MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS

2022-2023 FALL SEMESTER
JANUARY, 2023

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS CONS504

2022-2023 FALL SEMESTER
JANUARY 23, 2023 | 13.00-16.40 | @Dean's Main Meeting Room

Coordinators: Sibel Yıldırım Esen, S. Cansu Ekici Üner

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

CONS 504 GRADUATE SEMINARS

2022-2023 FALL SEMESTER

Jan.18, 2023 | 13.00-16.40
|@Dean's Main Meeting Room

January 18, 2023 Wednesday - 13:00
CONS504 SEMINAR IN CONSERVATION OF CULTURAL HERITAGE - I

Coordinators: Sibel Yıldırım Esen
S. Cansu Ekici Üner

13:00 - 13:20
Dilara Zeğerek Akalın — Holistic and Sustainable Method For the Rural Heritage Areas: The Case of the Nusratlı Village in Edremit Gulf

Supervisor: Neriman Şahin Güçhan
Jury: Güliz Bilgin Altınöz, Özgün Özçakır

Since the 1970s, the process of abandoning rural areas has accelerated due to the increasing wave of migration from the village to the city. Due to the decreasing population, the problem of transferring cultural values in rural areas to the future and maintaining agricultural production and life cycle arises. For this reason, the conservation of rural heritage areas is of great importance in terms of cultural, sociological and economic aspects. The conservation of rural heritage sites is of great importance in terms of understanding the technical, scientific and practical reflections of human-nature relations and maintaining bio-cultural diversity. Nusratlı village of Ayvacık District of Çanakkale was founded in the 16th century. The present settlement boundaries of the rural area are located between the south of the ancient city of Paleo Gargara, which is registered as a 1st Degree Archaeological and Natural Site, and the Gulf of Edremit. The main agricultural activity of the region since the first periods is olive oil production. In the north of the gulfline, rural settlement areas consisting of the village center, olive grove and oil factory organization continues. Nusratlı village is an important part of this rural production network. The built environment of the village consists of residential buildings and school, laundry, guesthouse, oil factory, fountains and mosques. NusratDer was established in 2005 with the joint initiative of the villagers. The activities of the association paved the way for women to stand stronger both economically and socially as individuals. The transformation created by the decreasing population and changing living conditions threatens the original character of the village. For this reason, it is necessary to conserve all the tangible and intangible values of Nusratlı Village. Within the scope of the thesis, the development of the field in the historical process will be examined with the help of archives, literary sources and the narratives of the villagers. Then, the development of the built environment of the village will be determined by field studies with help of current plans and maps. The tangible and intangible values of the village will be analyzed. Finally, principles and strategies for the conservation of the rural heritage of Nusratlı Village will be presented.

13:20 – 13:40
Eda Vardar — Integration of Memory and Memory Places into the Conservation Process: Jewish Quarter in Ankara

Supervisor: Özgün Özçakır
Co-Supervisor: Güliz Bilgin Altınöz
Jury: Neriman Şahin Güçhan, Özge Güven Ulusoy

Memories formed by the users' experiences in the place provide significant knowledge about how the built environment identifies with people. These people are part of the user group identified with the heritage sites who have individual and shared memories with specific culture, habits, and use of space. With the change of these user groups, the perception of place changes and continuity in the use of space decreases over time resulting in the loss of social sustainability in heritage sites which affects the conservation process. This thesis aims to develop a framework for the integration of memory and memory places into the conservation process as an intangible dimension in heritage sites. With this framework, the memories and memory places that users have both in the past and today will be discussed as a part of the conservation process. Jewish Quarter in Ankara, chosen as the case study area hosted the Jewish Community for many years and witnessed the places, experiences, and traditions of this community. After the immigration of the Jewish Com-munity, the quarter went through a significant social change with the disappearance of experiences, usage of space, memories, and memory places. This oblivion has not only turned the Jewish Quarter into an isolated area but also caused it to be gradually erased from the memory of the city and the citizens. In the process of memorizing the forgotten in the Istiklal Quarter; initially inter-national documents, conservation guidelines, pioneering studies, and related sources will be used in the creation of the theoretical framework. The process of understanding the physical and social transformation of the quarter from past to present will cover literature review, archival research, and field study which will include physical observations and in-depth interviews. In line with all these steps, proposals for spatial improvement of memory places in the Jewish Quarter will be formed as a conservation process.

13:40- 14:00
Yasin Özdemir — Developing Conservation Principles and Strategies for Early Republican Educational Buildings: The Case of Gazi Primary Schools (1925-1935) in Denizli

Supervisor: Pınar Aykaç
Jury: Özgün Özçakır, Neriman Şahin Güçhan

With the proclamation of the Republic, an education campaign was launched across the country. Especially with the transition to the Latin alphabet in 1928, primary education has gained even more importance. The priority area in this campaign was

primary education, rather than higher education. For this reason, school buildings for primary education began to be built all over the country. Considering the financial and economic conditions of the period, typical primary school projects were prepared to be implemented in various regions of Turkey. These typical projects, especially prepared by architects Kemalettin and Mukbil Kemal, were also implemented in different cities such as Konya, Antep and Uşak. The names of these schools were generally Gazi, Hürriyet or Cumhuriyet primary schools. As in many other cities in Turkey, educational buildings were built in Denizli within the scope of this early-Republican education campaign. There are "Gazi primary schools" in five districts of Denizli. They are the implementations of the typical projects prepared by Architect Kemalettin. These buildings, are not only the representatives of early-Republican architecture but also important elements of collective memory of the settlements they are in. As representatives of modern educational buildings built as typical project, they currently face different changes, problems, and needs in accordance with their different contexts. This thesis aims to develop conservation principles and strategies for five Gazi primary school buildings in Denizli, by analyzing their architectural character, problems, and potentials together with the contemporary needs of their varying contexts. Focusing on this aim, the thesis will consist of literature review, archival research and field study methodologically. With these methods, this thesis will investigate the conservation and adaptation of modern educational buildings through the cases of Gazi Primary Schools in Denizli.

14:00 – 14:20
Zeynep Buket Üstün — Re-Integrating the Historical Layers of a Multi-Layered Settlement to the Current Urban Context: The Case of Ankara

Supervisor: Güliz Bilgin Altınöz
Jury: Neriman Şahin Güçhan, Ahmet Burak Büyükcivelek

The towns which have been continuously inhabited since old times, resulted in possessing physical traces of historical continuity are referred as “multi-layered”. Connections between current space and previous layers contribute to physical richness of a town, signifying the value of an urban context. When these connections start being lost, the traces of different historical periods are not perceived as part of a whole and their conservation cannot be achieved. Thus, conserving the historical continuity depends on sustaining the integrity between the layers. Accordingly, the aim of this thesis is providing re-integration strategies between the historic layers and current context. Hence, Ankara is chosen as the study area, inhabited since the pre-historic times and thus characterized by being a multi-layered town. In order to achieve the aim, the first step is understanding and presenting the layering and achieving its spatial representation. Also, to assess the integration levels of the layers and provide strategies; visual, physical, social and functional integration will be discussed from conservation and city planning literature and proposals will be developed. For the case of Ankara, the integration levels of the historical layers with the current context in physical, visual, social and functional will be assessed and dis-integrity problems will be revealed. Thereupon, proposals will be developed to achieve re-integration of the historical layers with current context. The proposed framework could contribute to further studies on the integration of historical layers with current context by providing a city-scale integration assessment and strategy framework for sustaining historical stratification.

