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Basic Design Studio: An Application on Volume Perception and Product Family Design

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Paper Type: Abstract

Abstract – This study examines a project conducted within the scope of basic design studio practices in industrial product design education. The project enables students to develop their three-dimensional perception, acquire skills in volume and complex volume creation, and gain proficiency in designing product families. In the project, students were expected to select a cube as a reference form and generate new volumes through subtraction and transformation processes. This transformation process was carried out based on the principle that no more than 40% of each cube's volume could be removed; the resulting forms were designed not only with individual characteristics but also to exhibit holistic harmony when assembled together.

At the initial stage of the study, students worked on a cubic frame constructed from thin wooden rods, materializing its invisible intrinsic lines with strings. They then decided which of these strings to retain and began the volumetric design process, producing complex volumes. This process enabled students to better comprehend three-dimensional spatial relationships. The students transformed their designed volumes into three-dimensional models using Bristol board, defining adhesive tabs and folding lines in the planar templates prepared for each model. These volumes, with approximately 15 cm edge lengths, were approached from the perspective of set theory, structuring the relationships between interconnected forms to create a cohesive composition.

The findings indicate that presenting geometry's intrinsic lines as a starting point provides a significant conceptual framework for supporting students' volume perception and complex volume design processes. Additionally, employing set theory as a guide in increasing volumetric complexity has proven effective in enhancing students' ability to comprehend three-dimensional relationships and make holistic design decisions. In this context, this approach to volume and complex volume design contributes to cognitive and creative thinking processes in design education.

Keywords – Basic Design, Basic Design Education, Volume Perception, Complex Volume Design, Set Theory,

Between Reality and Illusion: Power of Structure and Technology in Architecture

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Presentation/Paper Type: Oral/Abstract

Abstract – Architecture, as a multifaceted discipline that encompasses a wide range of considerations from aesthetic & tectonic principles to structural engineering, exists in the tension between the tangible and the imagined, the real and the illusory. Architecture, evoke a sense of physical presence and wonder by utilizing the boundless realm of design vision & imagination and concrete reality of construction. The dynamic intersection and interaction between design concerns and structural principles is crucial in shaping the built environment and influencing how individuals interact with and perceive architectural products. The fusion of design concepts, structural integrity and technological innovation in architecture has the ability to create architectural artifacts that not only serve functions but also evoke perceptions. As construction and material technology has advanced, the ways in which architects can formulate speculative architectural designs have evolved accordingly. In this context, the study investigates the dynamic intersection of architecture and construction technology to challenge how structural design is enabling the architects to stretch the boundaries of the one ‘what can be built’ forwarding architectural speculative design at the margins between reality and illusion. The study is based on a review of the fields of architecture, structural engineering and construction & material technology and case studies analyzing structural design and technology and their potential influences on the built environment on the latest discussions about what architecture will look like going forward including technology and the possibility.

Keywords – Structural design, Speculative architecture, Architectural innovation, Technological advancements, Aesthetics & tectonics

Dekonstrüktivist Mimaride Zamanın İzleri: Doğrusal Olmayan Zamanın Mekânsal Okuması, Yahudi Müzesi

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Sunum/Bildiri Türü: Sözlü/Özet

Özet – Bu çalışma, dekonstrüktivist mimarlığın zaman, mekân ve bireysel deneyimler arasındaki ilişkiyi nasıl dönüştürdüğünü ve geleneksel mimari anlayışlara karşı bir eleştiri sunduğunu ele almaktadır. Postmodernizmin bir alt dalı olan dekonstrüktivizm, modernizmin düzen, sadelik ve evrensel standartlarına meydan okuyarak, estetik ve felsefi bir dönüşüm yaratmıştır. Jacques Derrida'nın dekonstrüksiyon felsefesinden ilham alan bu yaklaşım, mekânın yalnızca işlevsel bir yapı değil, aynı zamanda bireysel hafıza ve deneyimlerle yeniden anlam kazanan dinamik bir alan olduğunu savunur.

Daniel Libeskind'in Berlin Yahudi Müzesi tasarımı, dekonstrüktivist mimarinin en çarpıcı örneklerinden biri olarak, Yahudi tarihindeki travmatik olayların ve kolektif hafızanın fiziksel bir temsili olarak değerlendirilmektedir. "Between the Lines" konseptiyle tasarlanan müze, geçmiş, şimdi ve geleceği iç içe geçirerek, doğrusal olmayan bir zaman algısı sunar. Parçalanmış geometriler, keskin formlar ve bilinçli boşluklar, Yahudi halkının tarihindeki kopuşları, belirsizlikleri ve yeniden varoluş süreçlerini hem fiziksel hem de duygusal düzeyde yansıtır. Müze, ziyaretçilere yalnızca tarihsel bir anlatı değil, aynı zamanda mekân üzerinden geçmişin izlerini ve geleceğin potansiyelini yeniden düşünme fırsatı verir.

Çalışma, dekonstrüktivist mimarinin yalnızca fiziksel tasarımı değil, aynı zamanda tarihsel, toplumsal ve bireysel deneyimlerin mekân üzerindeki etkisini sorgulayan bir eleştirel düşünce biçimi sunduğunu ortaya koymaktadır. Bu bağlamda, mekânın çok katmanlı ve dinamik yapısı, bireylerin zamana ve mekâna dair algılarının çeşitliliğini vurgulamaktadır.

Anahtar Kelimeler – Dekonstrüktivizm, Zaman, Mekân, Yahudi Müzesi, Modern-Postmodern Mimarlık

The Role of Biophilic Design Elements in User Preferences in Urban Public Spaces: A Case Study of Maçka Park

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Presentation/Paper Type: Oral/Abstract

Abstract - The increasing disconnection from nature caused by the pressures of urban life has significantly impacted human well-being, highlighting the necessity for new design approaches that can reconnect individuals with the natural environment. Biophilic design, which promotes the integration of natural elements into built environments, has emerged as a promising framework to enrich urban life by enhancing both the physical and psychological quality of public spaces. This study aims to investigate the role of biophilic design elements in shaping user preferences and satisfaction within Maçka Park, one of Istanbul's most central and actively used urban parks. Through a combination of spatial analysis and user-centered research methods, the study examines how natural components such as vegetation, water elements, shaded areas, and organic structures influence the ways people perceive and use public open spaces. Spatial observations focused on the distribution and diversity of biophilic features across different park zones, while face-to-face surveys conducted with 77 users provided valuable insights into the experiential dimension of these design elements. The research revealed that areas with more prominent biophilic components are more frequently visited, with users reporting higher satisfaction and a stronger emotional connection to these areas. Moreover, the findings suggest that the way biophilic elements are spatially organized plays a crucial role in shaping user behavior, guiding movement, and encouraging longer stays. It also became evident that the visualization of these elements through imagery or representation enhanced users' awareness and appreciation, indicating that biophilic design can influence perception even at a cognitive level. Ultimately, the presence of biophilic features emerged as a significant factor in why individuals choose to visit specific areas within the park, highlighting their importance in design decisions aimed at public engagement and comfort. This study concludes that biophilic design is not only a visual or decorative tool but also a strategic and functional approach that increases the quality of public spaces, supports well-being, and strengthens users' connection to nature in urban environments. By emphasizing the emotional, functional, and spatial benefits of biophilic planning, the research advocates for its broader integration in public space design as a means to promote healthier, more inclusive, and livable cities.

