeit in different cultures, revealed the importance of transferring experiences to each other.

Firstly, Xavi Matilla from the Ajuntament de Barcelona presented the “Superblock Project”, a master plan of re-organizing famous grid plan of Barcelona as the opportunity of being more pedestrianized public space, then Zhang Chen from Beijing Municipal Institute of City Planning and Design presented “The Revival of a Garden in the Taiyangong Community of Chaoyang District” as a successful example of participatory design of a small neighborhood park. Selva Gürdoğan from Superpool presented the rehearsal application of “Maltepe Zümrütevler Square project” designed by a participatory process. Başak İncekara from İstanbul Metropolitan Municipality presented “Oyun İstanbul” project and their applications. At last Başak Çelik from İstanbul Planning Agency Public Design Office talked about “Burada Birlikte/Here Together” participatory design approach.

** The content of this section have been prepared by summarizing the oral presentations and discussions.*

BARCELONA SUPERBLOCK PROJECT

AJUNTAMENT DE BARCELONA
Xavi Matilla

With Barcelona Superblock, Ajuntament de Barcelona plans to transform the city into a place where everyone can lead a better life, with an urban model approach that puts people above everything else. The superblock is a strategic plan for the whole city that will turn 1 out of 3 streets in the city into green streets by 2030. These are traffic-calmed streets, with priority for pedestrians, with more greenery, and spaces for interaction, play and recreation. High density and compact city Barcelona, will be transformed following these 3 principles;

- Nature
- Proximity
- Collaboration



Barcelona Superblock | Barcelona City Council, n.d.

With the approach of giving the streets back to people, Superblock concept aims to reclaim and extend public spaces to create a quality and safe public space experience on a human scale. Green streets create a new environmental infrastructure where pedestrians and areas to relax take priority, which creates room for social and small business activities as well. By promoting public transport to provide less pollution to create a healthier city is one of the priorities. In every neighborhood where the Superblock program is implemented;

Participatory processes are present throughout each phase of the project to identify problems and produce collective solutions.



Barcelona Superblock | Barcelona City Council, n.d.

BEIJING MUNICIPAL INSTITUTE OF CITY PLANNING AND DESIGN

THE REVIVAL OF A GARDEN IN THE TAIYANGONG COMMUNITY OF CHAOYANG DISTRICT

Zhang Chen

The Revival of a Garden in the Taiyangong Community of Chaoyang District project is part of the "Micro Space in Chaoyang" which hosted by the Beijing Municipal Commission of Planning and Natural Resources. It's focusing on the micro space redesign in a public participation way. Project area is located in a 30 years community " Shaoyaoju" of "Taiyanggong" street which is in the norheast of Beijing city. Project was trying a find a solution of How to promote the redesign? How public participation can be implemented? and What design will satisfy the residents? questions. Project process is following 3 steps; Observation, Design and Implement. Through this process different stakeholders such as designers, volunteers, residents and local authorities has gathered as a Micro Space Redesign Group. For 6 days, 4176 people worked together through an observation process. Discussions and meetings were held including different voices in the design step.

As a result of the design process, the idle project area has different functions as new grounds for social activities, the neighborhood corner, the gas box and greenery open spaces.

Implementation process of the design also includes a group of residents participation. Of the 45-day design implementation process, one week is devoted to cleaning the area, 4 weeks to installing facilities and building infrastructure and as a last step for 7 days devoted to building the gardens.



Fang, 2021

SUPERPOOL

STREET TRANSFORMATIONS

Selva Gürdoğan

Superpool is an international architectural practice based in Istanbul, Turkey. It was founded in 2006 by two partners Selva Gürdoğan and Gregers Tang Thomsen, who met at Rem Koolhaas's Office for Metropolitan Architecture (OMA) studio in 2003 and worked with until they founded Superpool.

Istanbul, Europe's largest metropolis, has undergone a rapid urban transformation triggered by migration from rural to urban and population growth in recent decades, leading to an intense competition for space. Therefore, it has become increasingly difficult for the city to increase access to open space and parks, which play a critical role in the physical health and mental well-being of urban residents. Starting in Spring 2019, NACTO-GDCI worked with Maltepe Municipality and Istanbul-based design office Superpool as part of the Bernard van Leer Foundation's Urban95 program to increase usable public space in neighborhoods using alternative methodologies **.

** Retrieved from https://www.superpool.org/blog/gdci-writes-about-zuemruetevler-square on 24.12.22

Maltepe Zümrütevler Square, chosen as the project area, is located in one of the disadvantaged areas of Istanbul with a high population density. Before Zümrütevler Square goes into the rehearsal process, the data collection process, participation workshops, and event planning of daily rehearsals should be well designed. Before Zümrütevler traffic slowdown rehearsal, vehicle and pedestrian counts, observation of pedestrian circulation areas and pedestrian flows, questionnaires and participation workshops were held before rehearsal practices. Zümrütevler Square, whose permanent implementation was completed in August 2020, has become a public space where the residents of the neighbourhood can spend time and children can play.



Zümrütevler Square, n.d.

OYUN İSTANBUL (İSTANBUL PLAY)

ISTANBUL PLAY-FROM A CITY WITH PLAY SPACES TOWARDS A PLAYABLE CITY

Başak İncekara

What is İstanbul Play?

A local government initiative, established by the Istanbul Metropolitan Municipality Department of Parks and Recreation in 2020. Istanbul Play implements a new model for a local planning that determines outdoor play and recreation as the focal point in a more liveable and happier İstanbul. The Istanbul Game Master Plan, developed within the scope of Oyun İstanbul, aims to create a guiding perspective in the studies to be made towards becoming a game-friendly city by considering the game and the game culture as a value that should be considered holistically.

With the Istanbul Game Master Plan, for the first time in Istanbul, a diagnosis of the city's recreational infrastructure and an analysis of the recreational and recreational / game uses of the public space were revealed. This plan not only provides information about opportunities for play in public spaces in Istanbul, but also forms the basis for managing information about the suitability of playgrounds for play. It creates a database to monitor the current situation, learn more about gaming and recreation infrastructure, and gradually build on existing knowledge ***.



İBB Yeşil İstanbul, n.d.

IPA, PUBLIC DESIGN OFFICE

COMPETITIONS AND OTHER PARTICIPATORY DESIGN PROCESSES
Başak Çelik

Istanbul Metropolitan Municipality, Istanbul Planning Agency (IPA) aims to determine the role, vision and direction of Istanbul in the global system and to offer scientific, rational and permanent solutions to challenges that Istanbul faces. It is a “collective mind” mechanism that brings together stakeholders who want to rethink and produce ideas about Istanbul. It has a wide stakeholder network consisting of non-governmental organizations, academia, private sector, international organizations and planning agencies from different cities of the world. IPA, Public Design Office, carries out the process of developing qualified, participatory and innovative design practices in public spaces. It advocates the sustainable, participatory and transparent operation of spatial project production processes and designs the necessary processes. It involves the user and relevant stakeholders in the process with different participatory methods at different stages according to the requirements of the projects. With this approach, aiming to develop the competition culture

*** İBB, (2019). İstanbul Oyun Master Plan, s 9-10

in Turkey and strengthen the public perception of the place, a series of urban design, architecture and fine arts competitions have been opened since 2020.

With the competition processes, it is aimed to ensure participation in the transformation processes of Istanbul public spaces by establishing relations with the relevant actors. For this purpose, in order to assign roles to different stakeholders, pre-competition specification preparation processes and post-competition selection processes, in which the award-winning projects were voted by the citizens, were carried out.