14:20 – 14:40
Cansu Türker — Developing Community-Based Sustainable Tourism Strategies and Principles for the Conservatıon of a Rural Heritage Place Exposed to Tourism-Led Regeneration: The Case of Misi (Gümüştepe) Village in Bursa

Supervisor: Pınar Aykaç
Jury: Güliz Bilgin Altınöz, Emine Çiğdem Asrav

Rural heritage places are settlement areas that have been formed by the relationship between people and nature, including various cultural heritages in their built-environment and production cycles. Rural heritage places, especially those close to the city centers, may be exposed to extensive changes and transformations under the pressure of tourism. This transformation seriously damages the characteristics and values of rural heritage sites, which are produced as a result of the human, production and built-environment relationships. Misi (Gümüştepe) Village (Mysia) in Nilüfer district of Bursa, Turkey is a historic rural settlement, hosted different civilizations, and contains traditional Ottoman houses with local architectural characteristics. Due to its proximity to Bursa city center, it was exposed to tourism-led regeneration, especially with the impact of the Conservation Development Plan in 2007. The area gradually lost its rural character, the authenticity of the built-environment is under threat, and the production has decreased. Sustainable conservation strategies are necessary for Misi Village to maintain their physical, cultural, social, natural and economic characteristics. This thesis aims to develop community-based sustainable tourism strategies and principles for the conservation of the rural heritage and to ensure that Misi, which has been exposed to tourism-led regeneration for years. In this study, first the current situation of Misi (Gümüştepe) Village as well as changes it underwent by tourism-led regeneration in physical, social, cultural, environmental, and economic aspects will be evaluated with literature review about rural heritage places, archival survey about Nilüfer district and site survey in Misi Village. Based on this analyses and assessments, sustainable and community-based strategies will be developed for Misi Village given the fact that transformation and tourism could not be prevented due to its proximity to Bursa city center.

15:00 – 15:20
Hamed Arnaout — A Framework for Identifying Post-Intervention Value Shifts in Heritage Dwellings: The Case of Antalya, Kaleiçi

Supervisor: Özgün Özçakır
Jury: Güliz Bilgin Altınöz, Pınar Aykaç

The conversion towards a contemporary lifestyle resulted in a change of people’s needs and

expectations regarding their housing units that couldn't be met by traditional dwellings due to design, spatial, material, infrastructure, and structural constraints and thus, substituted with contemporary ones. This resulted in the abandonment, demolishment, or reuse of heritage houses in manners that can be deemed as improper interventions leading to degrading and losing physical, social, and economic values. Improper interventions and their effect on values on one hand and the disuse of heritage residential buildings on another are increasingly seen and recreated without a proper illustration of the effect of intervention on post intervention value shifts. The aim of the thesis is analyzing the post intervention value shifts, whether it's loss, gain, or transformation, in heritage residential buildings resulting from different magnitudes of intervention. Hence, developing a tool with a framework and methodology to assess the change on the physical setting, social environment, and economic context and the subsequent post intervention value shifts. Based on the literature review the values and magnitudes of intervention related to heritage dwellings will be determined within a theoretical framework, determining the specific causality of post intervention value shifts. Then via a qualitative descriptive site survey, in Antalya, Kaleiçi, multiple heritage residential buildings that have undergone different magnitudes of interventions will be observed, analyzed, and the connection between interventions and values will be established. Thus, creating a tool that guides towards a proactive approach towards value based sustainable conservation of heritage dwellings.

15:20 – 15:40
Zeynep Akgül — Rethinking Water Heritage as a Cultural Route: The Case of Taksim Waterway

Supervisor: Özgün Özçakır
Jury: Neriman Şahin Güçhan, Pınar Aykaç

The relations of civilizations with water started as early as their establishment, and the civilizations' relationship with water became one of the most important and priority factors shaping the cities. It is seen that various methods are used according to meet the water needs of the settlements that started around the water but spread to more expansive areas as civilizations developed. For this reason, many visible and invisible infrastructure systems started with primitive methods to use water but have survived as engineering marvels. These may be systems that are operated or not in use today, but each of them transfers traditional knowledge, engineering experience and sustainable approaches to the present. Istanbul, the capital of many civilizations throughout history, contains historical waterways and many water structures associated with that. Taksim Waterway is one of the waterways constructed to meet the needs in Beşiktaş and Beyoğlu districts. Today, these regions are the constantly changing and transforming areas of Istanbul. During this change and transformation, although some of the Taksim Waterway continues to function, some of it does not function and a large part of it has been facing the danger of disappearance. Therefore, there is an urgent need to understand the importance of waterways as water heritages. This thesis aims to reveal the potential of the Taksim Waterway as a cultural route, one of the crucial elements of Istanbul's water heritage, to trigger its conservation, valorization and appreciation. In that regard, structure of the thesis contains three main parts; theoretical background of water heritage, analysis and evaluation of Taksim Waterway and proposal of principles of Taksim Waterway as a cultural route. Respectively, the thesis will develop policies, strategies and actions to integrate the Taksim Waterway with Istanbulites as a cultural route.

15:40 – 16:00
Canberk Kocaoğlu — Denominating Principles for Adaptive Re-Use through the Examination of Transformation Processes in Port Cities: Port of Zonguldak

Supervisor: Özgün Özçakır
Jury: Güliz Bilgin Altınöz, Neriman Şahin Güçhan

The process of change, starting from the timeline, history and evolution/adaptations of edifices in port cities such as shipyards, docks and housings through the relocation of ports from the city center towards the outer periphery in coherency with technological advancements caused a morphing of cities. In the thesis, the vacancy or change in function of these edifices, their transformations and current conditions, physically, structurally and functionally will be investigated. Private and public initiatives which led to these changes will be laid out. To do so, examples from industrial port cities around the world which underwent waterfront revitalization projects through adaptive re-use are selected for examination. These port cities will be inspected to denominate principles for implementation strategies of future or existing adaptive re-use-based conservation and restoration implementations. The inspection will rely on different strategies which will highlight what is to be taken from each project. Zonguldak features a waterfront of critical importance and a vast stock of industrial heritage in the vicinity of its port area. There has not been a conclusive study conducted on a comprehensive project which would integrate this heritage stock and the waterfront into the city. Critical information regarding the city and the heritage building stock will be recorded through a site survey, complimented with archival and literature research. The principles derived from the examinations and the knowledge gained from world examples will be tested upon Zonguldak. Different scenarios will be generated upon the city to ascertain them in their flexibility and relevancy to respond to individual cases. To conclude, the fundamentals will act as a guideline to achieve baseline successful practices and to avoid critical, irreversible mistakes in the transformation of buildings in the complex issue of how to adapt a heritage building to contemporary standards while keeping its value as much as possible.

16:00 – 16:20
Aslı Bike Gözenoğlu — Assessing the Impact of Intervention Strategies for Ground Improvement and Drainage Problems in Modern Heritage Buildings: Social Building in METU Campus

Supervisor: Özgün Özçakır
Co-Supervisor: Nejan Huvaj Sarıhan

Jury: Güliz Bilgin Altınöz, Ahmet Türer

Drainage and ground settlement problems are very common in modern buildings. There are no specific studies on solving drainage and ground settlement problems in reinforced concrete modern heritage structures by dealing with time-based deterioration and damage with a conservationist approach, specifically cost efficient and sustainable solutions. This study aims to propose a framework that supports decision making for evaluating possible solutions and so selecting the most suitable cost-effective and sustainable intervention strategy that takes the heritage values of the modernist building into account in the case of the METU Social Building (selecting the best solution that will have low impact on the heritage values of the structure as well as being cost-effective and sustainable). In the research, the data regarding damages of the structure will be collected in in-situ observations, then test pits, laboratory experiments, ground and groundwater survey and drilling will be carried out for drainage and ground settlement, which is the main problem detected in the structure. As a result of the evaluations made as a result of the test results obtained, the main causes of the damage and the damages on the structure will be interrelated, and a literature review will be made for the possible appropriate solution of these problems. Possible solutions will be evaluated according to the criteria in the framework. As a result of these studies, a decision-making flowchart will be followed and a cost efficient and sustainable method will be proposed that will both prevent future damage to the METU Social Building and the other reinforced concrete modern heritage buildings that has the same problems, and solve the problem of ground settlement that has occurred until today, while conserving the value of the structure. As a result of these studies, a framework will be developed (a matrix will be proposed) that will support decision-making in choosing the best intervention solution, which considers its impact on the heritage value of the building, the vulnerability level of the structure, cost-efficiency and sustainability. Social Building will be used as a case study where this methodology is applied.