Keywords: Biophilic design, public space, user satisfaction, urban environment

Birlikte Yaşam Kurgusu: Akıllı Teknolojilerle İnsan-Ötesi Mekânlar

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Sunum/Bildiri Türü: Sözlü /Özet

Özet – Akıllı teknolojiler, çevresel verileri algılayabilen, bu verilere göre karar alabilen ve tepki verebilen; bilişsel, iletişimsel ve otomasyon yetenekleriyle donatılmış, bağlama duyarlı dijital sistemlerdir. Bu teknolojiler, yapay zekâ, sensör ağları, nesnelerin interneti (IoT) ve veri işleme gibi bileşenler aracılığıyla çevreleriyle etkileşim kurabilir ve kullanım koşullarına dinamik olarak uyum sağlayabilir. Bu çalışma, söz konusu teknolojilerin insan-ötesi tasarım yaklaşımıyla nasıl entegre edilebileceğini ve bu etkileşimin mekânsal düzenlemelere nasıl yansıtılabileceğini örnekler üzerinden incelemektedir. Bu bağlamda, akıllı teknolojilerin yalnızca insan odaklı değil, aynı zamanda ekolojik olarak duyarlı ve ontolojik olarak çoğul mekânsal kurgu biçimlerine nasıl katkı sunabileceği ortaya konmaktadır. Evcil hayvanların davranışlarını izleyen sensör tabanlı sistemler, bitkilerin su ve ışık ihtiyacına yanıt vererek mekânın iklim koşullarını optimize eden donanımlar ya da insanın yaşamsal verileriyle çevresel girdileri eş zamanlı işleyerek etkileşimli atmosferler oluşturan teknolojiler gibi örnekler, insan dışı varlıkların da iç mekân deneyiminin etkin bileşenleri hâline geldiği bir tasarım yaklaşımını göstermektedir. Bu tür uygulamalar, akıllı teknolojilerin yalnızca kullanıcı odaklı verimlilik sağlayan araçlar olmaktan çıkarak, birden fazla varlık türü arasında etkileşimsel ilişkiler kurmaya aracılık eden dinamik sistemler olarak yeniden tanımlandığını göstermektedir. Sonuç olarak, bu çalışma, akıllı teknolojilerin iç mekân tasarımında daha kapsayıcı, karşılıklı etkileşime açık ve çevresel farkındalık taşıyan roller üstlenebileceğine dair gelecek odaklı bir perspektif sunmaktadır.

Anahtar Kelimeler – Akıllı teknolojiler, İç mekan Tasarımı, İnsan-ötesi tasarım, Mekansal Etkileşim, Akıllı Mekanlar

Anticipating Urban Space Futures: Shifting Needs of Tomorrow's Aging Generations

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Paper Type: Abstract

Abstract – The urban needs of aging generations are undergoing a profound transformation, driven by shifting lifestyles, technological integration, and evolving social expectations. While contemporary urban design standards largely address the needs of today's older adults, the coming decades will witness the aging of Generation X, Millennials, and Generation Z—groups whose engagement with urban space differs markedly from their predecessors. This study explores the anticipated demands of tomorrow's aging populations, focusing on the divergence between traditional age-friendly city models and emerging needs for digital integration, independent mobility, flexible housing typologies, and dynamic forms of public interaction. Drawing on demographic projections from the United Nations and regional data from Turkey, the paper highlights key future trends such as the expectation for technology-mediated urban services, new forms of social belonging, and higher demands for individualized, inclusive environments. The findings underline the urgent necessity for rethinking urban resilience and socio-spatial policies to meet the evolving frameworks of active and empowered aging. Rather than replicating past paradigms, this study argues for an anticipatory approach that positions aging as a catalyst for innovative urban transformation.

Keywords – urban space, aging generations, future cities, socio-spatial design, active aging

Optimizing Waste Collection Routes: A Case Study for Gaziantep, Turkey

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Presentation/Paper Type: Oral / Abstract

Abstract –This study aims to enhance the efficiency of urban waste collection services in Gaziantep, Turkey, by implementing advanced route optimization techniques. Addressing the increasing challenges posed by population growth and rising waste volumes, the research utilizes Dijkstra’s algorithm to minimize travel distances, fuel consumption, and collection time. The model was developed using Python for algorithmic computation and JavaScript for interactive mapping and visualization of optimized routes. Sample data testing demonstrated promising results, including a 28% reduction in travel distance, approximately 1,500 liters of annual fuel savings, and a 30% decrease in collection time. These findings emphasize the potential of integrating optimization algorithms into smart city infrastructures to promote environmental sustainability and operational efficiency. The incorporation of real-time data analytics and IoT-supported infrastructure could further transform waste collection into a dynamic, adaptive system. As a prototype for other rapidly growing metropolitan areas, the study highlights the importance of algorithmic approaches in modern urban planning. Future research should focus on expanding real-world datasets and validating the model under actual operating conditions to strengthen its scalability and effectiveness.

Keywords – Waste Collection Optimization, Dijkstra’s Algorithm, Smart Cities, Python Programming, JavaScript Visualization.

A Low-Cost RFID-Controlled Parking System for Smart Cities

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Presentation/Paper Type: Oral / Abstract

Abstract – This study presents a low-cost, RFID-based smart parking management system designed to enhance urban mobility within the framework of smart cities. The system employs Arduino Uno, RFID readers, relays, and an LCD interface to manage vehicle entry and exit at parking facilities, ensuring that only authorized users can access the area. Real-time vehicle counts are displayed, offering operational transparency and control. The system is designed to be scalable and integrable with broader city infrastructure. When connected to a centralized urban management platform via Wi-Fi or LoRaWAN, it enables real-time monitoring of parking occupancy, reduces traffic congestion by minimizing the time spent searching for parking, and supports secure access in private zones such as residential sites and commercial complexes. Future enhancements include integration with license plate recognition, automated payment systems, mobile applications, and solar-powered components for energy efficiency. The proposed solution supports the core objectives of smart city initiatives by combining affordability, automation, and data-driven urban planning, making it a strong candidate for implementation in modern metropolitan environments.