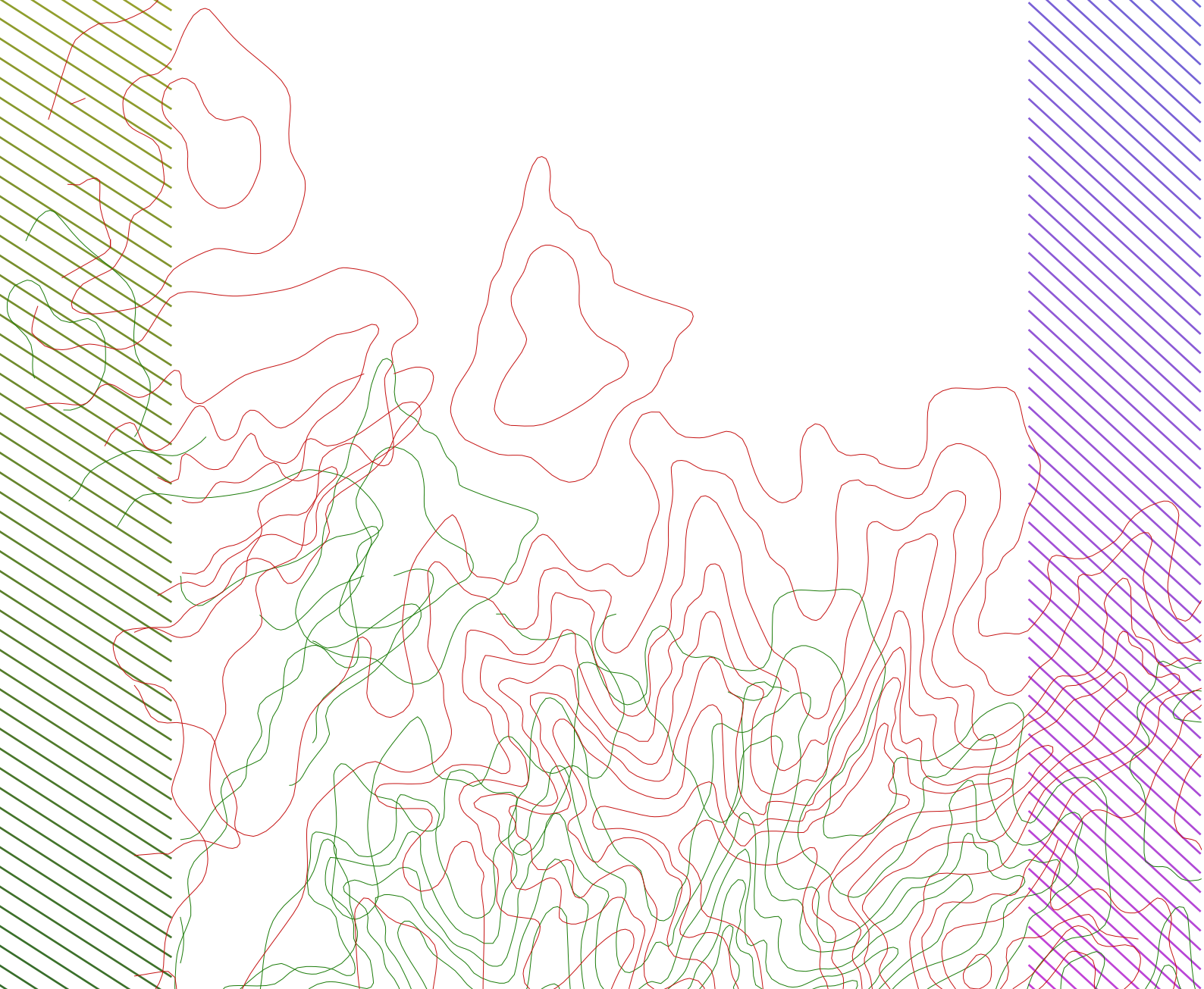


Konkur İstanbul, n.d.

Special Session

Future of Urban Design Student Workshop

Mimar Sinan Fine Arts University,
Metropolitan / Urban Studies Student Club (MEKİK)



FUTURE OF URBAN DESIGN STUDENT WORKSHOP

WORKSHOP ORGANIZING COMMITTEE
Mimar Sinan Fine Arts University,
Metropolitan / Urban Studies Student Club (MEKİK)

Murat Onut Tahmaz
Işıl Öztürk
Ali Emre Ölmez
Ela Özorhan
Duygu Yakupoğlu
Ezgi Ayan
Nevra Çorapsız
Deniz Kaya
Melike Şengül
Elizhan Tuğana Eren
İlke Azade Sel

INTRODUCTION

Mimar Sinan Fine Arts University has been hosting student workshops again in recent years, as it was the focus of the Urban Design and Implementations Symposium when it started 30 years ago. This year, the workshop coordinated by students on their own initiative was organised within the framework of the symposium theme.

The workshop was held on May 13-21, 2022 by the initiative of the Metropolitan / Urban Studies Student Club (MEKİK). In order to ensure the participation of students from different disciplines and to increase the visibility of the event, all students were invited with an open-call. Twenty-four students from different disciplines responded to the invitation, and thus students from the City and Regional Planning, Architecture, Interior Architecture, Industrial Product Design and Sociology departments participated to the workshop. it was possible to form groups that will work on different sub-themes with the sufficient number of participants.

The main questions of the workshop were how the space will be affected by the changing urban dynamics and how to utilise the potentials especially against the climate crisis. In this context, the area between Azapkapi and Karaköy in the old city centre of Istanbul (Figure 1) was selected as the study area to discuss and evaluate the future of the city and the future of urban design. The study area offers the potential to discuss the problems of the changing and transforming city due to its strong historical past, its relationship with the coastline and open public space qualities while at the same time large enough to offers opportunities for urban studies at different scales.

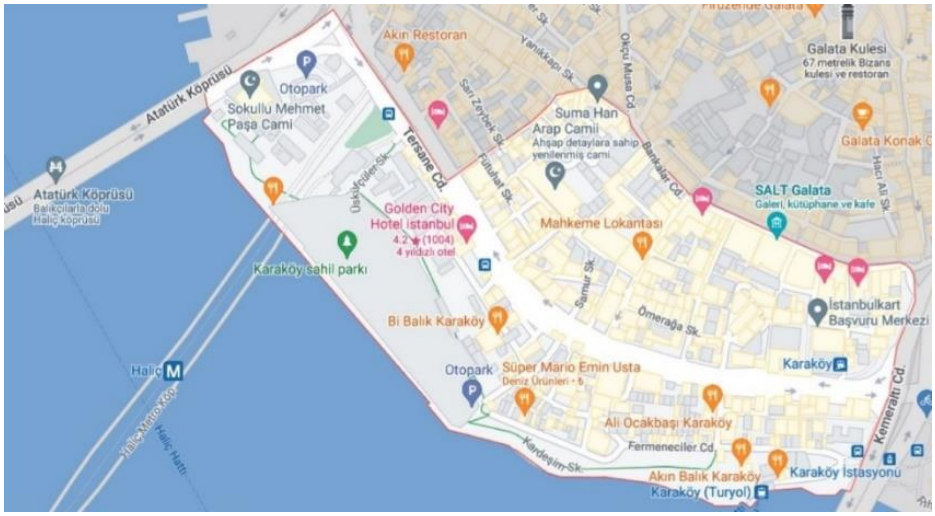


Figure1. Study Area, Azapkapı-Karaköy area at the entrance of the Haliç (Golden Horn)

Within this framework, six groups were formed to work on different sub-themes.

Group 1. Cultural Heritage
Group 2. Housing and Climate Change
Group 3. User Profile
Group 4. Sustainable Transportation
Group 5. Green Areas
Group 6. Coastal Area

The first day of the workshop started with the presentations of invited speakers. Azapkapı District presentation of Adem Erdem Erbaş was followed by Müge Özkan Özbek's presentation on different urban design approaches and Kevser Üstündağ's presentation on organic transportation (Figure 2). The presentations, which continued with discussions, made an important contribution by providing detailed information about the area before the field study and how to utilise design approaches at different scales and themes.



Figure 2. Student Workshop Presentations

On the second day of the workshop, a field trip was carried out along the coastal area between Galata and Atatürk Bridges and in the area extending up to Bankalar Street. Hence, the participants had the opportunity to make observations in the field and identify problems and potentials on site (Figure 3).



Figure 3. Student workshop field study.

Sub-groups from different disciplines developed their studies through sketches, literature reviews and discussions based on their observations. During the three days following the field study teamwork continued together.

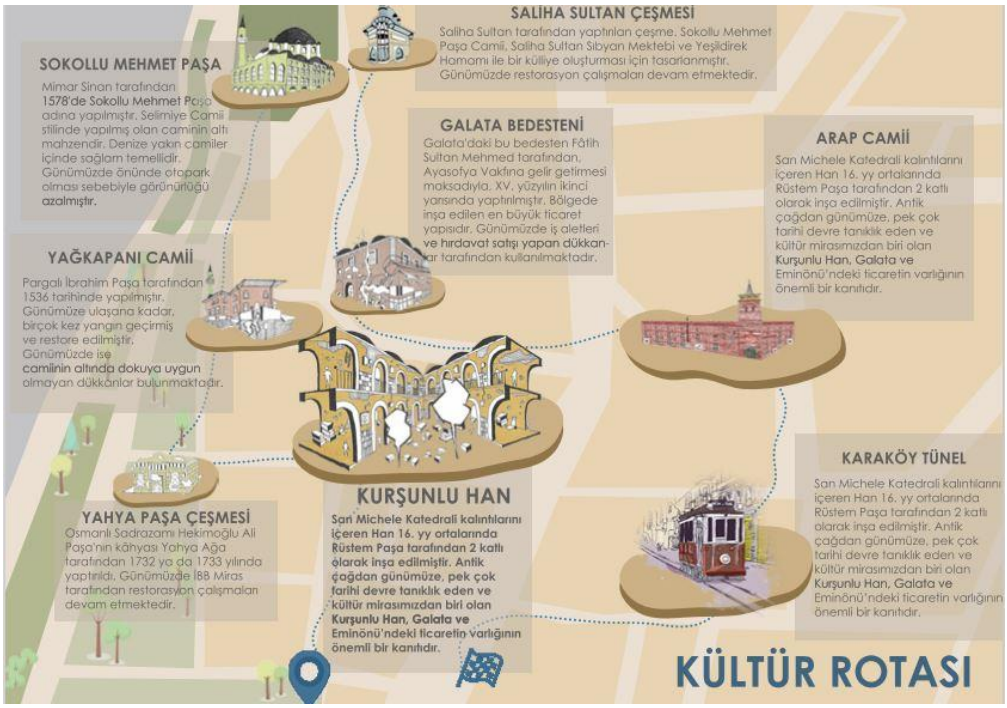
Through this interactive work, each group has reached complementary outputs on the study area from urban scale to street and building scale based on different themes. They developed spatial determinations and suggestions that can shape the future of urban space. On the last day, the visualisation works were completed and the workshop outputs were presented at a meeting held at IPA Florya facilities and shared online with all participants (Figure 6).