16:20 – 16:40
Elif Aktop — Re-Integration of Fragmented Industrial Heritage Building Complex with the City and its Citizens: Hereke Imperial Textile Factory

Supervisor: Özgün Özçakır
Jury: Güliz Bilgin Altınöz, Esra Özkan Yazgan

Industrial Heritage places are composed by the relation between people and production. These places can be exposed to changes caused by the evolution in the industrial world. Although they may be abandoned because of the functional necessities, they are considered as heritage as they represent the production activities of their times. Imperial Hereke Textile Factory is an industrial complex from the late Ottoman Period (19th century) and is considered cultural heritage as it represents a way of production and thus the way of living of people from that period in a specific location. Today, the factory complex is in a fragmented state and the connection of the remaining factory buildings within themselves and with the city is very weak both physically and socially as there are multiple owners and multiple functions, and some of the buildings are in bad condition. The aim of this thesis is to evaluate the potentials of the site in the urban context in order to re-integrate the factory complex with the city and its citizens. The method of the thesis is doing literature review on industrial heritage, archival research on Hereke and the factory, observations and analysis through site survey. In the thesis, the changes in the factory complex and Hereke, their connection throughout time and their current state will be analyzed in terms of both physical and social aspects. Conservation strategies will be developed and a holistic conservation approach will be developed through different scales in order to achieve the re-integration.

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS CONS604

2022-2023 FALL SEMESTER
JANUARY 18, 2023 | 16.40-17.10 | @Dean's Main Meeting Room

Coordinators: Neriman Şahin Güçhan

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

CONS 604 GRADUATE SEMINARS

2022-2023 FALL SEMESTER

Jan.18, 2023 | 16.40-17.10 |
@Dean's Main Meeting Room

January 18, 2023 Wednesday - 16:40
CONS604 SEMINAR IN CONSERVATION OF CULTURAL HERITAGE - I I

Coordinator: Neriman Şahin Güçhan

16.40 - 17:10
Taiwo Orisalade — Flood Susceptibility Analysis of Osun Osogbo World Heritage Site

Supervisor: Neriman Şahin Güçhan
Jury: Güliz Bilgin Altınöz, Sibel Yıldırım Esen

Osun-Osogbo Sacred Grove is a Yoruba cultural heritage that evolved naturally. Located along Osun River, Osun-Osogbo Sacred Grove is situated on 75 hectares of land. Inscribed as UNESCO World Heritage Site in 2005, Osun Osogbo sacred grove is a striking example of religious architecture of the Yoruba people. However, the World Heritage Site has been subjected to devastating flood events in the last ten years and it may compromise its values. As a result, this paper aims to identify the sacred points at high risk through multi-criteria analysis for disaster mitigation efforts. The data used include: 30m Landsat 8 –OLI/TIRS and 30m Digital Elevation Model (DEM) of the site extracted from the Shuttle Radar Topographic Mission (SRTM), downloaded from the US Geological survey website (Earth Explorer). To analyze the differential susceptibility of the site, two operations were performed: flood inundation analysis using direct elevation in relation to water level rise and multi-criteria flood susceptibility assessment. Findings revealed that, at an elevation of 305m above sea level, fifteen 15 sacred points such as Busanyin and Iya-Mapo shrines are affected by flood. With the elevations of 305m and 315m, 40 sacred points are susceptible to flood. At water level rise between 315m-325m, all the sacred points within Osun Osogbo Sacred Grove are submerged under water. Respectively, the multi-criteria analysis reveals that 28.9104Ha of the site is highly susceptible to flood, which represents 38.55 percent of the total land area (75Ha). Also, 45.3426Ha of the site which covers 43 sacred points is susceptible to flood while moderately susceptible area account for 0.688993Ha. This study concludes that the assessment of Osun Osogbo Sacred Grove exposure to flood risk is essential for providing early warning, mitigation strategies and disaster risk reduction.

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS BS501 - BS601

2022-2023 FALL SEMESTER
JANUARY 19, 2023 | 13.00 - 17.00 | @KUBBEALTI

Coordinators: Mehmet Koray Pekeriçli

Meeting ID: 949 8344 7729
Passcode: 504602

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS BS501/BS601

2022-2023 FALL SEMESTER

January 19, 2023 13:00-17:00

Kubbealtı

Online Live Broadcast

Meeting ID: 949 8344 7729
Passcode: 504602

https://zoom.us/j/94983447729?pwd=TXRHWXJkMG5vc2lwcXMySGxhTlZxZz09

January 19, 2023 Thursday
BS 601 SEMINAR IN BUILDING SCIENCE

Coordinator: Mehmet Koray Pekeriçli

13:00 – 13:20

Tulû Tohumcu Kaya — Climate Change Impacts on the Built Environment: Limitations through the Roadmap towards Net Zero Carbon Buildings

Supervisor: Ayşem Berrin Zeytun Çakmaklı

Jury: Funda Baş Bütüner, Şiir Kılkış

This study focuses on evaluating the architectural roadmaps towards 2050 in a climatic changing and combatting world. As the United Nations introduced 17 Sustainable Development Goals (SDGs) to reach a sustainable development system in the world, every sector integrates those SDGs ton related works for a better sustainable future. The architectural world also defines boundaries for to achieve a sustainable perspective in designing and implementing buildings. The SDGs work as the initial directories for architects to draw a roadmap towards 2050. Also, United Nations COP Conferences and IPCC updated reports give definite targets for the building sector in reducing carbon emissions. There are the green, sustainable, high performance and finally Net Zero Carbon Building approaches as a result in seeking through sustainability.
Introducing the Net Zero Carbon Building Design (NZCB) Strategy which is the latest approach in achieving carbon neutral buildings, it is for sure that NZCB includes complex strategies in design, construction, and implementation phases. Further than green & sustainable buildings, NZCB aims to decarbonize the embodied and operational carbon of the building. Defined strategies and roadmaps towards NZC has many inputs and in other words “barriers and limitations” which are defined within this study. Since an architectural design process already includes limitations in design and implementation phases, NZCB puts forwards different and complex limitations for architects to cope with in today’s condition. These limitations seem to reveal as geographical, economic, technological, socio-cultural, professional/educational etc. within related research. This study focuses on the limitation and barriers for architects on the process of achieving the NZCB.

Keywords: Net Zero Carbon Buildings, Climate Change, Sustainability, Architectural Design, Limits in Architecture

13:20 – 13:40

Mustafa Eren Bük — Use of Virtual Environments and Game Mechanics to Help Integrated Modular Design Processes

Supervisor: Mehmet Koray Pekeriçli

Jury: Arzu Gönenç Sorguç, Ali Murat Tanyer

This study attempts to investigate the possibility of creating a virtual environment that is enhanced with game mechanics to support integrated modular design processes. The main aim of the study is creating that platform to form a network of modular construction which integrates all architecture, engineering and construction related people together with the users themselves. Modular design might be a strong solution proposal for disadvantages of traditional construction techniques since reconnectable, standardized, interchangeable and customizable modules offer interoperability in design, reduce the time required for the overall process, reduce cost and waste produced during the construction period. Moreover, for design and construction industry to improve correspondingly with developments in technology and communication, asynchronous traditional working process should be shifted with synchronous and interdisciplinary one to share the information and detect the collisions simultaneously to minimize the response time. In the light of this information, it can be said that when modular design is combined with integrated design for all AEC related people to work collaboratively on the modules and their combinations, in addition to that for the user to customize modules during their production, advantages of modular design might be enhanced. That proposed network might most properly be formed with the help of virtual platforms that provide safer practice environments and that platforms might be reinforced with game mechanics and physics for better interactions and immersion.

Keywords: Modular design, Virtual environment, Game mechanics, Immersion, Integrated design

13:40 – 14:00

Cansu Coşkun — Integration of Blockchain Technologies into the Sustainable Construction Practices

Supervisor: Ali Murat Tanyer

Jury: M. Talat Birgönül, Ayşe Duman Tavukçuoğlu

Distributed ledger technology (DLT) is a peer-to-peer digital system for recording transactions among parties simultaneously. The potential benefits of DLT are the provision of transparent, immutable, secure, and decentralized systems. Blockchain is one of the most prominent DLT systems widely used in the finance area and started to be utilized in various sectors such as manufacturing, healthcare, media, information technology, etc. In recent years, the construction sector has started to integrate blockchain technology as well in order to address current problems in the industry which are lack of

communication, complexity, and inefficiency. For instance, there are studies regarding procurement, smart contracts, payment, supply chain, and data management in the field of construction management; yet there are few studies from the perspective of sustainability applications. The main purpose of this study is to present current implementations of blockchain applications in sustainable construction. In this regard, a literature review regarding sustainable construction and blockchain technology will be stated. Then, current blockchain implementations in the sense of sustainability will be mentioned. Finally, this study will be concluded with the potential benefits and limitations of blockchain technology in the sustainability aspect.