Keywords – Smart Parking, RFID System, Arduino, IoT Integration, Urban Mobility.

A Comparative Analysis of Smart City Implementations for Major Turkish Cities

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Presentation/Paper Type: Oral / Abstract

Abstract – This study compares the implementation and scope of smart city systems across ten major Turkish cities: Istanbul, Ankara, Izmir, Bursa, Antalya, Adana, Konya, Gaziantep, Şanlıurfa, and Mersin. As urban populations grow and infrastructure demands increase, these cities have adopted various smart technologies to improve urban mobility, waste management, energy efficiency, public safety, and digital governance. While Istanbul and Ankara lead in integrated smart systems with widespread use of IoT-based traffic management, smart lighting, and open data platforms, cities like Konya and Gaziantep have focused on mobility and environmental monitoring. Izmir and Antalya emphasize sustainable urban planning through smart energy grids and real-time environmental sensors. On the other hand, Şanlıurfa and Mersin are in earlier stages, investing in e-governance, smart transportation, and public Wi-Fi infrastructure. This comparative analysis identifies both regional disparities and shared priorities in the pursuit of digital urban transformation. The findings highlight the importance of local governance capacity, financial investment, and citizen engagement in the success of smart city initiatives. Ultimately, this study offers strategic insights into how Turkish metropolitan areas can enhance technological integration to support sustainable, efficient, and inclusive urban development.

Keywords – Smart Cities, Urban Innovation, Digital Governance, IoT Infrastructure, Comparative Urban Analysis.

Investigating The Effect of Urban Open and Green Spaces on Urban Heat Island, The Case of Kayseri City Center

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Presentation/Paper Type: Abstract

Abstract – This study investigated the effect of urban open and green areas on land surface temperature in Kayseri Metropolitan City Center. Satellite images obtained from the USGS through the Earth Explorer website were used. The urban heat island effect of surface temperatures was investigated in two separate periods, August 2018 and August 2023. The remote sensing method was used to determine the surface temperature in the study. NDVI and LST data were correlated to determine the surface temperature. In the study, bare lands that do not belong to any land use class in terms of land cover, organized industrial zones consisting entirely of industrial structures, and areas such as airports, which do not have vegetative material and consist entirely of the concrete surface, were determined as the areas with the highest temperature values in terms of surface temperature. It was observed that there was a difference of 8 degrees in 2018 and 5 degrees in 2023 between residential areas with gardens and park areas. Another important finding of the study is that park area with dense vegetation, and cultivated and planted areas have the lowest surface temperature in terms of surface temperature. It is concluded that this difference between residential areas and park areas in 2018-2023 is caused by the maximum and minimum temperature differences during the day taken as the basis for measurement, and that the presence of green areas in cities and their distribution within the city play an important role in reducing the surface temperature.

Keywords – Urban open and green area, land surface temperature (LST), Normalized Vegetation Index (NDVI), Urban Heat Island

Advancing Social Sustainability through Kinetic Architecture: Interactive Design for Human Well-being

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Presentation/Paper Type: Oral / Abstract

Abstract - Kinetic architecture, characterised by movable and responsive components that adapt to environmental or human inputs, redefines spaces as dynamic and interactive environments. This study investigates its role in promoting social sustainability, an underexplored pillar of sustainable development, focusing on social interaction, architectural identity, sense of security, flexibility, and social participation. Using a descriptive-analytical methodology, the study analysed 30 case studies, such as the Mega Faces by Asif Khan (2014), Aegis Hyposurface wall by dECOi Architects (2003), U2 expanding Video Screen by Chuck Hoberman (2002) and Al Bahar Towers by Aedas (2012), to evaluate how kinetic designs encourage public engagement, create a distinctive aesthetic and a memorable feature, reassure users with safe and controlled responses, adapt to environmental conditions and evoke emotions like belongingness and happiness and joy through playful, user-driven interactions. Findings demonstrate that kinetic architecture creates iconic landmarks, supports adaptable multifunctional spaces, and encourages community engagement, aligning with user needs to improve quality of life and enhance human well-being through responsive designs. By integrating environmental psychology and human-centered principles, kinetic architecture addresses cultural, psychological, and social needs, offering innovative solutions for sustainable development. This research underscores its potential to advance social sustainability beyond environmental and economic focuses, creating vibrant, inclusive communities that enhance life satisfaction and social wellbeing.

Keywords – Kinetic architecture, Social sustainability, Interactive environments, Sustainable design, Human well-being

Tracing the Provenance of Materials in the Restoration Process of Stone Architectural Heritage

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Presentation/Paper Type: Oral / Abstract

Abstract– The necessity of preserving architectural heritage inevitably gives rise to the need for restoration. However, the restoration process entails far more than mere documentation; it requires a comprehensive and in-depth investigation. This includes examining a wide range of aspects such as the building's location, period, patron, architect, owner, responsible individuals or institutions, registration status, original and new functions, historical background, plan and façade characteristics, ornamentation, construction techniques, materials, past repairs/restorations, additions, types and causes of deterioration, analogical comparisons, conservation status of the structural system and materials, and relevant legislation. One crucial aspect of this investigation is the determination of material provenance. Identifying the material's origin is essential not only for complete documentation but also when renovation is proposed during restoration. In such cases, determining the provenance prior to intervention is critical to ensure authenticity. In the context of stone-built architectural heritage, it is imperative to both identify the type of stone and trace its provenance. Although numerous advanced analytical techniques are available for this purpose, many require sampling and are thus at least minimally destructive. Portable X-ray fluorescence (p-XRF) spectroscopy offers a solution to this issue by enabling non-destructive and non-invasive elemental analysis of the stone. However, elemental analysis alone may not suffice for provenance determination; tracking the trace elements—particularly rare or characteristic ones—is often required to establish a link with the original quarry. This study aims to propose a methodological approach for tracing the provenance of stone materials during the restoration process of stone architectural heritage. Within the scope of the research, three examples of stone heritage structures from Sivas were analyzed using the p-XRF method. The results verified the local origin of the stones and successfully identified the quarries from which they had been sourced.

Keywords – Architectural heritage, Material provenance, p-XRF, Restoration, Trace element.