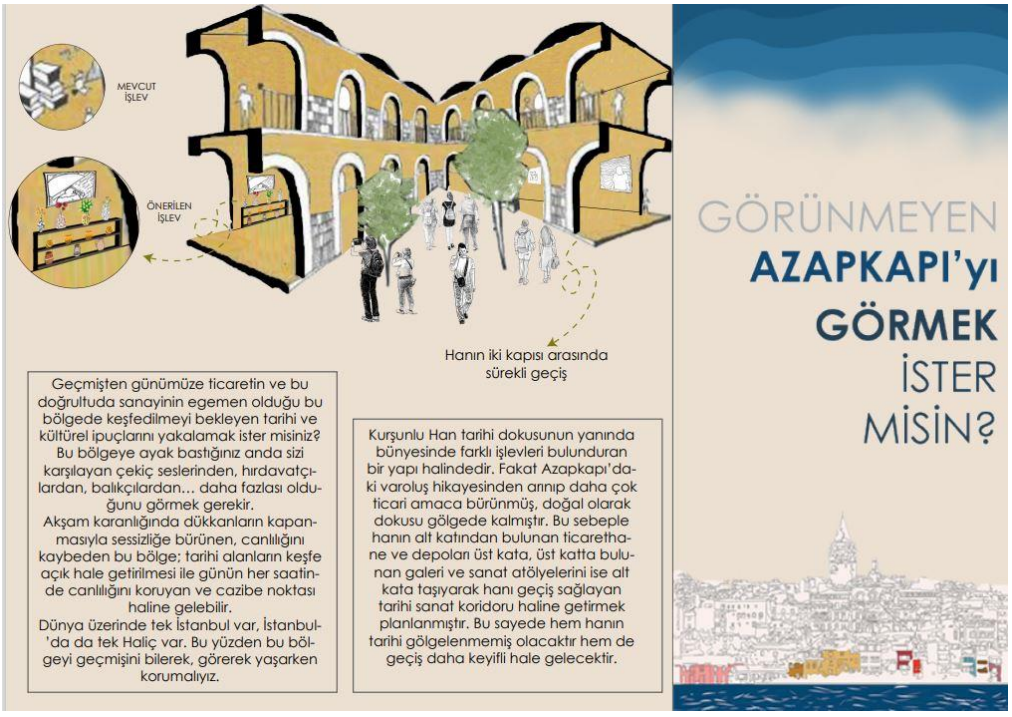


Figure 6. Workshop participants. Final presentation at Istanbul Planning Agency (IPA), Florya Facilities.

GROUP 1. CULTURAL HERITAGE

Rümeysa Çakır
Melike Şengül
Süheyla Selen Tangül





Cultural Routes at Azapkapı. The brochure designed in the workshop.

While conducting field study in Azapkapı, cultural heritage items that are of great importance in the historical process of the region were explored. It was noticed that the cultural heritage qualities located in the area, which were intensively observed during the filed study in Azapkapı, actually had very little visibility for public.

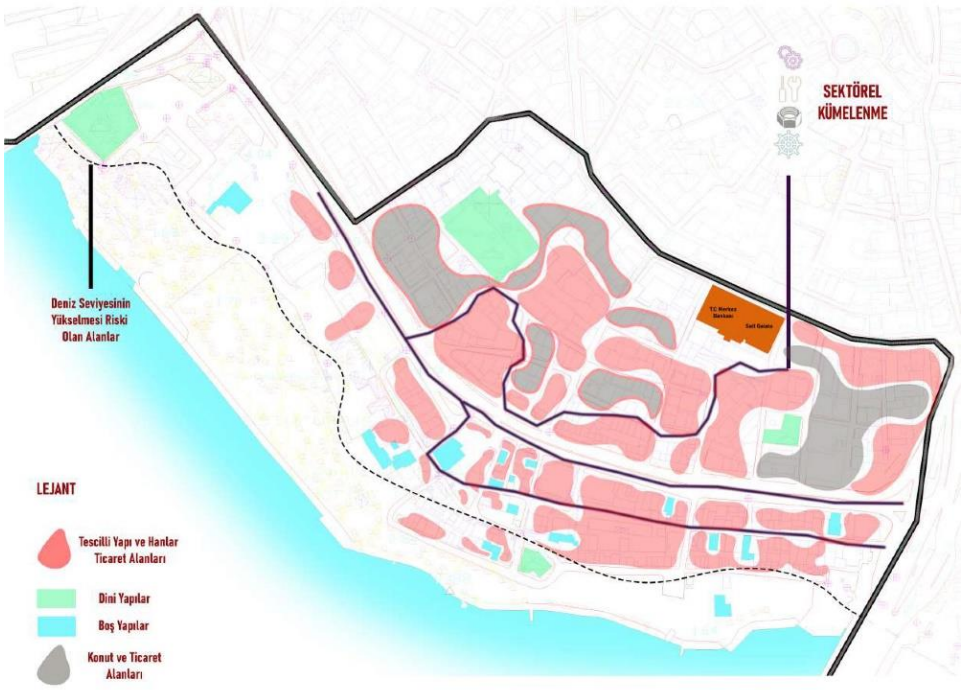
Based on this problem, the idea of making the existing potentials visible by creating a cultural route was put forward in parallel with the findings obtained during the fieldwork. Defining existing cultural elements on a cultural route through a brochure was considered as an effective idea by the group. It is thought that the addition of the suggested cultural route to the Cultural Routes of the Ministry of Culture and Tourism will greatly increase the visibility of the area.

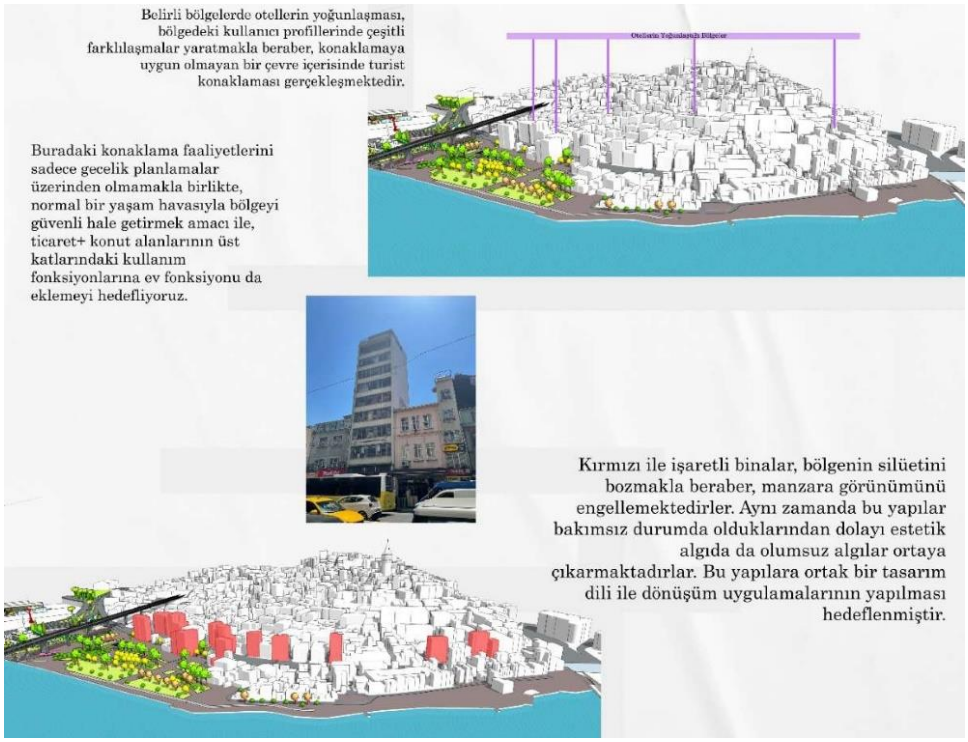
Various cultural heritage items were determined as focal points within the scope of the suggested cultural route. The most important focal point was Kurşunlu Han. Suggestions for Kurşunlu Han were to use the area as a transit point due to its central location and its unique potential. With the decision to preserve the existing system in the building (Han) and to move the art galleries on the upper floor to ground level, it was thought that Kurşunlu Han could be a pleasant transition point in Azapkapı.

The main goal of the Cultural Heritage group in this context is to make visible the historical and cultural urban pattern of the city that needs to be protected and waiting to be discovered, as well as the trade and industry that has lived in Azapkapı from the past to the present. When thinking about the future, one of the most important points is to emphasize the protection of our values by providing visibility in Azapkapı. There is only one Istanbul in the world, and there is only one Golden Horn in Istanbul. We must make our values visible, protect our cultural heritage from the past to the present, and transfer them to our future.