Keywords: Blockchain, Construction management, Distributed ledger technology, Sustainable construction

January 19, 2023 Thursday
BS 501 SEMINAR IN BUILDING SCIENCE

Coordinator: Mehmet Koray Pekeriçli

14:00 – 14:20

Elif Naz Yilmaz — Analysis and Prediction of Daylight in MATPUM Building in METU Campus Using Artificial Intelligence

Supervisor: Ali Murat Tanyer

Jury: Arzu Gönenç Sorguç
Ayşe Duman Tavukçuoğlu

This study attempts to optimize the parameters affecting the daylight conditions in MATPUM Building in METU campus. The study aims to understand the optimum position and shape of the sun-shading louvers in several facades of the building through a data-driven method to optimize interior lighting conditions and energy use.
Daylight is one of the major contributors to provide a comfortable and productive environment for building occupants and reduce energy use and costs. Therefore, authorities have been attempting to optimize daylighting conditions using several methods over the years. In recent years, daylight simulations that were used to analyse and predict daylight left their places to Machine Learning based data-driven methods that are less computationally expensive and time-consuming. The MATPUM Building in METU Campus has sun-shading louvers in several facades that lack appropriate contribution to the existing daylight conditions of the building. The study initially analyses the existing daylight conditions of the MATPUM Building, and continues by predicting their optimum shape and position of the sun-shading louvers. In this way, the optimized parameters affecting the daylight conditions within the building will maximize energy efficiency and comfort parameters for the occupants of the building. Furthermore, through the data-driven method used in this study, the necessity of detailed analyses and simulations are eliminated.

Keywords: Daylight, Machine Learning Algorithms, Interior Lighting Conditions, Energy-Efficiency, Comfort Parameters

14:20 – 14:40

Buse Akçay Pehlivanoğlu — The Effect of Uncertainty in Building Stock on Seismic Loss Estimation Studies in Istanbul

Supervisor: Bekir Özer Ay

Jury: Ayşem Berrin Zeytun Çakmaklı,
Tuba Eroğlu Azak

In Turkey, Istanbul is one of the cities that will likely have a great amount of loss after a future earthquake. The elements under risk are first human, human psychology, social relationships then natural and built environment. Seismic loss estimation and evaluation studies allow people to take an action before the earthquake, so that the multidimensional damage will not be severe. To be able to estimate the loss in a realistic way, structural vulnerability analysis according to the earthquake-induced hazard and the building stock properties of the area are essential. However, Turkish Building Stock information has uncertainties that may lead to incorrect estimations of loss.
This study aims to detect the uncertainties in Istanbul exposure model, then create multiple scenarios by changing the uncertain variables to observe whether there are significant differences in the vulnerability models or not. Later, in seismic loss estimation studies, the margin of error due to uncertainties will be discussed in the context of Turkey. Consequently, in this study, the building stock concept, its place in loss estimation, how it is created and classified, what is done with this information, where this information can be found, what the problems are with it and whether the problems effect the seismic loss estimation results will be revealed.

Keywords: Turkish Building Stock, Seismic Loss Estimation, Exposure Model, Vulnerability Model, Uncertainty

14:40 – 15:00

Dilara Albayrak — Water Harvesting Strategies And Rainwater Harvesting In Architecture

Supervisor: Arzu Gönenç Sorguç

Jury: Müge Kruşa Yemişcioğlu,
Ayşem Berrin Zeytun Çakmaklı

With climate change and increasing population, the number of people who can reach water is gradually decreasing, while drought and water crises are increasing. In our age, where not only the evaluation of drinking water but also every drop of water types such as gray water is valuable, each of the subjects of obtaining, protecting, and using water is of great importance. In this study, the relationship of water with the built environment, the traditional methods used by different civilizations throughout history, the water collection technologies used today are examined, and especially, the harvesting of rainwater that cannot reach the underground with the concretization in the cities is emphasized. In order to use rainwater more efficiently, the existing solutions in the field of architecture and design have been evaluated, and the hypothesis has been set out that efficiency can be increased by using methods that can be learned from nature which operates with maximum efficiency and zero waste. It is thought that architecture can develop effective solutions with the contribution of biomimicry in managing the water problem, which is one of the biggest problems of our age and is thought to cause crises in the coming years.

Keywords: rainwater harvesting, efficiency, biomimicry, built environment

15:00 – 15:20

Reyhan Nazlıaydın — Implementation of AI Models on Hard Infrastructure Systems

Supervisor: Arzu Gönenç Sorguç

Jury: Mehmet Koray Pekeriçli, Müge Kruşa

Infrastructure is a concept that is used for defining the system of flows with a meaningful relationship between its components. For the development of a city, it is fundamental to have a strong, growing, inclusive infrastructure system. Along with the population growth of a city, the factors and parameters that are influencing infrastructural systems grow in size and number too. As a useful tool for working with heavy data with a high number of factors, researchers implemented Artificial Intelligence into infrastructural projects. This paper aims to create an understanding of infrastructure systems and search for how Artificial intelligence is implemented in the predictions of this field. By creating a framework for the methods of Artificial intelligence through machine learning types and models, several works have been analyzed and classified according to their aim, scope, and machine learning type. This research structurally puts out how the data is being collected in each work, and how they are classified, normalized, and used in different Machine learning models. The predictions of the works consist of optimizations, potential growth in population, demand, and route. After examining the works that have been done in the field, the chosen infrastructure type and prediction which is “metro railway growth”, and the reasons behind that are explained. The possible ways of data collection are presented with the potential for further development.

Keywords: Artificial Intelligence, Machine Learning, Infrastructure Systems, Prediction of Growth, Hard Infrastructure

15:20 – 15:40

Kaya Emre Gönençen — Comparing the Impacts of Conventional and Building-Integrated Agriculture (BIA) Techniques on the Environmental Load and Performance of Buildings

Supervisor: Soofia Tahira Elias Özkan

Jury: Meltem Yılmaz, Ayşem Berrin Zeytun Çakmaklı

Built environment and agriculture are significant consumers of energy and resources. By the increase of population, built environment demands more to fulfill the needs, and conventional agriculture faces problematic end results, especially for the environment, due to unconscious and rapid applications. Approaches such as urban agriculture (UA) and building-integrated agriculture (BIA) have started to emerge as possible remedies with mutual relationship between these two main consumers. This study aims to compare conventional and urban means of agriculture -in terms of environmental loads and effects on building performance- to indicate conventional problems and new possibilities for both agriculture and built environment.
This study investigates features and parameters of conventional agriculture, UA, and some BIA techniques to clarify the differences, and to claim their impacts. As the research method, numerical data, case studies, and a survey are used for the comparison between BIA methods and conventional agriculture. Therefore, the meta-analysis presents an easy-to-understand comparison between different agricultural means to encourage BIA methods’ use in urban context.
To sum up, this study explains the benefits, constraints, impacts, and samples of different BIA methods in terms of environmental, economic, and social perspectives. As expected results of the meta-analysis, BIA techniques can be indicated as costly and complex to operate due to required energy and knowledge; however, there would be considerable benefits and efficiencies about production and resource use with BIA.

Keywords: Building Integrated Agriculture (BIA), Urban Agriculture (UA), Controlled Environment Agriculture (CEA), Building Performance, Environmental Load

15:40 – 16:00

Abdulmelik Şahin — Investigation the strength of Mud-Plaster while observing its impact on thermal and hygric properties

Supervisor: Soofia Tahira Elias Özkan

Jury: Matthieu Pedergnana, Ayşem Berrin Zeytun Çakmaklı

Clayish earth-based mortars are being recognized, all over the world, as eco-efficient products for plastering. Apart from being a product with low embodied energy when compared to other types of plasters, their application on the interior surface of walls may give a strong contribution for the health and comfort of inhabitants. In this study, it has been examined that how the durability of mud-plaster can be increased in ways that are compatible with the current construction materials. In the scope of lab analyses, mixtures produced with earth, aggregate, fibres, egg white, decomposition juice, molasses, cow dung and water were examined. Material properties of samples were investigated by means of the experimental analyses which can be listed as sound compressive strength, hygric and heat transmission. With the help of the nine mud-plaster samples prepared by Andrew, this study aims to find a proper way to increase the durability of mud-plaster, by changing their composition of it, and it aims to observe the effect of changing the composition of mud-plasters on their hygric and thermal properties.