Taş Mimari Mirasın Restorasyon Sürecinde Malzeme Kökenine Yönelik İzlerin Sürülmesi

Özet– Mimari mirasın korunması gerekliliği, restorasyon ihtiyacını doğurmaktadır. Restorasyon süreci, sadece yapının belgeleme çalışmasından ibaret değildir. Derin ve detaylı bir araştırma gerektiren bu aşamada, yapının konumu, dönemi, yaptıranı, mimarı, sahibi, bakımından sorumlu kişi ya da kuruluşlar, tescil durumu, özgün/yeni işlevi, tarihçesi, plan ve cephe özellikleri, bezemeleri, yapım tekniği, malzemeleri, geçirdiği onarımlar/restorasyonlar, ekler, bozulmaları ve nedenleri, analogik karşılaştırması, taşıyıcıların ve malzemelerin korunma durumu, konuyla ilgili mevzuat gibi birçok araştırma yapılmaktadır. Bu araştırmalardan biri de malzeme kökeninin tespit edilmesidir. Malzeme kökeninin belirlenmesi eksiksiz belgelemenin yapılabilmesi için önemli olduğu gibi, restorasyonda “yenileme” kararı alınması durumunda da önemli olmaktadır. Çünkü yenilemeden önce malzeme kökeninin belirlenmesi gerekir ki aslına uygun restorasyon yapılabilsin. Özellikle taş mimari miras söz konusu olduğunda, hem taş türünün belirlenmesi hem de taş malzemenin kökenine yönelik izlerin sürülmesi gerekmektedir. Bu araştırmalar için, birçok ileri tetkik yöntemleri bulunmaktadır; ancak bu yöntemlerin birçoğu, numune alınmasını gerektirdiğinden, yapıya az da olsa zarar vermektedir. X-ışını floresans spektroskopisini taşınabilir cihazla uygulamak bu probleme çözüm olmaktadır. Tahribatsız ve invaziv olmayan bu yöntemle taşın elementel analizi yapılmaktadır; ancak elementel analiz yapmak malzemenin kökenini bulmakta yeterli değildir. Taşın getirildiği taş ocağının izini sürebilme, eser elementin izini sürebilmekle mümkün olabilir. Bu çalışmanın amacı, taş mimari mirasın restorasyon sürecinde malzeme kökenine yönelik izlerin sürülebilmesi için bir yöntem önerisi sunmaktır. Çalışma kapsamında, Sivas'taki taş mimari mirastan üç örnek ele alınmış olup p-XRF analizi yöntemi kullanılmıştır. Bu yöntem sayesinde, taşların yerel taş olduğu ispatlanmış ve getirildiği taş ocakları tespit edilmiştir.

Anahtar kelimler – Eser element, Malzeme kökeni, Mimari miras, P-XRF, Restorasyon.

Kent Yönetiminde Kadın Temsilîyetinin Yetersizliğinin Kent Üzerindeki Etkileri: İstanbul İlçe Belediyeleri Örneği

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Sunum: Sözlü / Özet

Özet– Bu çalışma, yerel düzeyde kadınların karar alma mekanizmalarındaki yetersiz temsilini ve bunun kent yaşamı üzerindeki etkilerini ele almaktadır. Artan kentleşme ve toplumsal çeşitliliğe rağmen, kent planlaması ve yönetimi süreçlerinde kadın bakış açısı çoğu zaman dışlanmakta, bu da adil olmayan ve işlevselliği sınırlı kentsel alanlara yol açmaktadır.

Araştırmanın amacı, kadınların yönetsel kararlarda yeterince temsil edilmemesinin, kentlerin planlanması ve hizmet sunumu üzerindeki etkilerini incelemektir. İstanbul'daki 10 ilçe belediyesinde 20 kadın meclis üyesi ile yapılan yapılandırılmış anketler ve mülakatlar yoluyla veri toplanmıştır.

Bulgular kadın katılımının eksik olduğu belediyelerde, kapsayıcı mekan tasarımı hedefine ulaşamadığını göstermektedir. Sonuç olarak çalışma, belediye yönetiminde kadın temsilinin artırılmasının yalnızca eşitlik değil; aynı zamanda daha duyarlı, güvenli, kamusal alanlarda dahil kapsayıcı ve yaşanabilir kentler yaratmak açısından da zorunlu olduğunu ortaya koymaktadır. Mimarlık ve planlama perspektifinden bakıldığında, kadınların sürece dahil edilmesi dengeli ve sürdürülebilir kentsel gelişim için kritik önemde olduğunu göstermektedir.

Anahtar Kelimeler: Kent Yönetimi, Toplumsal Cinsiyet Temsilîyeti, Belediye Planlaması, Kapsayıcı Tasarım, Kentsel Politikada Kadın

“The Impact of Women’s Underrepresentation in Urban Governance: The Case of Istanbul’s District Municipalities”

Abstract – This study addresses the underrepresentation of women in local decision-making mechanisms and its impact on urban life. Despite increasing urbanization and social diversity, women’s perspectives are frequently excluded from urban planning and governance processes. This exclusion leads to inequitable and functionally limited urban spaces.

The aim of this research is to examine how the insufficient representation of women in administrative decisions affects urban planning and service delivery. Data were collected through structured surveys and interviews conducted with 20 female municipal council members across 10 district municipalities in Istanbul.

Findings indicate that in municipalities with low levels of female participation, the goal of inclusive spatial design cannot be achieved.

In conclusion, the study reveals that increasing women’s representation in municipal governance is not only a matter of equality, but also a necessity for developing responsive, safe, inclusive, and livable cities—especially in the design of public spaces. From the perspective of architecture and urban planning, the inclusion of women in decision-making processes is shown to be critically important for achieving balanced and sustainable urban development.

Keywords – Include at least 5 keywords or phrases Urban Governance, Gender Representation, Municipal Planning, Inclusive Design, Women in Urban Polic

Evaluation of Traditional and Innovative Digital Presentation Techniques in Interior Design Process

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Presentation/Paper Type: Oral / Abstract

Abstract – Technology, which has progressed rapidly in recent years, has influenced every field of life and science. Especially the development and use of artificial intelligence has been realised at an extraordinary speed in the last few years. It is seen that today's education and training programmes are trying to keep up with this situation. Especially in design programmes, keeping up with the changes brought by time is very important for technological integration. Therefore, this study investigated which methods are more efficient in terms of following technological developments in interior architecture education. In this context, both artificial intelligence presentation tools and augmented reality presentation tools were used on a space design; it was tried to determine which presentation technique is more effective for the designer and the employer. As a result; designers are currently using artificial intelligence tools as an inspiring tool and carry some of the space ideas designed in artificial intelligence to their own designs. The preparation and use of augmented reality tools were found to be challenging by the designers. However, for the employer, augmented reality presentation techniques are quite impressive and more effective in terms of reading the space. Therefore, it is important for designers to make presentations of space designs with augmented reality methods in order to convince the employer and read the space. At the same time, in limited times; the fact that projects can move forward at the idea stage by having artificial intelligence tools design the desired features in the space with the right prompt makes artificial intelligence a tremendous helper for designers.