GROUP 2. HOUSING AND CLIMATE CHANGE

Müge Ozan
Doğukan Sümbül
Salih Enes Çalık
Eslemnur Sezen





It has been determined that the Azapkapı region, where the field study was carried out, is under the risk of losing its spatial identity because it is located in the rapidly changing and transforming city center. These analyses have identified some issues by addressing climate crisis and housing design issues.

As a result of the observations, it was determined that the physical qualities of the building stock in Azapkapı were not in a good condition and most of them were at risk of collapsing. It has been observed that this situation is generally caused using buildings for storage purposes.

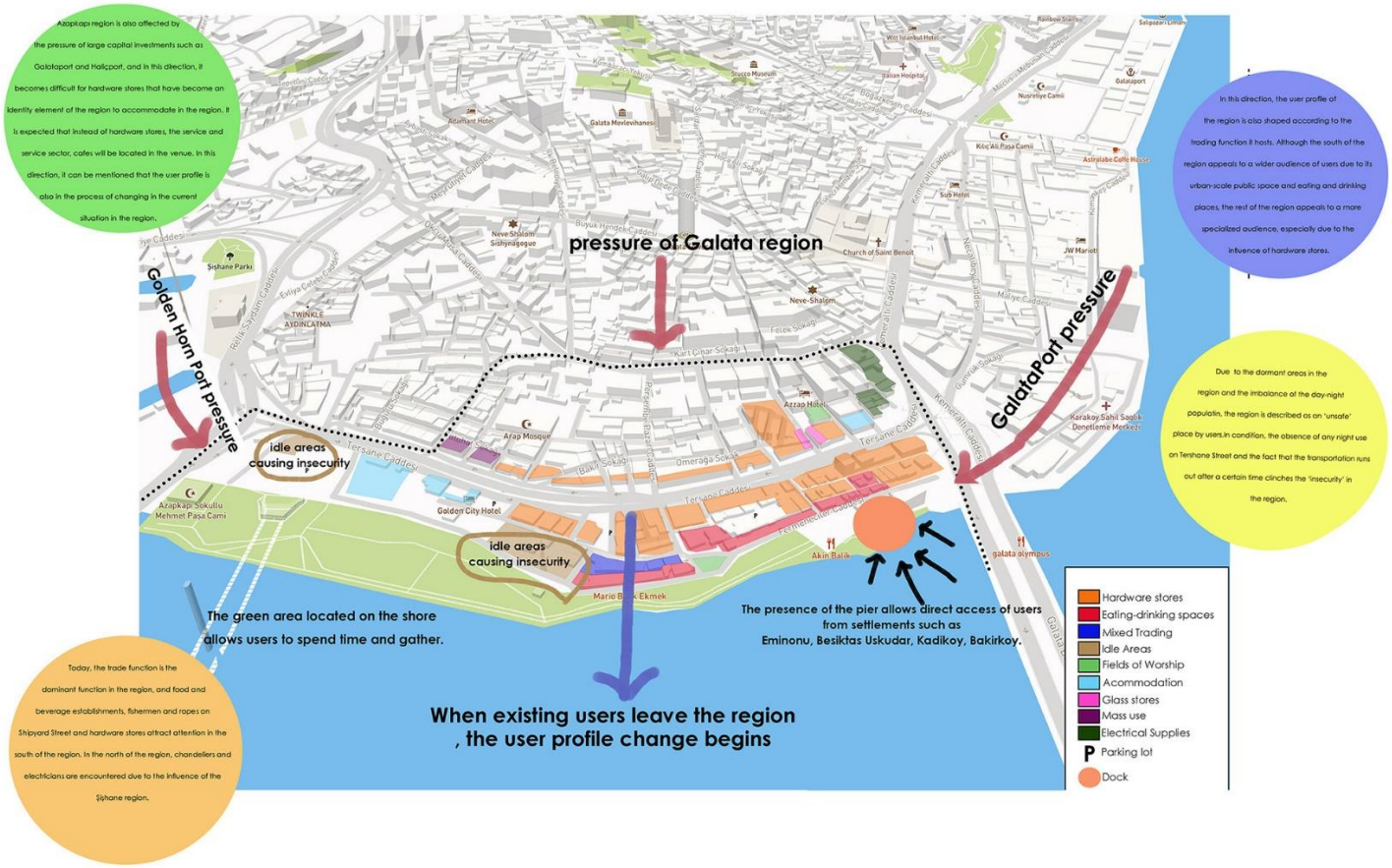
It has been determined that the buildings in the area have an average of three floors. Observations from the street level shows that the buildings have poor quality of facades and have no use of floors and roof. These data led us to the conclusion that the structures in the field lost their liveability and economic value.

Plots of the demolished structures are still being used as a parking lots. Hence there was a vehicle density on streets of Azapkapı. As one of the spatial proposals to improve the quality of the space, it is considered to remove the car parks located between the building islands and combine this waste areas with the green system, thus reducing local carbon emission.

It was seen that there was an imbalance in the day and night use of most of the structures in the area due to commercial zoning. At night, streets are quite secluded. A proposal based on suggesting new functions were developed to encourage mixed use by transforming the buildings other than "han" (historical commercial buildings) and to generate mixed-use, housing + commercial functions.

GROUP 3. USER PROFILE

Nur Yaren Aydur
Eray Mutlu
Seda Gökdemir
Yıldız Gültekin



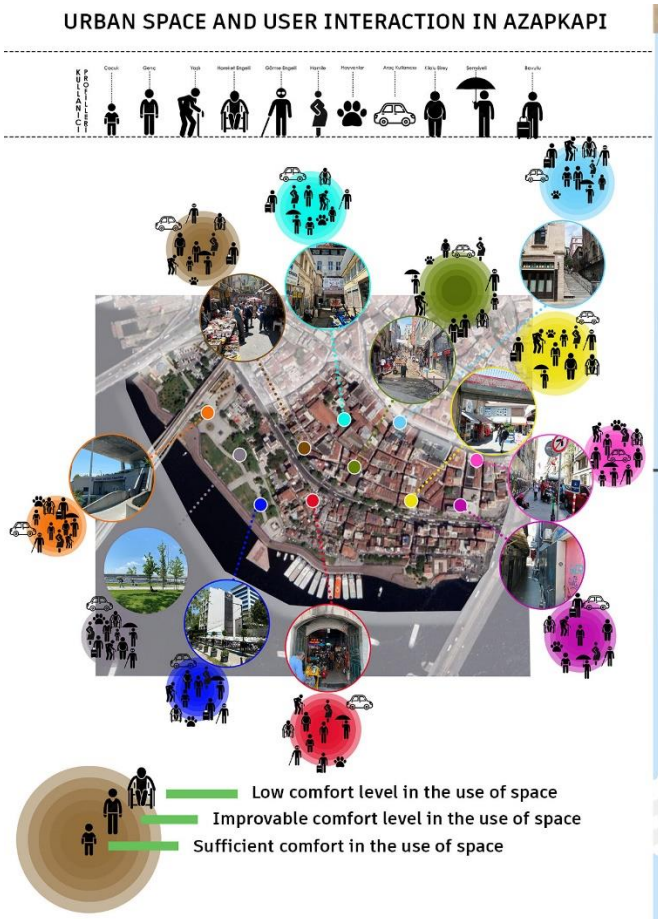
The primary goal of the group was decided to observe the user profile of the open public space while running the field study at the first day. Landuse analysis was also carried out to understand the pattern of functions in the area. After accomplishing the field study, literature review was carried out in order to determine the tendencies of the user profile.

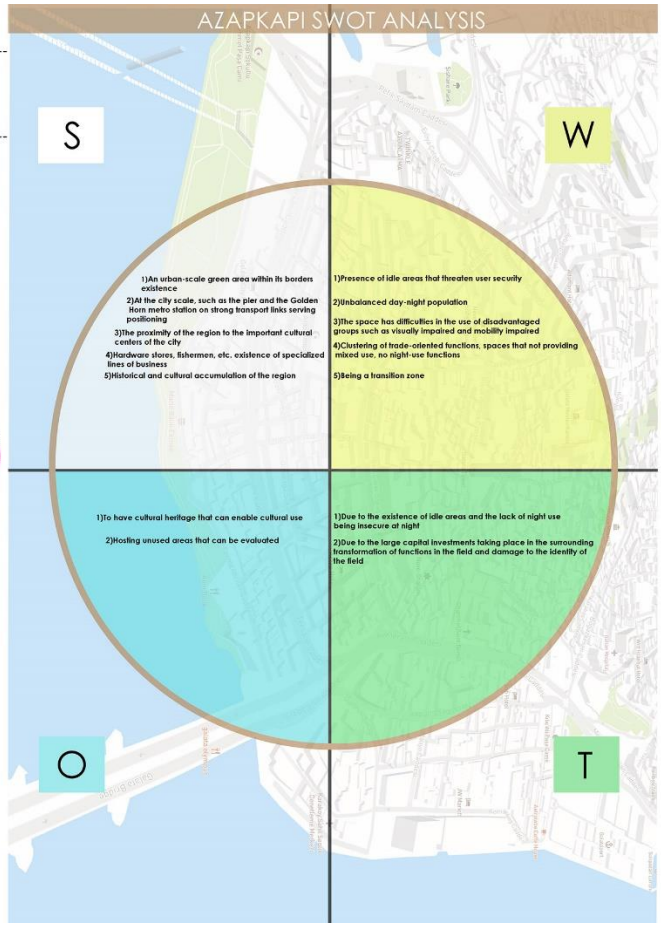
In addition to data collection and analytic studies through maps and drawings, debates on how the area attract different users were the major stimuli of the creative thinking process of the teamwork. As a result of the discussions, it was concluded that new capital investments bring with them the risk of negatively changing and transforming the functions and built environment in the Azapkapı area.