Keywords: Thermal Comfort, Physical composition, Hygric material, Straw-Reinforced, Sustainable materials

16:00 – 16:20

Ahmet Batuhan Akdemir - Use of BIM as a Platform for Mass Customization in Modular Construction

Supervisor: Mehmet Koray Pekeriçli

Jury: Arzu Gönenç Sorguç, Ali Murat Tanyer

Mass customization is considered one of the potential engines that will drive the industrialization of the construction industry. Despite its potential, the implementation and integration of mass customization have not been achieved, so the industry has not benefited yet. The failure in implementation and integration is justified by lacking the right technology needed for mass customization to excel in modular construction until recently by the authorities. Herein, the configuration, visualization, and data processing capabilities of Building Information Modelling (BIM) make it a step forward as the possible platform and technology needed for mass customization in modular construction today. The study aims to assess the potential impact of BIM's integration into the mass customization process of modular construction, specifically at the level of product development. Furthermore, it aims to provide a framework for adapting customization parameters and host family bases to BIM within the study. The subject is elaborated upon by identifying the tangible impacts of BIM on both the process and the product as well as assessing the usability of BIM throughout the product development cycle. The received information is thus used to assist in interpreting and fitting the concept of family into the BIM platform.

Keywords: Mass Customization, Modular Construction, Building Information Modelling, Product Development, Family Production

16:20-16:40

Ezgi Erciyas — A Case Study Of Building Information Modeling (BIM) Implementation For Efficient Facilities Management

Supervisor: Mehmet Koray Pekericli

Jury: Arzu Gönenç Sorguç, Ali Murat Tanyer

In Building Information Modelling (BIM) based projects, project models produced in the design phase are not used as-is in the Facilities Management (FM) phase. It is substantial to use the models produced during the design phase directly in the FM phase without the need of reproducing them, as it will enable and accelerate the transition between the design and FM phases. Therefore, it is an important point for big, scaled BIM-used projects to be concentrated on.
When the projects produced with the BIM system are intended to be used during the FM phase, there are some issues where these project models are insufficient. For instance, insufficient level of information or within the low-quality range that does not meet the requirements for the FM phase. In this research, a facility building (a hazelnut factory facility) was used as a sample project to determine the obstacles to this transition between the design stage and to FM stage. The project stakeholders are interviewed, project level of development is investigated. The outcomes of the sample project are evaluated and discussed with a literature review. Based on all outcomes, possible solutions for a smooth transition between the design stage to the FM stage are offered.

Keywords: BIM, FM, Construction Industry, LOD

16:40 – 17:00

Emel Uçak — An Alternative Building System to Reduce Project Complexity: Additive Manufacturing

Supervisor: Mehmet Koray Pekeriçli

Jury: Arzu Gönenç Sorguç, Ali Murat Tanyer

Project management in construction is challenging due to the complex nature of construction projects and the construction industry experiences difficulties to cope with it. While the selected building system has a significant impact on project complexity from a project management perspective, the prevalent building systems further increase this complexity due to long construction time, the expense and uncertainties of the construction process, numerous tasks to be completed in sequence, and numerous stakeholders involved. Therefore, cost overruns, schedule delays, overuse of resources, and poor quality and precision appear in many construction projects.
This paper investigates the possibilities of additive manufacturing as a building system to reduce the complexity of construction projects from the project management perspective. As the research method, a Delphi questionnaire survey to identify the effect of building systems on project complexity and simulations to compare the project complexity of a sample small-scale housing with different building systems -reinforced concrete frame and additive manufacturing- will be conducted. The study is expected to reveal that although additive manufacturing is not a common practice in construction sites due to its difficult adaptation process and high initial cost, it is a promising alternative building system to reduce the complexity of projects from a project management point of view since it provides a streamlined design and construction process, less project cost, less project duration, less resource use, and increased quality and precision.
Keywords: Additive Manufacturing, Project Management, Project Complexity

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS AH504 – AH604

2022-2023 FALL SEMESTER
JANUARY 20, 2023 | 10.00 - 13.00 | @KUBBEALTI

Coordinators: Ekin Pınar

Meeting ID: 951 1352 1190
Passcode: 304155

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS AH504 – AH 604

2022-2023 FALL SEMESTER

January 20, 2023
hybrid at Kubbealtı and via Zoom

Meeting ID: 951 1352 1190
Passcode: 304155
https://zoom.us/j/95113521190?pwd=cE5rYXNxeUxZS
DdCTEZRZlhnUTdTUT09

AH 504
Prothesis Seminar in Architectural History
Coordinator: Ekin Pinar

10:00 - 10:30
Defne Tozkoparan — Spaces of Cultural Politics in İzmir at the Turn of the 20th Century

Supervisor: Elvan Altan
Jury: Pınar Aykaç Leidholm, Ekin Pinar

By 2015, it was declared by UNESCO that ‘‘culture will undoubtedly be in the heart of the future sustainability’’. This could be understood as an attempt to officially declare what was understood at the turn of the century by urban capitals. The museums, and cultural institutions of the twentieth century were born out of mainly the attempt to create and embrace a national identity; towards the end of the century the local emerged as the focus of identity, and a shift from central governments to local municipalities occurred in acting as the actor of cultural production in urban context. This thesis will focus on this aspect by analyzing the case in İzmir, a city in the west coast of Turkey. Cultural spaces and urban politics of the period from the 1980s to the early 2000s will be studied. The political agendas of the central government and the municipality will be compared in order to evaluate their relationship with culture through their use of space. This research hopes to contextualize cultural initiatives through urban and architectural space, and to enlighten the exemplary case in Turkey’s cultural politics through the relations between culture and space.

10:30 – 11:00
Berfin Güzel— A Screen in the Urban Void: Izmir Open-Air Cinemas

Supervisor: Ekin Pinar
Jury: Şebnem Yücel, Elvan Altan

This study concentrates on the open-air cinemas of Izmir from the 1950s to the 1980s with a particular focus on the open-air cinemas of the Alsancak region as a case study within the framework of the concept of heterotopia. Doing so, the analysis intends to shed light on the internal dynamics of open-air cinemas to analyze the mobile and flexible character of these spaces in relation to their neighborhoods as well as urban networks. Accordingly, the impact of these urban voids-cum-neighborhood cultural hubs on a variety of urban scales forms the core of this study. Methodologically, the thesis will be an interdisciplinary one bringing together architectural and urban history with cinema studies. As sources, it will utilize existing documents on the history of the open air-cinemas such as maps, ticket stubs, posters, newspaper announcements, and photographs as well as oral histories and documentary films on the subject. At the same time, the thesis will dwell upon some comparisons with examples from other cultures. Doing so, this study aims to draw a framework for the general spatial characteristics of the open-air cinemas in Izmir in the period from the 50s to the 80s and will open a ground for discussion of selected examples and their position in the urban context.

11:00 - 11:30
Elif Özkan — Living in Industrial Settlements: Club Buildings of Karabük Iron and Steel Factory Campus

Supervisor: Elvan Altan
Jury: Meltem Özkan Altınöz, Lale Özgenel

This study focuses on the Engineers Club, Officers Club and Workers Club of the Karabük Iron and Steel Factory campus as social structures of the campus built in the early Republican period. While being exemplary of the architectural approaches of the period, the club buildings were also designed to meet the social needs of the three main employee groups in the campus. These buildings were designed by Iron and Steel Enterprises during the 1940s, and used by factory workers until the 1990s; and studying the differences in their usages will help discuss socail hierarchies in the campus and in the larger urban context. In this direction, firstly, the spatial and historical features of these buildings will be examined, and then from a social perspective, how these structures indicated stratification in the city will be evaluated.

11:30 - 12:00
Sümeyye Kaya — Transition from Traditional Palaces to Western-Style Palaces in the Light of Topkapi and Dolmabahce Palaces

Supervisor: Ali Uzay Peker
Jury: Çağla Caner, Pelin Yoncacı Arslan

Societies and cities are in alteration. The Ottoman Empire also experienced political, social, and cultural changes in the 19th century. This transformation procedure is the process of adapting to the conditions of the world undergoing structural change. Palaces are one of the most influential units in identifying societies. Ottoman palaces represented both the state's administrative center and the sultan's house. Therefore, the current art approaches and management traces were reflected in the palaces. Thus, palaces are among the units where innovations were first observed. The subject of this study is the alteration of traditional-style palaces to Western-style palaces. Transformation processes are one of the fundamental parameters that affect architecture and social life. Topkapı Palace, which symbolizes a traditional palace, and Dolmabahce Palace, considered a Western-style palace, are the two realms containing traces of the East and West. In this research, the social transformation will be handled within the scope of architectural sociology as a methodology. How social change in the Ottoman Empire was reflected to palace architecture and their interiors, how the changing state policy was described within the palaces, and how the Western lifestyle and the palace identities were shaped are the questions to be inquired. These two palaces will be interpreted through the architectural plans, the furniture used in daily life, the locations, the visual images presented to the outside world, and the relationships between lifestyles.