Keywords – Presentation Technique, Artificial Intelligence, Augmented Reality, Interior Design.

Vertical Gardens in Interior Design: The Effect of Space-Integrated Green Systems on User Experience

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Presentation/Paper Type: Oral / Abstract

Abstract – As the connection with nature is gradually weakening in today's urban life, the need for green elements in interior design is increasing. In this study, the integration of vertical gardens into interior architectural spaces and the effects of these systems on user experience are discussed. Vertical gardens are not only aesthetic elements, but also have multifaceted functions such as psychological relaxation, improving air quality and contributing to the acoustic balance of the space.

Within the scope of the study, international vertical garden examples selected from different geographies are examined and how these examples are integrated into interior architectural design is analysed. In addition, a broad perspective is presented from material selection to plant species, from maintenance systems to user psychology of vertical gardens used in interior spaces.

As a result, it is emphasised that increasing the applicability of vertical gardens in interior spaces will contribute to the creation of sustainable, healthy and livable spaces when considered with a holistic approach in terms of design, technique and user experience. This study offers an important suggestion for the creation of more natural and effective living spaces based on biophilic design principles in interior architecture.

Keywords – Interior Vertical Garden, Biophilic Design, Vertical Planting.

Smart Interiors and Landscaping: The Future of Sustainable Design

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Presentation/Paper Type: Oral / Abstract

Abstract – Landscape design is an important tool that reflects the cultural and historical heritage of a community. Elements such as traditional gardens, historical water structures, monumental trees and religious sites preserve the identity of a region and pass it on to future generations. Today, these traditional elements are integrated with smart technologies to create more efficient, sustainable and user-friendly spaces both indoors and outdoors. The integration of smart indoor systems with landscape design offers the potential for energy savings, environmental sustainability and increased user comfort. This study analyses current technologies, sustainable approaches and prominent examples of smart interiors and landscape design.

Keywords – Smart Interior Spaces, Smart Landscapes, Sustainable Design Approaches.

Contextual Paradigms in Urban Housing Transformation: A Comparative Study of Başbüyük TOKİ (Istanbul) and Friedrichshain-Kreuzberg IBA (Berlin)

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Presentation/Paper Type: Oral

Abstract – In an era marked by intensifying neoliberal urbanization and global housing crises, urban regeneration emerges not merely as a technical intervention, but as a contested field where socio-political ideologies, spatial practices, and community rights intersect. This study undertakes a comparative analysis of two emblematic urban housing transformation projects, Başbüyük TOKİ redevelopment in Istanbul and the International Building Exhibition (IBA) process in Friedrichshain-Kreuzberg, Berlin to unpack the contrasting paradigms of state-driven and community-led regeneration. The research is grounded in theoretical frameworks of participatory planning (Arnstein, 1969; Healey, 1997), housing justice (Marcuse, 2009; Madden & Marcuse, 2016), and right to the city (Lefebvre, 1996; Purcell, 2002), and it critically interrogates how these concepts materialize within differing political economies. Methodologically, the study adopts a qualitative comparative case study design, triangulating data from policy documents, site visits, semi-structured interviews, and grey literature.

The analysis centers on four key dimensions that are Modes of Participation (the spectrum from tokenistic consultation to genuine co-production), Spatial Continuity and Transformation (how urban morphology responds to or resists renewal pressures), Socio-Cultural Inclusion (mechanisms of displacement, identity negotiation, and collective memory), Institutional Frameworks (the role of governance in mediating spatial justice and citizen agency).

Preliminary findings indicate that, compared to other large-scale public housing projects, the Başbüyük TOKİ initiative demonstrates a relatively more participatory and responsive approach. The project has succeeded in providing improved housing stock while enabling a degree of resident involvement that distinguishes it from more conventional top-down models. However, even in this comparatively successful example, certain challenges persist—particularly in maintaining existing socio-spatial networks and ensuring sustained community agency throughout the transformation process. In contrast, the IBA model represents a regeneration approach deeply rooted in the local context, embracing grassroots participation, adaptive reuse of the built environment, and mechanisms for long-term affordability. The contrast between the two cases highlights not only differing planning ideologies but also broader tensions between standardized urban solutions and place-based practices grounded in continuity and care. Ultimately, this study contributes to comparative urbanism by highlighting how urban regeneration, when informed by participatory ethics and contextual adaptability, can transcend the dichotomy between efficiency and equity.

Keywords – Urban Transformation, Housing Policies, TOKI, IBA Berlin, Participatory Planning, Slum Transformation, Spatial Continuity

Toward an Integrated Interpretation and Presentation Framework: The Case of Didyma Apollon Sanctuary & Its Surrounding

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Presentation/Paper Type: Abstract

Abstract – Heritage sites, despite their historical and cultural richness, face significant challenges in interpretation and presentation. This study aims to evaluate the current levels and content of interpretation and presentation at heritage sites in Turkey, with the goal of redefining a comprehensive “Presentation and Interpretation Model.” A heritage site's interpretation and presentation model is generally considered as an integrated framework of strategies, tools, and practices that effectively communicate the site's significance, values, and narratives to diverse audiences.

Proposed “Integrated Interpretation and Presentation System” is a problem-oriented approach in order to present a practical and operational tool. The methodology is based on five steps; (1) defining the interpretation and presentation problems in archeological sites and defining the components of the model, (2) literature review on the current models of interpretation and presentation, understanding how current models work and how the components are distributed (3) redefining a comprehensive “Presentation and Interpretation Model”, (4) testing the applicability of the components through the case of Didyma; (5) evaluation. The applicability of the proposed “Integrated Interpretation and Presentation System” is partially tested at the Sanctuary of Apollon in Didyma and its surrounding area through components. The implementation reveals several advantages and disadvantages. In conclusion, the proposed model is evaluated as a whole.

Keywords – *Heritage Interpretation, Interpretation and Presentation Models, Cultural Heritage Management, Interpretation Planning, Didim.*

Analysis of the Usage Efficiency of Simple Artificial Intelligence Models in Evaluating Architectural Detailing Failures

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Presentation/Paper Type: Oral /Abstract

Abstract – In recent years, architecture has undergone a significant transformation with the rapid integration of digital technologies into design and production processes. This shift has introduced tools ranging from computer-aided design to AI-based analysis. However, such rapid digitalization poses adaptation challenges, particularly for non-technical users and early-career architects. This study aims to evaluate the effectiveness and accessibility of basic AI tools in detecting and resolving common construction and detailing failures in architectural projects. It explores how users engage with these tools during failure identification and correction processes. As a method, selected construction and detailing failures defined in the literature were examined through case studies and presented to simple AI systems in visual format. Open-source image analysis tools and text-based AI models were employed. The results were assessed based on clarity, accuracy, and usability, and were compared with data from the literature. Findings indicate that AI has potential in assisting failure detection in architecture. However, user-friendly interfaces and training are essential for broader adoption. The study highlights the need for accessible AI applications in design processes and contributes to the ongoing discourse on AI integration in architectural practice.