It is understood that commercial function is the most important factor in the spatial development of the area. Accordingly, the user profile is generally diversified due to the differentiated commercial functions in the study area. Among these, specialized functions such as hardware are noteworthy. In addition, it has been

observed that the user profile has changed in the southern parts of the studied area with the effect of open public spaces rather than commercial functions.

However, in accordance with the literature review and the interviews conducted with users in the area, it was determined that the area was defined “unsafe” due to imbalance of the population of day and night. In addition, service industry is allocating in the are due to capital investments. Hence, hardware stores that become identity of Azapkapı are now leaving the area, and the user profile has started to be change.





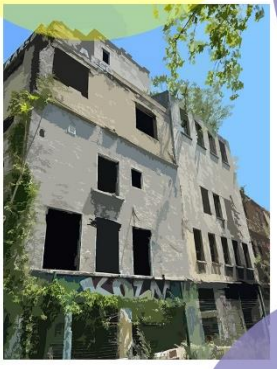
Our suggestions for Azapkapı to function as a common cultural place for different users;

SUSTAINABILITY

Pedestrian should be the priority in urban design.
In order for individuals to explore the space freely, the values of Azapkapı should be kept alive through the concepts of accessibility and safety.



Inert and debris structures should be re-functioned and included to the field.
Dysfunctional spaces that create safety problems should be restored in a way that adds value to the fabric of the area.





TOURISM

In order to bring the cultural heritage architecture of the region to the forefront, planning should be done in such a way as to center these areas.



UNIVERSAL DESIGN

Within the scope of universal design principles, spaces and circulation areas should be designed in accordance with the needs of various individuals: it is important to take the necessary measures to ensure that people with visual and movement disabilities can use the spaces without difficulty, to eliminate deficiencies.
Addressing user diversity with mixed use in areas where circulation areas and spaces lose their function.



Introducing the values of the region to people from different cultures :
Common areas of use designed to experience traditional tastes and street tastes: the combination of food and beverage areas with shopping areas should have a more comfortable and interesting design language.





GROUP 4. SUSTAINABLE TRANSPORTATION

Deniz Kaya
Berra Sarıgül
Öykü Küçük
Zeynep Sönmez
Zeynep Dilara Çamlıcalı



Azapkapı study area is a compact location for five different kind of transportation system for ferries, buses, trams, cars and pedestrian.

After the field study carried out in Azapkapı, the limited and intensive use of the area was observed. It has been determined that this intensive use of transportation in the historical urban pattern, stuck into a small area, is the source of many current problems.

These can be listed as,

- The sidewalks are very narrow due to the fact that the goods sold in the shops are exhibited on streets.

- The very dense traffic and crowded parking lots.

- The ferry dock area is not conveniently located for transfer and is therefore impractical to reach.

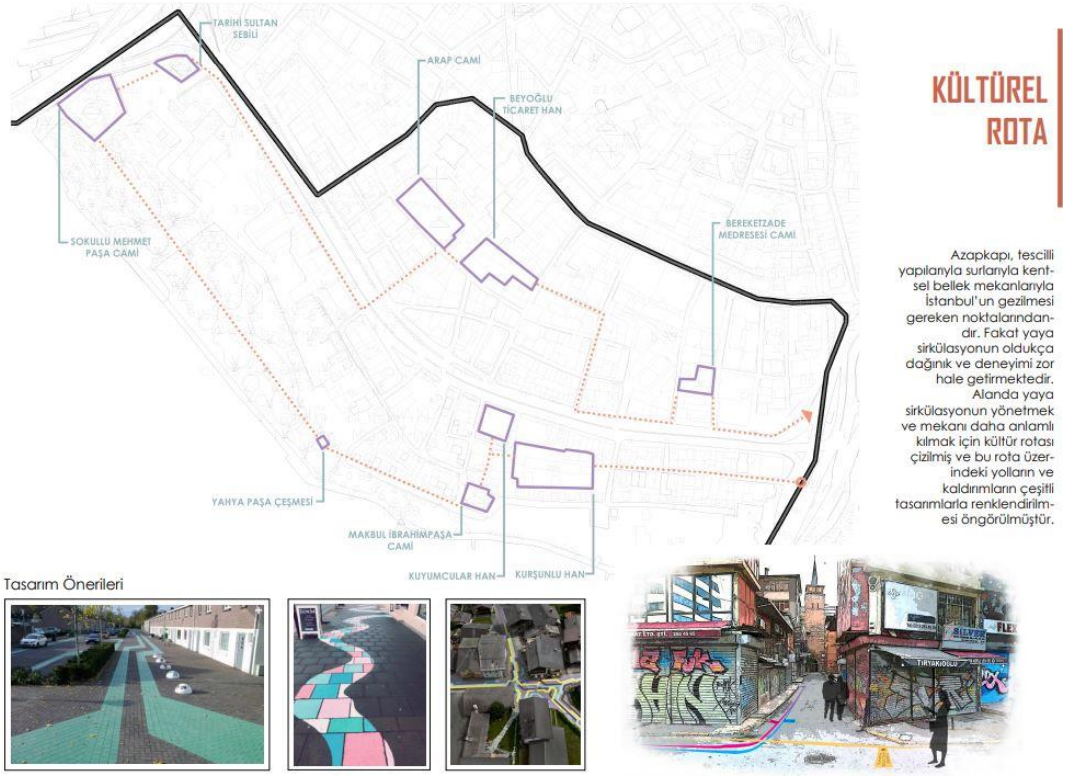
- The bicycle road on the waterfront is distributed.

- Steep and narrow streets have access to busy traffic roads which might cause accidents.

Above mentioned problems were assessed within the framework of continuity, accessibility and security principles in transportation and the solutions were developed accordingly. In this context, a proposal design idea suggested to ensure readability, continuity and a pedestrian-priority for Azapkapı area.

It is aimed to ensure the continuity of the pavements by developing the necessary design criteria for the shops to display the products they sell on the street in a way specific to Azapkapı. In this way, the memory of trade center of the old town and shops will be preserved and at the same time a comfortable walking experience will be provided for pedestrians.

Another issue in terms of pedestrian priority is narrow alleys that do not give secure feeling. To change this situation, the pavements of some streets has been renewed and marked as pedestrian priority streets to increase the density of pedestrian activities.



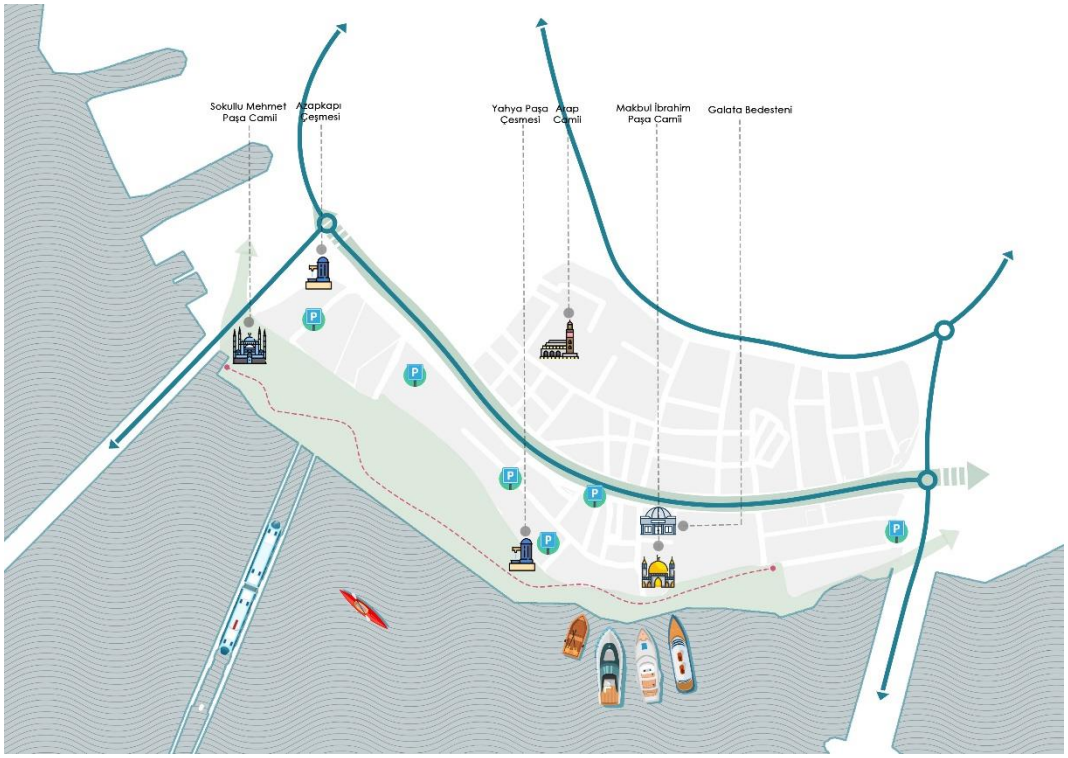
Azapkapı is one of the must-see places in Istanbul due to its historical city walls and other historical values. However, poor physical conditions and unguided roads and pathways make the experience difficult. To manage pedestrian circulation in the area and to make the space more meaningful, perceptible, the cultural routes which will guide the visitors in certain directions are proposed to be designed in different colors.