12:00 – 12:30
Yaz Ertürk — Halet Çambel and Nail Çakırhan as Agents of Place-Making

Supervisor: Belgin Turan Özkaya
Jury: Neşe Gürallar, Lale Özgenel

This thesis approaches archaeologist Halet Çambel and her partner Nail Çakırhan as collaborators in place-making by focusing on Karatepe-Aslantaş Open-air Museum and the architectural work of Nail Çakırhan. As members of the mid-twentieth century intellectual milieu of Turkey, Çambel and Çakırhan possessed strong views about heritage, culture, and conservation. I would argue that Çambel and Çakırhan saw archaeology, conservation, and architecture as opportunities to create place. Karatepe-Aslantaş Open-Air Museum was a prominent early example of on-site archaeological display and local collaboration. The archaeological remains of the 8th-century BCE Hittite fortress, with its valuable orthostats, were left in place, restored, and turned into the first open-air museum of Turkey, thanks to Halet Çambel's determined work at the beginning of the 1960s. Since then, the area has been used and valued. Gradually, it has become a natural/cultural environment by going beyond being a museum. As such, it was appropriated by local people becoming an example of inclusive archaeological/conservation intervention.

12:30 – 13:00
Hilal Polat— Acts of Erasure in Commemorative Mediums: Cases from Late Antique Ravenna

Supervisor: Pelin Yoncacı Arslan
Jury: Maria Cristina Carile, Suna Güven

Transformed from imperial residence to an important center of episcopacy in Northern Italy, late antique Ravenna illustrates outstanding cases where bishops and saintly cults validated each other's promise of salvation. As it appears to be, this reciprocal validation was mainly practiced in commemorative forms, by which, Ravennate bishops marked church spaces with saints' names and images in the absence of their bodily remains at first, and visually, bodily, and mentally inscribed themselves in church spaces at second. The legitimation and justification of this process was appropriated through eradication and even damnation of memory. This paper investigates the subtle visual and inscriptive strategies by which bishops manipulated the memory of the past perpetuated in commemorative mediums. Dwelling upon recent discussions, it suggests the concept of "erasure" to explore how these strategies successfully manipulated memory of the past. I will focus on the manipulations in the passio of St Apollinaris and St Vitalis, and the alterations on mosaics' iconographic programs in Sant' Apollinare Classe, San Vitale, and Sant' Apollinare Nuovo. While the distorted passio of saints validated their adaptation and promotion in Ravenna, mosaic re-carvings redefined the figures to be commemorated. For all these alterations, erasure is employed in the sense of negating physical and mnemonical evidence of the past to rehabilitate Ravenna's cultural, episcopal and hagio-memory. By this way, Ravannate bishops controlled the collective memory regulating the Christian community.

AH 604
Seminar in Architectural History
Coordinator: Ekin Pinar

13:00 – 13:30
Didem Savaş — A Review of the Current Literature on Late Ottoman Perceptions of Byzantium

Supervisor: Pelin Yoncacı Arslan
Jury: Şule Kılıç, Çağla Caner, Belgin Turan Özkaya

The nineteenth century in the Ottoman context is the period that marks the beginning of major reforms corresponding with the development of Ottoman archaeology and emerging responses towards antiquities. Considering the Byzantine past of the Ottoman Empire as part of this antiquity, tracing the newly developed historical consciousness allows us to explore how Byzantium was perceived, represented, and displayed through multiple practices and discourses. From the mid-nineteenth century

onwards, Byzantium achieved historical legitimacy. While the legitimizing process has yet to remain consistent over time due to political and ideological influences, the recent re-interest in Byzantium opens new paths and possibilities for rediscovery. Reconsidering the contemporary interest, this paper aims to review the current scholarly literature, roughly the last twenty-five years, and critically engage with several ways of research integrating the Byzantine past into Ottoman imperial identity. These include the new encounters with the Byzantine-built environment, the role of actors and institutions, and the context of museums and exhibitions. Dealing with the Ottomans' appropriation of the concepts such as "the West" and "Europe" provides this research an insight into the changing interaction with the Byzantine past through new urban interventions, archaeological activities, restoration campaigns, publications, and displaying practices.

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MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS ARCH504

2022-2023 FALL SEMESTER
JANUARY 23, 2023 | 12.00 - 18.00 | @KUBBEALTI

Coordinators: Ela Alanyalı Aral, Elif Gökçen Tepekaya

Meeting ID: 917 0168 7460
Passcode: 171738

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS - ARCH504

2021-2022 FALL SEMESTER

January 23rd, 2023

hybrid at Kubbealtı and via Zoom

Meeting ID: 917 0168 7460

Passcode: 171738

https://zoom.us/j/91701687460?pwd=ZzIzU2VsU3Fna040N2xh

ARCH 504 Seminar in Thesis Research

Coordinators: Ela Alanyalı Aral, Elif Gökçen Tepekaya

12.05 – 12.30

Ertuğ Erpek— Unfolding the Oblique Architecture's Trajectory and Archaeologies

Supervisor: Esin Kömez Dağlıoğlu

Jury: Ayşen Savaş Sargın, Başak Uçar

In the 20th century, Post-Modernism engendered an emancipatory medium, where multiple lines of thought reinterpret the accepted notions of modern architecture a fortiori, mooting unconventional and marginal discussions. Within that period, many paradigms consolidated a critical position against the prevailing Modernism, prompting sundry idiosyncrasies in urban and architectural discourse. Among these, a latent and aberrant approach, the oblique function theory by Claude Parent and Paul Virilio under Architecture Principe Group, emerged and immanently developed between 1963-1968, promoted an understanding that critically built upon Modernism and Modernity, reproaching their rational coercion to extrapolate a new lexicon. Regarding the zeitgeist, they offered a third urban order on the oblique as a dissent to the horizontal pre-industrial and the vertical industrial urban architectures, asserting that the modern complexities of urban and architectural conditions warrant a distinguished scheme. According to them, a novel third urban order would excel the mobile and active life through the multiplication of usable spaces by intermediating the elevation of the vertical and the permanent horizontal plane, blurring the clear-cut barriers of Euclidean space. Rather than solely utilizing the two fundamental directions, Architecture Principe promotes the recognition of all the directions through the inclined variations, fractured forms, and fluid compositions, fostering a polyvalence spatiality. The oblique function theory is prescient for many subsequent architectural styles, mainly Deconstructivism and The Fold, with these overarching principles. Unfortunately, the connection between the theory and contemporary architecture remains obscured because of its influence's sporadic and sclerotic trajectory. Many omit the theory's presence, not overtly illuminating how it stems from a critique of Modernism, evolves into a theory, and inspires following approaches by its fundamental tenets. Therefore, the research mainly aims to unfold the 'oblique' trajectory and elucidate how its discourse could espouse contemporary architectural theory. It seeks an enriched urban and architectural reformulation of the oblique function theory to be elicited with a reconstruction of a continuous oblique timeline and interwoven oblique network through archival documents, which would significantly contribute to the acknowledgment of how the oblique acted as a springboard for following architectural styles.