Keywords – Artificial intelligence, Building systems, Architectural detailing failure, Simple AI tools, Fault detection in architecture

Mimari Detay Hatalarının Değerlendirilmesinde Basit Yapay Zeka Modellerinin Kullanım Verimliliği Analizi

Özet – Son yıllarda mimarlık disiplini, dijital teknolojilerin mimari üretim süreçlerine hızla entegre olmasıyla birlikte bir dönüşüm yaşamaktadır. Bu dijital dönüşüm, tasarım süreçlerinden uygulamaya kadar tüm üretim aşamalarını etkilemekte; bilgisayar destekli tasarım araçlarından yapay zeka destekli analizlere kadar birçok yeni aracı gündeme getirmektedir. Ancak bu hızlı dijitalleşme, özellikle teknolojiyle arası olmayan kullanıcılar veya mesleğe yeni adım atan mimarlar açısından bir uyum problemi doğurmaktadır. Bu çalışma, söz konusu uyum problemini azaltmak amacıyla; mimari projelerde sıkça karşılaşılan yapı ve detaylandırma hatalarının çözümünde, temel düzeyde yapay zeka araçlarının etkinliğini ve kullanıcılar açısından erişilebilirliğini değerlendirmeyi hedeflenmiştir. Kullanıcıların bu araçlar aracılığıyla hata tespiti ve müdahale süreçlerine ne ölçüde katılabildiği araştırılmıştır. Yöntem olarak, literatürde tanımlanmış bazı yapı ve detay hataları örnek olaylar üzerinden incelenmiş; ardından bu hatalar, görsel veri formatında basit yapay zeka sistemlerine sunulmuştur. Bu aşamada, açık kaynaklı görüntü analiz araçları ve metin tabanlı yapay zeka modelleri araç olarak kullanılmıştır. Elde edilen sonuçlar, kullanıcıya sunduğu açıklık, doğruluk ve uygulanabilirlik açısından değerlendirilmiş ve literatür verileriyle karşılaştırılmıştır. Bulgular, yapay zekanın mimari hata tespit süreçlerine katkı sağlama potansiyelini ortaya koymakta; aynı zamanda, bu teknolojilerin pratikte yaygın kullanımı için kullanıcı dostu arayüzlerin ve eğitimlerin gerekliliğine dikkat çekmektedir. Çalışma, yapay zekanın mimarlık disiplinine entegrasyonuna dair yeni bir değerlendirme alanı açmayı hedeflemektedir.

Anahtar Kelimeler – Yapay zeka, Yapı sistemleri, Basit yapay zeka araçları, Mimari detay hataları, Mimari hata tespiti

A Structural Analysis of Temporary Buildings in the Context of Various Disasters

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Presentation/Paper Type: Oral /Abstract

Abstract – Disasters are natural or man-made events that cause loss of life and property in the regions where they occur, and various problems arise in the disaster area after these events. One of the most critical problems is the provision of safe and sustainable shelter facilities after the disaster. Some shelter units are designed in order to find a quick solution to the problems experienced after the disaster and to meet the emerging needs urgently. These units, which are called ‘temporary structures’, need to be produced in small sizes and constructed by using fast construction systems. Although the requirements of temporary structures planned after each disaster are common, wrong structural choices that do not belong to the place bring along many problems. In this context, the structural systems of temporary structures planned after disasters should be designed by considering the type and characteristics of the disaster. In this study, it is aimed to develop suggestions on how the temporary buildings planned after the most frequently encountered disasters should be designed in terms of structural systems according to the type of disaster. The temporary building structural systems within the scope of the study will be discussed in terms of different types of disasters and will be examined comparatively in line with the principles determined; the subject will be discussed in more detail by analysing examples.

Keywords – Disaster, shelter, temporary structure, structural system, construction method

Smart Retrofitting of Existing Buildings

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Presentation/Paper Type: Oral /Abstract

Abstract – With increasing international pressures towards sustainable city transformation, intelligent retrofitting of current buildings is an urgent though under-researched means towards net-zero and climate-resilient cities. While the glare continues on technical innovation in energy efficiency and mechanization, social and legal aspects of intelligent retrofitting are comprehensively under-examined. In this article, the fundamental nexus of smart technologies, occupant engagement, and regulatory tactics in retrofitting current buildings is examined. Underpinned by multi-disciplinary analysis, we examine the function of legal obstacles, socio-cultural attitudes, and stakeholder participation in the adoption and use of smart retrofitting technologies for residential and commercial settings. Drawn from recent case studies and best practice globally, the study presents a model for inclusive retrofitting that includes privacy, data management, cost-sharing agreements, and landlordtenant relations. By pointing out these most commonly neglected factors, this research attempts to present a more comprehensive view of smart building transformations and suggests viable measures to ensure retrofitting projects are compatible with both sustainability and social acceptability. Findings seek to inform policymakers, developers, and facility managers of the need to incorporate legal and social thinking in the design and deployment of smart retrofitting schemes to lead towards truly resilient, inclusive, and smart built environments.

Keywords – Smart retrofitting; buildings already constructed; sustainability; social factors; legal frameworks; stakeholder engagement; smart buildings; energy transition

Investigation of Active Solar Energy Systems in Terms of Fire Performance

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Presentation/Paper Type: Oral / Abstract

Abstract – With the start of electricity use and the acceleration of industrial and technological developments, the need for energy has caused the rapid depletion of resources, which has increased the tendency towards sustainable resources. Active solar energy systems are used to meet this demand. However, in some cases, fires may occur in these systems due to system or non-system factors and may cause both the system to burn and the structure to burn or be damaged. Within the scope of this study, active solar energy systems have been examined and the types and sub-components of these systems have been specified. The fire performance of active solar energy systems has been examined and the regulations, standards, factors that may cause fire and precautions have been determined. As a result, it is possible to use active or passive fire protection methods on or around the panel to increase the fire performance of active solar energy systems without ignoring factors such as energy performance, initial investment cost and purpose of use.