Parking lots spread out in the historical urban pattern are causing vehicle traffic on narrow streets, which negatively affects pedestrian circulation. For this reason, it was considered to combine all the parking spaces spread over the area at one spot and to construct a carpark. This carpark is proposed to be an open structure with green roof over it. This green roof is planned to be allocated to public space as in the examples of mixed-use carparks.

GROUP 5. GREEN AREAS

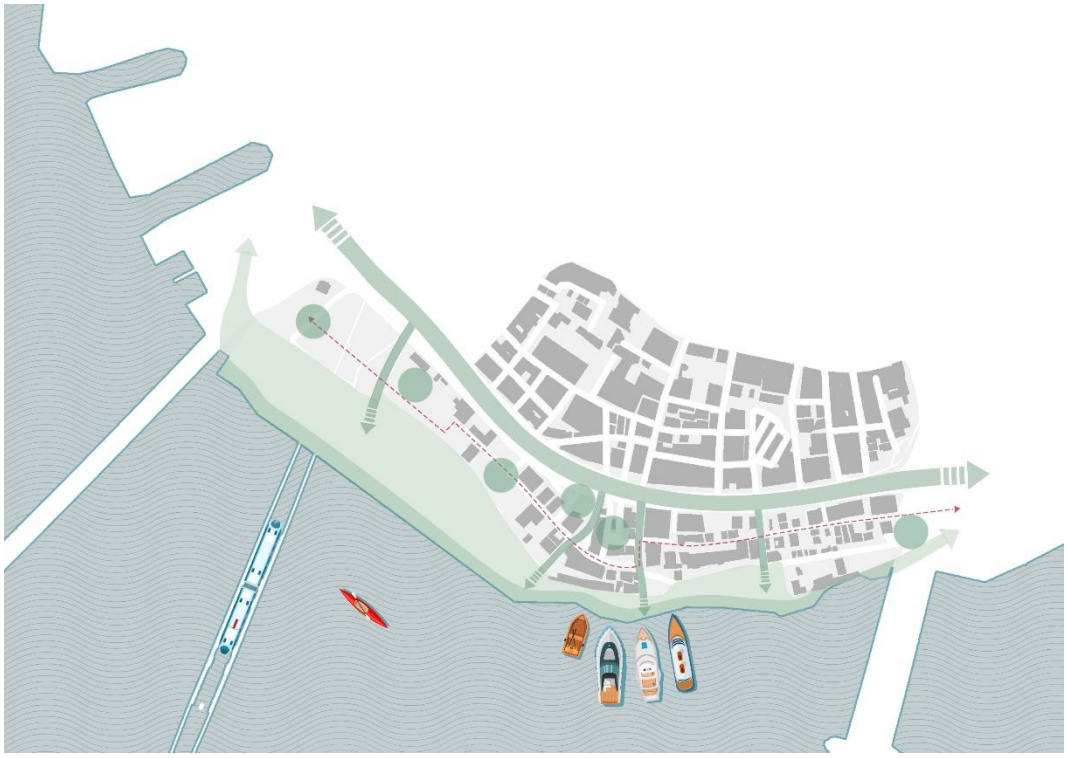
Berkin Çiçek
Ahmet Koçak
Elizhan Tuğana Eren
Yasemin Karadeniz



Under the theme of green spaces, it was aimed to understand how green spaces have changed and transformed in the historical process and to determine their relationship with the open public spaces that exist today. In this framework, it is targeted to make inferences about how the open spaces to be reconstructed can be associated with the city of the future.

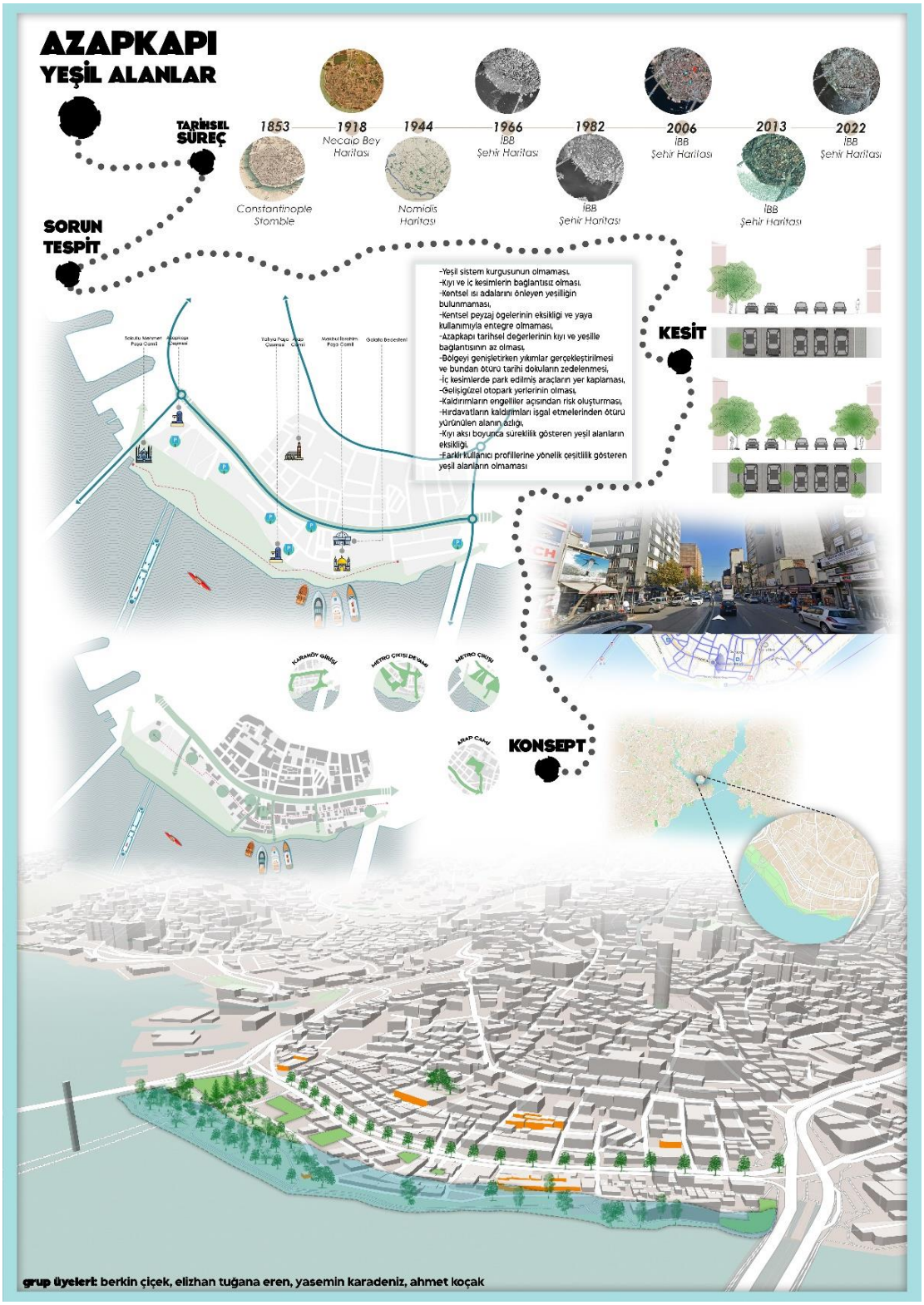
Since it is not possible to consider the area independently from the historical perspective, suggestions for the area have been developed by evaluating multiple parameters. For this purpose, firstly, the change of green areas in the coastline between 1853-2022 was analyzed by comparing historical and current maps and visualized on a timeline.

During the field study on the first day in Azapkapı, the traces of former harbor, city walls and city gates, which played an important role in the historical development of the region were traced. It was determined that these structural elements were not well perceived in the urban space. In the discussion sessions held within the group after the field study, it was emphasized that the coast is not connected to the urban fabric with a green system and therefore accessibility is a major problem. This situation is also leading ecological problems. The lack of a green surfaces on Tersane Street and the lack of natural qualities prevent the formation of heat islands on the coastal area were identified as important spatial problems.