12.30 – 12.55

Hazal Özkan— A Study on the Transformation of Visual Culture and Representation Modes in Urban Design Competitions

Supervisor: Esin Kömez Dağlıoğlu

Co-advisor: Olgu Çalışkan

Jury: Funda Baş Bütüner, Cansu Canaran

The way urban design has been represented and communicated to the public has undergone an extremely significant change over the past few years. Traditional forms of representation, such as hand drawings and physical models, once dominated the field of representation, but digital representation has become the norm as well. Moreover, changes in climatic and environmental conditions in the new era demanded an expansion of conventional interpretation of architectural and urban design scopes and a deviation from conventional representation methods. In this context, the way spatial practitioners such as architects, urban designers, and landscape architects understand and produce design began to change with evolving visual culture. This sparked the use of a reimagined visual language. This shift can be seen in the use of 3D renderings, virtual reality simulations, and other digital tools in urban design competitions. Using these updated forms of representation, the proposed design is visualized with a level of detail and immersion previously unattainable through conventional methods. Urban design competitions provide the best opportunity to observe this change, which can combine different disciplines, layers, concerns, and scales. With the escalation of urban design competitions in Turkey in the recent past, we have witnessed a major shift in the emphasis on environmental factors as well as a dramatic shift in the discourse. However, the transformation of visual culture in urban design has also raised questions about the impact of these changes on the perception and evaluation of design proposals. This study aims to explore these issues by analysing the use of different representation modes to understand and discuss the expanded field of visual language and representation through urban design competitions held in Turkey in the last two decades. In this time interval, the change in representation was examined through two selected projects: Diyarbakır Dicle Valley Landscape Planning Urban Design and

Architectural Project Competition (2006) and Meles Stream as Urban and Ecological Backbone National Urban Design Idea Project Competition (2020). These competition projects are detailed using the competition specifications, jury reports, submitted visuals and posters. Through this analysis, the study aims to provide insights into the current state and future direction of visual culture with the effects of the Anthropocene era in the field of urban design.

12.55– 13.20

Dilara Yaraş Er— Impacts of Gold Mining Activities on Rural Landscape: The Transformation of Ovacık Village and Its Environs by Socio-Spatial Forces

Supervisor: Funda Baş Bütüner
Co-advisor: Güven Arif Sargın
Jury: Olgu Çalışkan, Gizem Deniz Güneri Söğüt

The aim of this thesis is to examine social and natural phenomena in order to understand the socio-spatial transformation in the rural landscape of Ovacık and its environs with the initiation of mining activities, and to create a foresight about the condition of the landscape after the cessation of the mine. Ovacık, a village located between Bergama and Dikili in İzmir, became a mining landscape after a transnational company, Eurogold, received countrywide permission and licenses to prospect for gold and silver, and constructed a gold mine in the village. As the main operation field of the extractive industries is the landscape itself, mining causes constant transformation of landscape with tangible, spatial, and environmental alterations, while triggering dramatic sociocultural transformations. Herein, post-mining landscape strategies appear as a critical reclamation process to envision the future of mining sites. Thus, besides mapping the devastated cultural and natural landscape of the mining landscapes, this research aims to discuss the future potentials of the post-mining landscape legacy through Ovacık. Since the preservation of the value of the cultural landscape created as the result of mining activities has a critical place in reclamation processes, the evaluation of the potential of the post-mining landscape in Ovacık as a cultural heritage is one of the constituents of this dissertation. Finally, by pushing the verges of the case, this study intends to develop strategies for the mining and post-mining sites in Turkey by framing Ovacık as a noteworthy countrywide precedent.

13.20– 13.45

Sena Baran— Reproduction of Dominant Ideology in Architectural Milieu Through Local Media - The Case Ankapark, Ankara

Supervisor: Güven Arif Sargın
Jury: Olgu Çalışkan, İnci Basa

This thesis is a critical inquiry into situation of increasing discrediting and commodification of contemporary architecture to serve the interests of dominant ideologies through examination of themed structuring processes that ignored the identity and values of Ankara, the capital of the Republic, by a certain political subject who was in the administration between 1994-2017. As a result of this study, it is expected to reveal how dominant ideologies and their social actors manufacture the consent of society by controlling the local media and how they reproduce the instruments of the dominant ideologies in architectural culture. In this sense, the process of obtaining the consent of the public for the Ankapark project, which has been quite controversial and clearly not in the public interest, by the dominant powers of the mentioned era through the local media will be examined, economical interests and dynamics in the background of the project will be deciphered within the scope of large-scale urban projects, which is one of the important implementation tools of neoliberal urbanization policies and which intervenes in economic, social and cultural areas as well as urban space.

13.45– 14.10

Elif Nur Bek— 2038 Environmental Plan: Property, Commodity, and Abstract Space Into Ghost Urbanization of Ankara

Supervisor: Güven Arif Sargın
Jury: Ayşen Savaş Sargın, Aktan Acar

This research will examine the context of Ankara within the framework of the decisions taken in line with the 2038 Ankara Environmental Plan. With that examination, the production mode of the modern city will be deciphered by using the abstraction method over the relations of rent, property and commodity. Concept of “abstract space” in production of space will be discussed in the context of spatial conceptual analysis of the plan regarding the homogenization of the land. While doing this, alongside with the conceptual aspect of the issue, it will be mentioned how the administrative powers in the context of Ankara, exhibited policies based on the understanding of profit and rent in environmental planning, and how these policies were reflected in the production mode of the city. In this context, ghost cities, which are a global problematic, are also an output of this city production mode as a warning. As the land transformed by Capitalism makes sense only on the basis of plots and parcels, and production of the city changes accordingly.

Metropoles emerge as territories that have lost or change their value in the spatial context and result as ghost towns. Likewise in the case of 2038 Ankara Environmental Plan, where a similar situation is observed and occurred, will be deciphered by suggesting a new interrelated concept as “ghost urbanization”. For this process, as a main source for understanding the production of a Metropol through Ankara, the cellular mode of production of Capitalism built over Metropoles will be discussed to be held as a methodic tool.

14.10– 14.35

Kemal Yılmaz— The Transformation of Architectural Education under Neoliberalism: Institutionalisation of Precariatization of Architectural Labor in Turkey since 2003

Supervisor: Güven Arif Sargın

Jury: Ayşen Savaş Sargın, Tonguç Akış

Marx holds that capitalist accumulation necessarily leads to the expansion of a surplus labor force, but that the surplus labor force also aids capitalist accumulation, partially by keeping wages down. He divides the surplus labor force, also known as the reserve army of labor. In line with neoliberal policies, the economic policy instruments affecting the labor market in Turkey since the 2000s have
been liquidated; distribution relations began to deteriorate more and more against labor. With the privatization of education services, education, high schools and universities become profit institutions. Universities are developing 'entrepreneurial university' models due to compatibility with the market mechanism, and in parallel, the labor process is reorganized in accordance with these models. Although the term "Reserve Army of Labor" has a definition that is inherent to capitalism, in the neoliberal era, both its quality and quantity have improved in the labor market. For the precarious architect subject, it has been an important element in the precarization of architects' labor over the past 20 years, particularly within the architectural profession. In this thesis, the qualitative and quantitative transformation of architectural education will be examined in parallel with Turkey's integration into the neoliberal system as of 2003; more specifically, the role of foundation universities in this transformation will be tried to be revealed.

14.35 – 15.00

Büşra Aşçı— Architecture as A Source of Pleasure

Supervisor: Haluk Zelef

Jury: Belgin Turan Özkaya, Esin Kömez

The discipline of architecture has been associated with many different disciplines throughout history and has developed through this interaction, in this context, architecture can be considered not only as a production of rational and systematic thought but also as a synthesis of intellectual thought and various philosophical approaches. One of these different thought systems affecting the theory of architecture is hedonism, which is closely related to both philosophies of art and the development of architecture. Because this philosophy, which is associated with pleasure and pain has opened doors to new approaches and created turning points in architecture in different periods of history, as will be examined in depth in the content of the study. This approach, which argues that humankind shapes his environment and social relations with the impulses towards the feelings of pleasure and pain he or she experiences, added a different perspective and way of thinking to the architectural approach of the architects and theorists it influenced and created several concepts that we still talk about today. For this reason, in this article, the concept of hedonism will be discussed with all its layers to reveal these mentioned concepts and approaches, their effects on architectural theory, and their results. Through the relation of hedonism with the philosophy of aesthetics, it will be examined with what criteria the discipline of architecture was put forward in the first curtains of history or it will be investigated how hedonism, which comes to the fore with different social events, inspires architects who seek answers to social problems. The ideas that emerged in different periods will be examined in their contexts and the relationship between architecture and hedonism will be elaborated to reconsider the human who is the subject of architecture and architectural space in a new context.

15.00– 15.25

Cansu Sicimli— Spatial dynamics of moving images: A reading on the examples of expanded cinema in Turkey.