Keywords – Fire, PV Panel, Solar Panel, Energy Systems, Sustainability

Mobilya Tasarımında Süs Algısını Etkileyen Faktörler: Nurus Mobilya Örneği

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Sunum/Makale Türü: Özet

Özet – Süs kavramı mobilya tasarımında hem estetik hem de işlevsel bir unsur olarak önemli bir yere sahiptir. Tarih boyunca süsleme, mobilyaların yalnızca görsellik kazanması için değil, aynı zamanda kültürel, sosyal ve duygusal mesajlar taşınması için kullanılmıştır. Bu bağlamda, süs unsurları bir tasarımın sadece estetik unsuru değil, aynı zamanda tasarımın genel anlamını ve değerini zenginleştiren bir araçtır. Süsleme, mobilya tasarımında estetik ve işlevsellik arasında güçlü bir köprü oluşturarak tasarımı daha anlamlı kılar. Süs algısını inceleyerek günümüz ve geleceğin tasarım süreçlerine yön göstermeyi amaçlayan bu çalışmada süs öğesinin, mobilya tasarımı ile olan ilişkisi kavramsal olarak incelenmekte, tarihsel süreç içerisinde geçmişten günümüze geçirdiği bu değişimlerin mobilya tasarımlarına olan etkisi örneklendirilmektedir. Nurus mobilya özelinde yapılan çalışmada: sekiz önemli tasarımcı ve Nurus D.Lab'in inovatif üretim yaklaşımları çerçevesinde Sürdürülebilirlik ve Ekoloji, Çağdaş Üretim Teknolojileri, Hammadde ve Malzeme Kullanımı, Yapay Zekâ Kullanımı, Kültürel Unsurlar, Tasarımcının Estetik Algısı, Moda ve Dönem Stilleri, Ekonomik Faktörler ile Tüketici Profil ve Tercihleri ve Marka Kimliği olarak belirlenen kriterler çerçevesinde süs algısı analiz edilmektedir.

Anahtar Kelimeler – Süs, Süs Algısı, Mobilya Tasarımı, Sürdürülebilirlik, Nurus

Factors Affecting Ornament Perception in Furniture Design: Nurus Furniture Example

Abstract – The concept of ornament has an important place in furniture design as both an aesthetic and functional element. Throughout history, ornament has been used not only for furniture to gain visibility but also to convey cultural, social and emotional messages. In this context, ornamental elements are not only the aesthetic elements of a design, but also a tool that enriches the overall meaning and value of the design. Ornamentation creates a strong bridge between aesthetics and functionality in furniture design, making the design more meaningful. In this study, which aims to guide the design processes of today and the future by examining the perception of ornament, the relationship between ornamental elements and furniture design is examined conceptually, and the effects of these changes from the past to the present on furniture designs are exemplified. In the study conducted specifically for Nurus furniture, the ornament perception is analyzed within the framework of eight important designers and Nurus D.Lab's innovative production approaches, within the framework of Sustainability and Ecology, Contemporary Production Technologies, Use of Raw Materials and Supplies, Use of Artificial Intelligence, Cultural Elements, Designer's Aesthetic Perception, Fashion and Period Styles, Economic Factors, Consumer Profile and Preferences and Brand Identity.

Keywords – Ornament, Ornament Perception, Furniture Design, Sustainability, Nurus

Kadın Dostu Kent Kriterleri Açısından Kent Parklarının Değerlendirilmesi

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Presentation/Paper Type: Oral

Özet- Bu çalışma, kadın dostu kent yaklaşımı çerçevesinde kent parklarının toplumsal cinsiyet eşitliği odaklı bir bakışla değerlendirilmesini amaçlamaktadır. Kentte kadınların kamusal mekânları kullanım biçimleri, yaşadıkları sorunlar ve mekânsal beklentileri üzerinden, parkların kadın dostu kent kriterleri bağlamında ne ölçüde kapsayıcı ve erişilebilir olduğu kuramsal düzeyde incelenmektedir. Bu kapsamda, Erzurum kent merkezinde yer alan dokuz kent parkının, kadın dostu park olarak değerlendirilebilmesi için çalışmanın ilk aşamalarında gerçekleştirilen literatür araştırmasına dayalı olarak on temel tasarım kriteri (güvenlik, erişilebilirlik, temizlik, mahremiyet, çocuk dostu donatılar, sosyalleşme alanları, katılımcı süreç, kültürel uyum, ulaşım güvenliği ve aktivite çeşitliliği) geliştirilmiştir. Çalışmada geliştirilen kadın dostu park tasarım kriterleri ile kadın dostu kent planlamasına yönelik kavramsal bir model önerisi sunmakta; toplumsal cinsiyet eşitliğine duyarlı mekânsal düzenlemelerin önemine vurgu yapmaktadır. Bu yönüyle çalışma, yerel yönetimlere, planlamacılara ve tasarımcılara yönelik politika geliştirme süreçlerine katkı sunmayı hedeflemektedir

Anahtar Kelimeler: Kadın Dostu Kent, Kent Parkları, Toplumsal Cinsiyet Eşitliği, Kentsel Tasarım, Sürdürülebilir Kent

Evaluation of Urban Parks Based on Women-Friendly City Criteria

Abstract- This study aims to evaluate urban parks from a gender equality-oriented perspective within the framework of the women-friendly city approach. It examines, at a conceptual level, to what extent urban parks are inclusive and accessible based on women's usage patterns of public spaces, the challenges they face, and their spatial expectations. In this context, ten key design criteria were developed in the early stages of the study through a comprehensive literature review to assess whether the nine urban parks located in the city center of Erzurum can be considered women-friendly parks. These criteria are: safety, accessibility, cleanliness, privacy, child-friendly amenities, social interaction areas, participatory design, cultural diversity, transportation safety, and diversity of activities. Based on these criteria, the study proposes a conceptual model for women-friendly urban planning and emphasizes the importance of spatial arrangements sensitive to gender equality. In this regard, the research aims to contribute to policy development processes for local governments, urban planners, and designers.