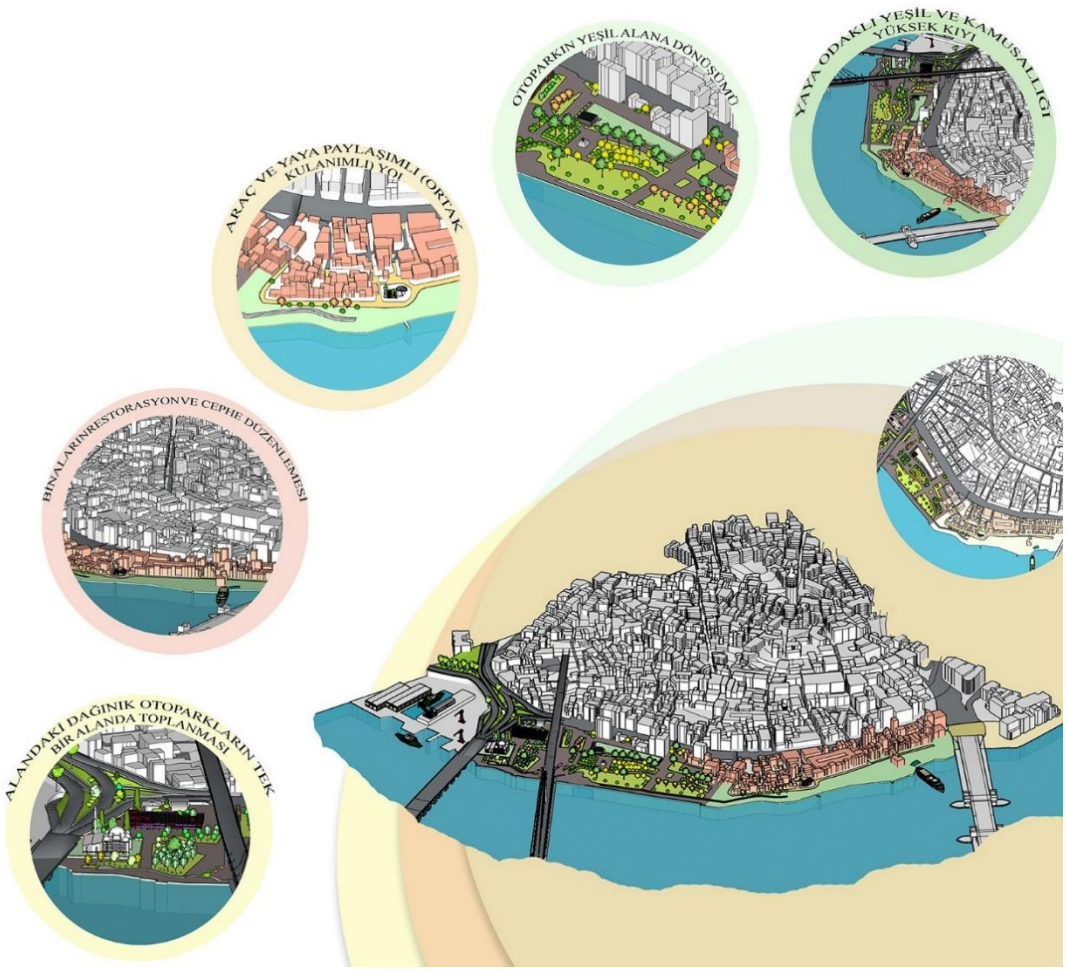
During the field study, the green areas group emphasized the lack of connection between the coast and the inland areas with a green system and the lack of access to the coastline. Accordingly, the routes where the old passageways are located have been determined as the routes where the green system will be integrated while taking into account the historical development process.

The park areas mainly located in Azapkapı were also included in the green system and integrated with the suggested routes. The cultural heritage areas in Azapkapı were also identified as key points in the design of the green system, so that the historical traces of the region were combined together with landscape elements. Since the water level is expected to rise by one meter by 2050 due to climate change, it is proposed to create a filtration area in the first 100 meters of the coastline.


AZAPKAPI
YEŞİL ALANLAR
TARİHSEL SÜREÇ
1853
Constantinople Stomble
1918
Necaib Bey Haritası
1944
Nomidis Haritası
1966
İBB Şehir Haritası
1982
İBB Şehir Haritası
2006
İBB Şehir Haritası
2013
İBB Şehir Haritası
2022
İBB Şehir Haritası
SORUN TESPİT
-Yeşil sistem kurgusunun olmaması.
-Kıyı ve iç kesimlerin bağlantısız olması.
-Kentsel ısı adalarını önleyen yeşilliğin bulunmaması,
-Kentsel peyzaj ögelerinin eksikliği ve yaya kullanımıyla entegre olmaması,
-Azapkapı tarihsel değerlerinin kıyı ve yeşille bağlantısının az olması.
-Bölgeyi genişletirken yıkımlar gerçekleştirilmesi ve bundan ötürü tarihi dokuların zedelenmesi,
-İç kesimlerde park edilmiş araçların yer kaplaması,
-Gelişigüzel otopark yerlerinin olması.
-Kaldırımların engelliler açısından risk oluşturması,
-Hırdavatların kaldırımları işgal etmelerinden ötürü yürünülen alanın azlığı,
-Kıyı aksı boyunca sürekliliği gösteren yeşil alanların eksikliği.
-Farklı kullanıcı profillerine yönelik çeşitlilik gösteren yeşil alanların olmaması
KESİT
KONSEPT
grup üyeleri: berkin çiçek, elizhan tuğana eren, yasemin karadeniz, ahmet koçak

GROUP 6. COASTAL AREA

Defne Harbiyeli
Rümeysa Yeder
Nida Dağar
Diler Gülce Gökgöz



During the field study, Group 6 considered the coastline as an integrated coastal area. The urban pattern extending towards Galata is excluded from the study area and the integrated coastal area is taken into focus. SWOT analysis was conducted to identify the region's strengths, weaknesses, opportunities, and threats. In this way, proposals for the region were aimed to be based on more solid foundations.

Among the strengths of the area, the existence of the historical urban pattern of Azapkapı, coastline overlooking through the silhouette of the historical peninsula and the value in terms of urban transport stand out. The prominent weaknesses are the discontinuity of pedestrian access, the restriction of pedestrian movement with the parking lots, the presence of buildings that distort the silhouette and the neglected building stock in the coastal area, the discontinuity of the green area on the coast.

The opportunities and threats of the field are also examined in detail. Azapkapı has opportunities such as the presence of empty areas on the coastline, the presence of structures bearing the traces of historical values, high tourism capacity, effective use of public transportation and high pedestrianization potential. When we look at the weak aspects, it is possible to say that the building stock that is not resistant to earthquakes, the ground deformation on the shoreline, the lack of usage diversity, the uneven spread of the parking lots on the area, negligence leading to marine and environmental pollution, the poor management of traffic and pedestrian density.

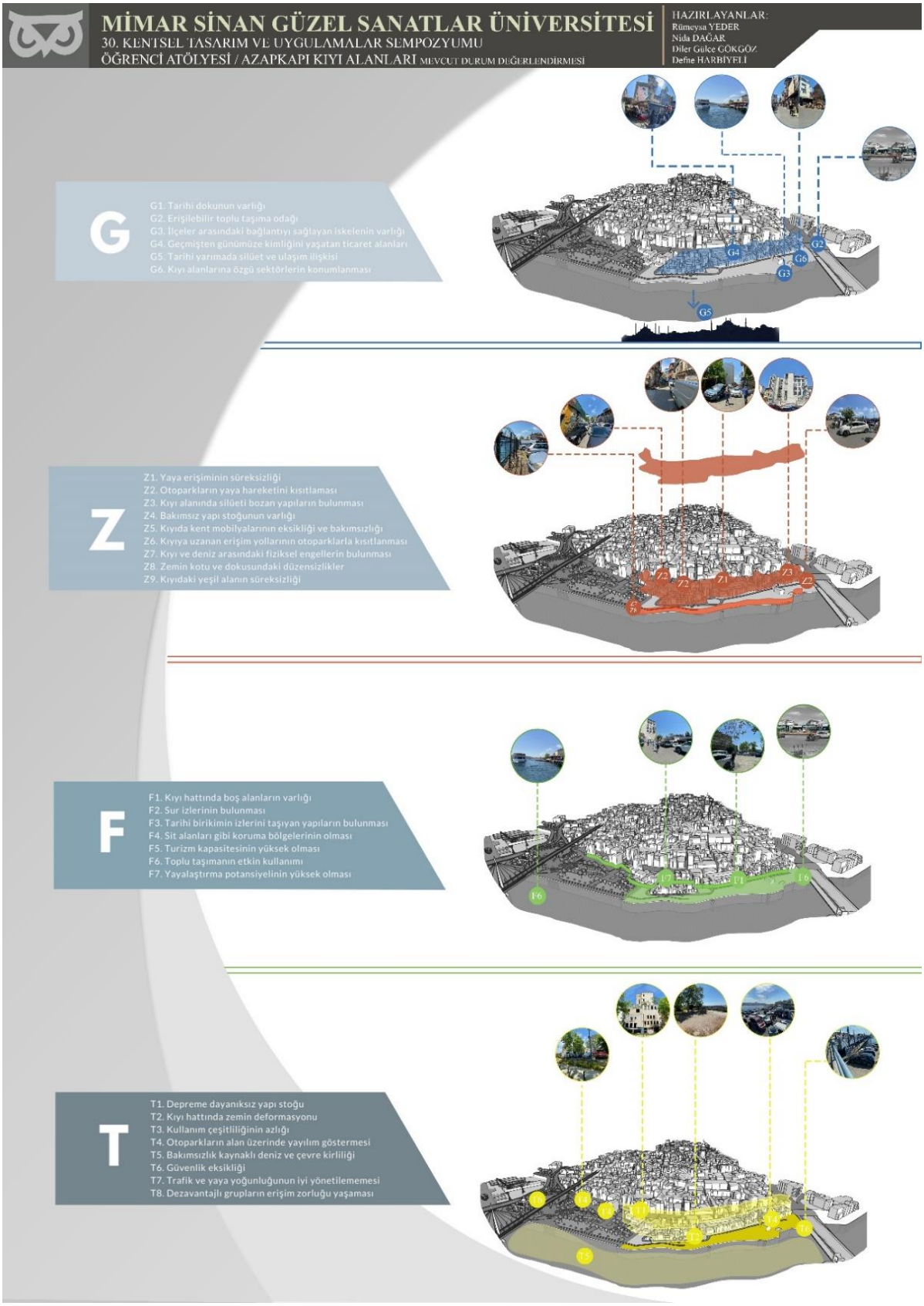
As a result of the field study and SWOT analysis, the main headings of the recommendations can be summaries as below.