Supervisor: Haluk Zelef

Jury: Celal Abdi Güzer, Ekin Pınar

The disciplines of architecture and cinema are inextricably linked and influence each other, mainly when architecture functions as an enclosure for cinema. The spatial aspects of the space always have been a significant element of the experience of the film. Around the 1950s and 1960s, artists and filmmakers challenged the cinema’s spatiality. Even though cinema was conventionally displayed in the movie theatre, museums, art galleries, and open-air have become new possible sites for projecting moving images. Artists have produced ‘expanded cinema’ artworks which are film, video, or multimedia works displayed beyond the movie theatre. Thus, many forms of dialogue emerged between the artworks, the space, and the spectators. They challenged the conventions of art spectatorship and created different relations to time and space. Within the current literature, architecture itself is not the focus of the

studies regarding expanded cinema artworks. Also, there is insufficient research on how moving images were embraced by the artist in Turkey and how the spaces adapt themselves to exhibit cinema. Thus, the thesis will mainly concentrate on the spatial dynamics of the expanded cinema artworks created in Turkey. Multiple cases will be analyzed according to the representations (photographs, videos, virtual tours, explanations of the artists/art critics) of the artworks if they are no longer on display. The main focus of the thesis will be how these artworks engage with the spectators and the spaces they inhabit.

15.25– 15.50

Recep Selim Yarbaşı— Participatory Design In Affordable Housings: Comparative Review of B.V. Doshi and Alejandro Aravena

Supervisor: Cânâ Bilsel
Jury: Aydan Balamir, Selahattin Önür

Due to the rapid population growth and ongoing urbanization in the world, there has been a remarkable increase in the housing stock recently, and social or affordable housing inevitably constitutes an important part of this. However, although they seriously affect the architecture and urban fabric of cities, most of these housing implementations consider merely the basic needs of people, by reducing a user group to simple parameters. They mostly consist of standardized, high- rise blocks, alien to the physical and social context in which they are located. This leads people who live in these mass housing areas to lose their sense of place, sense of belonging and alienate from their environment, which is a problem to obtain a socially sustainable environment. However, there are some remarkable architectural examples that have become successful alternatives to these standardized housing productions. In this context, two Pritzker award-winning architects, Balkrishna Doshi and Alejandro Aravena, known with their inclusive housing designs for low- income people, come to the fore. In this study, the approaches and projects of the two architects - one from India and the other from Chile- will be analyzed comparatively with regard to their roles in housing solutions for the low-income people, their inclusive design approaches that embrace the inhabitants, consider their needs, contribute to their well-being and enable their interventions. The architects' role as mediator in the implementation process of the projects, their architectural and ssocial discourses will be discussed with examples from their implemented projects.

15.50 – 16.15

Muhammad Hasan Daniyal— Pathways of least Resistance: The case for Islamabad's waterways as a means of regenerative design for the city.

Supervisor: Cânâ Bilsel
Jury: Funda Baş Bütüner, Didem Dizdaroglu

The capital city of Pakistan, Islamabad is a contemporary planned city based on a strict square grid superimposed over the rain fed plateau of the Potohar region in the foothills of the the Margalla Hills. The natural seasonal waterways originating in these hills, as well as the pockets of natural forests are envisioned as a part of the city's natural infrastructure, essential for maintaining quality of life. However, these waterways passing through the city as a means of connection of the citizens with the natural environment, have become open-air sewerage drains due to the urban growth deviating from the original master plan of post 1970's in the absence of a revised master plan. Additionally, urban encroachment and poor waste management has also led to these streams flooding in every monsoon season, depositing debris and waste within the city, necessitating an approach in planning which would remedy the current issues and provide a sustainable pathway into the future of the city. The study aims to superimpose a new infrastructural landscape within these pocket spaces in Islamabad, using the seasonal streams as a means to generate infrastructural landscapes which would aid the development of a framework for a new form of connective infrastructure within the city. As a study into the development of techniques and methods, a two-kilometer patch of one of the streams will be taken as the subject area with the new strategies being hypothesized to resolve the issues of the space in context to the project intent. The study area is chosen because it offers a variety of urban settings, which would be beneficial for the purposes of this research in providing an infrastructure of linkage between different urban settings, while making the stream and its surrounding environment a primary player in the development of the infrastructure approach. This research seeks to find an alternate way to increase connectivity between various urban enclaves within the city. This approach of connectivity would be referred to as "networks of reconciliation" in this study.

16.15 – 16.40

Mohammed Najdat Yawer— The Ecological Role of Unoccupied Urban Lands in the Antropocene

Supervisor: Funda Baş Bütüner
Jury: Ela Alanyalı Aral, Ebru Erbaş Gürler

Considering the ecological threats of the anthropocene era we are currently living in and the realities of the climate crisis, it is evident that the way in which we shape and treat the urban environment must be fundamentally reformulated and reoriented towards more ecologically conscious approaches. A

critical urban problem to investigate in this regard is the role and fate of unoccupied urban lands in this shift towards more ecological urban conceptions of the contemporary city. This paper aims to briefly introduce a theoretical framework for the concept of unoccupied lands, followed by several case studies that present a wide range of scales for urban inoccupancy and then provide a general overview of three of their major ecological potentials and the recent approaches in the literature surrounding them. Those being categorized as urban ecology, ecosystem services, and ecological testing grounds.

16.40 – 17.05

Ece Gören— Cohabitation as A Project for The City: Strategizing For An Urban Symbiosis

Supervisor: Funda Baş Bütüner

Jury: Mualla Erkılıç, Ebru Erbaş Gürler

As ecological strategies reach an increasingly impendent halting point and a new geological epoch is widely recognized in academia with the Antropocene, design and planning disciplines are seeking new ways to approach the field in light of the system-wide disruptions of humankind as a geologic force. Within this discourse, the notion of cohabitation emerges as a model for a holistic architectural attitude towards urban practices that positively construct rather than systematically despoil. To be able to construct cohabitation as a project for the city, the paper will begin by defining the term etymologically and conceptually, including prior originations of the evolution of the notion, to then be supported by rendering a succinct image of the term cohabitation and how it has been theorized in urban discourse. From this point on, two propositions are recognized for the project of designing cohabitation for the urban realm; the first hypothesis being, that human and architecture are not transcendent to, but entirely immanent to nature, and secondly, that cities are habitats, and the city is one modification of nature. The discussion is followed by the investigation of typologies and methodologies of cohabitation through varied case studies to be able to formulate a greater grasp on how this position translates to practice. The common objective of cohabitation produces a rethinking of human-nonhuman relations on a basis of equality of being and designs for solutions toward the possibility of a buzzing coexistence through and between planetary biodiversity. Architecture in this sense is transfigured as an agent of symbiotic relationships between the binaries that have long governed our dialectic.

MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF ARCHITECTURE

GRADUATE SEMINARS ARCH604

2022-2023 FALL SEMESTER
JANUARY 26, 2023 | 13.00 - 13.30

Coordinators: Mualla Erkılıç, Feyza Topçuoğlu

Meeting ID: 920 8516 4265
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MIDDLE EAST TECHNICAL UNIVERSITY
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GRADUATE (Ph.D.) SEMINAR – ARCH 604

2021-2022 FALL SEMESTER

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ARCH 604 Seminar in Thesis Research
Coordinators: Mualla Erkılıç, Feyza Topçuoğlu

13.00 – 13.30
Melek Demiröz— Architectural Pleasure in The Digital Age

Supervisor: Ela Alanyalı Aral
Jury: Celal Abdi Güzer, Ekin Pınar

Architecture is defined by three main aspects by many architects and architectural theorists in treatises starting from Vitruvius as firmitas (firmness), commoditas (function) and venustas (beauty). Venustas is defined with aesthetics, pleasure and beauty through the discussions of order, ornament, nature and experience in architecture. In today's fast paced digital era, the understanding of architectural pleasure is different since dynamism, movement and speed defines the today's environment. Moreover, in search of pleasure and venustas, experiencing the space through architecture is interpreted as a subjective field and interrogated through surveys directly communicating with people or as an observation of scholars. It is argued in this study that whether the understanding of architectural pleasure in experienced space in the fast-changing world is different from the previous times. Also, this study aims to contribute to the research area by analyzing the change in the understanding of pleasure and beauty in architecture as a subjective or collective sense in today's digital environment through theme identification and via social media as a great sources of big amount of data about human experience and digital tool rather than survey analysis of limited amount of people with limited sources.

Keywords: architectural pleasure, aesthetics, experienced space, digital era, collective sense