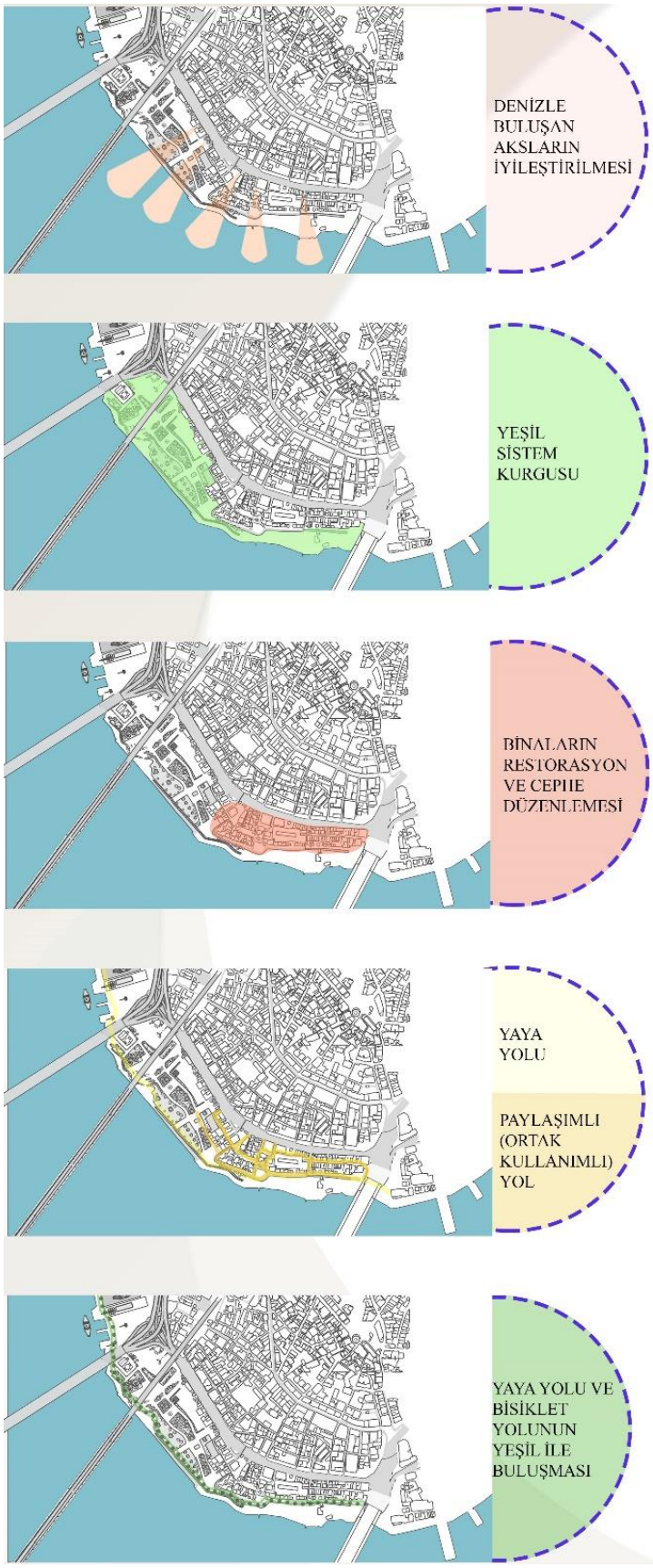
- Improvement of pedestrian roads meeting the sea.
- Green system setup.
- Restoration and façade arrangement of buildings.
- Improvement and increase of pedestrian path.
- Arrangement of roads shared by pedestrians and vehicles.
- Greening of pedestrian paths and bicycle paths.
- Transforming the empty spaces created by gathering the scattered parking lots into a single area.

Detailed recommendations were developed by discussing these main headings. Developed solution proposals are as below.

- Using streets for services and transporting goods in the morning and for pedestrians during the rest of the day.
- Inclusion of car parks in the green system, which causes disconnection in the green system, reduction of public space and reduced access to the coast.
- Arrangement of axles with connection to the Golden Horn for pedestrians. Jogging and cycling paths combined with in the green system.
- Proposing variety of functions that can attract different users to avoid the difference in day and night use that causes discomfort.
- Restoring the worn-out structures that damage the cultural textur and street silhouette and arranging their facades.
- Pedestrian priority. Suggestions for multi-story car parks for existing parking lots that have been removed and included in the public space in order to adopt the understanding of the concept.
- Proposals and restrictions for regulation in commercial areas.

In our study, Azapkapı Coastal area has been handled holistically in many different contexts such as green system, user profile, cultural heritage, transport and tried to establish a relationship between these contexts. In addition, based on all the studies, it is possible to say that a pedestrian-oriented green coastal design with high publicity has been tried to be created.


MİMAR SİNAN GÜZEL SANATLAR ÜNİVERSİTESİ
30. KENTSEL TASARIM VE UYGULAMALAR SEMPOZYUMU
ÖĞRENCİ ATÖLYESİ / AZAPKAPI KIYI ALANLARI MEVCUT DURUM DEĞERLENDİRMESİ
HAZIRLAYANLAR:
Rümeysa YEDER
Nida DAĞAR
Dilen Gülce GÖKGÖZ
Defne HARBİYELİ
G
G1. Tarihi dokunun varlığı
G2. Erişilebilir toplu taşıma odağı
G3. İlçeler arasındaki bağlantıyı sağlayan iskelenin varlığı
G4. Geçmişten günümüze kimliğini yaşatan ticaret alanları
G5. Tarihi yarımada silüet ve ulaşım ilişkisi
G6. Kıyı alanlarına özgü sektörlerin konumlanması
Z
Z1. Yaya erişiminin süreksizliği
Z2. Otoparkların yaya hareketini kısıtlaması
Z3. Kıyı alanında silüeti bozan yapıların bulunması
Z4. Bakımsız yapı stoğunun varlığı
Z5. Kıyıda kent mobilyalarının eksikliği ve bakımsızlığı
Z6. Kıyıya uzanan erişim yollarının otoparklarla kısıtlanması
Z7. Kıyı ve deniz arasındaki fiziksel engellerin bulunması
Z8. Zemin kotu ve dokusundaki düzensizlikler
Z9. Kıyıdaki yeşil alanın süreksizliği
F
F1. Kıyı hattında boş alanların varlığı
F2. Sur izlerinin bulunması
F3. Tarihi birikimin izlerini taşıyan yapıların bulunması
F4. Sit alanları gibi koruma bölgelerinin olması
F5. Turizm kapasitesinin yüksek olması
F6. Toplu taşımanın etkin kullanımı
F7. Yayalaştırma potansiyelinin yüksek olması
T
T1. Depreme dayanıksız yapı stoğu
T2. Kıyı hattında zemin deformasyonu
T3. Kullanım çeşitliliğinin azlığı
T4. Otoparkların alan üzerinde yayılım göstermesi
T5. Bakımsızlık kaynaklı deniz ve çevre kirliliği
T6. Güvenlik eksikliği
T7. Trafik ve yaya yoğunluğunun iyi yönetilememesi
T8. Dezavantajlı grupların erişim zorluğu yaşaması


DENİZLE
BULUŞAN
AKSLARIN
İYİLEŞTİRİLMESİ
YEŞİL
SİSTEM
KURGUSU
BİNALARIN
RESTORASYON
VE CEPHE
DÜZENLEMESİ
YAYA
YOLU
PAYLAŞIMLI
(ORTAK
KULLANIMLI)
YOL
YAYA YOLU VE
BİSİKLET
YOLUNUN
YEŞİL İLE
BULUŞMASI