Keywords – Women-Friendly City, Urban Parks, Gender Equality, Urban Design, Sustainable City

**Bu bildiri, birinci yazarın Atatürk Üniversitesi Fen Bilimleri Enstitüsü Peyzaj Mimarlığı Ana Bilimdalı"nda, Doç. Dr. Neslihan Demircan danışmanlığında hazırlamakta olduğu yazım aşaması devam eden yüksek lisans tezinden üretilmiştir.*

Vernaküler Mimari Kapsamında Arı Kovanı Biçimi: Dünya Örnekleri Üzerinden Bir İnceleme

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Presentation/Paper Type: Oral /Abstract

Özet – Toplum kültürünün, belirli ihtiyaçlar bağlamında maddeye dönüşmesi olarak tanımlanan vernaküler mimari, bir bölgenin mimari biçimlenme dilini yansıtmakta ve özgün kültürel kimliğini taşımaktadır. Yöresel çevrenin biçimlendirici etkisi ile ortaya çıkan vernaküler mimari biçimler; iklim, topografya, malzeme, yapım tekniği gibi doğal çevre verilerini ve yaşama biçimi, aile yapısı, dini inançlar, ekonomi gibi sosyo-kültürel çevre verilerini içermektedir. Çalışmanın kapsamı, vernaküler mimari bağlamında tarihi M.Ö. 2000'lere kadar uzanan arı kovanı biçimli yapılar üzerine kurgulanmıştır. Dünya üzerinde işlevselliğin çevre verileriyle birleştiği arı kovanı biçimli yapılar; yerel malzemelerden, farklı ölçeklerde ve farklı işlevlere bağlı olarak ortaya çıkmaktadır. İlk bakışta biçimlerinin oluşmasına bölgenin iklim şartları ve doğal yapı malzemesine kolay erişim nedenlerinin etki ettiği dikkat çekse de, bu yerleşim dokularının biçimlenmesine etki eden diğer doğal ve sosyo-kültürel çevre etkenlerinin açığa çıkarılması ve çözümlenmesi, çalışmanın bakış açısını oluşturmaktadır. Çalışma kapsamında, farklı coğrafyalarda farklı tarihlerde ortaya çıkan arı kovanı biçimine sahip yapıların oluşmasında doğal ve sosyo-kültürel çevre etkenlerinin ne derece ortaklaştığının ve hangi noktalarda ayrıştığının karşılaştırmalı olarak açığa çıkarılması amaçlanmaktadır. Bu kapsamda seçilen örnekler, biçimlenmelerine etki eden işlev ile doğal ve sosyo-kültürel çevre verileri bağlamında karşılaştırmalı bir analiz yöntemi ile incelenmektedir. Çalışmanın bulguları, örneklerin farklılaşmasında sosyo-kültürel çevre etkenlerinin, doğal çevre etkenlerine göre biçimlenmeye daha fazla etki ettiğini göstermektedir.

Anahtar Kelimeler – arı kovanı, biçim, çevre, vernaküler mimari, yöresel mimari

Understanding the City as a Complex System

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Presentation/Paper Type: Oral / Abstract

Abstract – Cities, as constantly evolving and dynamic structures, are influenced by a multitude of factors such as population movements, sectoral decisions, economic changes, technological developments, transportation and land use decisions, and climate change. Along with unforeseen or not yet realized events, these factors directly affect the natural, physical, economic, social, and cultural structures of cities, forming multi-layered and complex networks of relationships within the horizontal and vertical functioning of urban systems. This complexity increases the need for holistic analytical frameworks to understand cities at local, regional, and global scales. In order to observe the current processes and relationships of cities, to understand the impacts of interventions that transform the city, and to evaluate the complementarity and integrability of urban systems, a complex systems perspective has been adopted. This paper aims to develop a holistic and sustainable planning approach to analyse urban dynamics and to produce integrated and effective solutions.

This study encompasses two research designs (extensive and intensive) focused on understanding urban complexity. The first research design (extensive) is structured around a method based on the comparative analysis of the complex system structures of metropolitan cities in Turkey through strategic plans, and the examination of similarities, differences, and guiding spatial elements within these systems. The second research design (intensive) focuses on the Istanbul Historical Peninsula and its surrounding areas, which are rich in historical, physical, and cultural aspects, and investigates how technological developments (such as geographic information systems) shape the dynamics and spatial structure of the complex urban system and what kind of flexibility they offer for planning processes.

In conclusion, the opportunities offered by emerging technologies at different scales enable a better understanding and management of the complexity of cities as systems. In this context, there is a growing need for network systems in which the physical and digital infrastructures of cities are integrated with one another.

Keywords – Complex systems, urban systems, urban complex systems, complexity, hybrid research design

Karmaşık Sistem Olarak Kenti Anlamak

Özet – Kentler sürekli değişen ve dinamik yapılar olarak; nüfus hareketleri, sektörel kararlar, ekonomik değişimler, teknolojik gelişmeler, ulaşım ve arazi kullanımı kararları ile iklim değişikliği gibi birçok faktörden etkilenmektedir. Bu unsurlar, henüz gerçekleşmemiş veya öngörülemeyen olaylarla birlikte, kentlerin doğal, fiziksel, ekonomik, sosyal ve kültürel yapılarını doğrudan etkilemekte ve kentin yatay ve dikey işleyişinde çok katmanlı karmaşık ilişki ağları oluşturmaktadır. Bu karmaşık yapı, kentleri yerel, bölgesel ve küresel düzeyde anlayabilmek için bütüncül analiz çerçevelerine duyulan ihtiyacı arttırmaktadır. Kentlerin mevcut süreçlerini ve ilişkilerini gözlemlemek, kente yön veren müdahalelerin etkilerini anlamak, ilişkilerin tamamlanmışlığını ve entegre edilebilirliğini değerlendirebilmek için kente karmaşık sistemler perspektifinden yaklaşılması benimsenmiştir. Bu bildiri ile kentlerin dinamiklerini analiz etmeye, entegre ve etkili çözümler üretmeye yönelik bütüncül ve sürdürülebilir planlama yaklaşımı geliştirmek amaçlanmıştır.

Bu çalışma, kentsel karmaşıklığın anlaşılması üzerine yoğun ve yaygın olmak üzere iki araştırma tasarımını kapsamaktadır. İlk araştırma tasarımı (yaygın) Türkiye’de büyükşehirlerin karmaşık sistem yapılarının stratejik planlar aracılığıyla karşılaştırmalı olarak incelenmesine ve bu doğrultuda sistem yapılarındaki benzerlikler, farklılıklar ve yönlendirici mekânsal unsurların analizine dayanan yöntemle yapılandırılmıştır. İkinci araştırma tasarımı (yoğun) ise İstanbul’un tarihi, fiziksel ve kültürel açıdan zengin bölgelerinden Tarihi Yarımada ve ilişkili çevresinde, teknolojik gelişmelerin (coğrafi bilgi sistemleri vb.) karmaşık kent sisteminin dinamiklerini ve mekânsal yapısını şekillendirmesi ile planlama süreçlerine sağladığı esneklikler üzerine oluşturulmuştur.

Sonuç olarak, gelişen teknolojilerin farklı ölçeklerde sunduğu imkanlar bir sistem olarak kentlerin karmaşıklığının daha iyi anlaşılmasına ve yönetilmesine olanak sağlamaktadır. Bu bağlamda, kentlerin hem fiziksel hem de dijital altyapılarının birbirleri ile entegre olduğu ağ sistemlerine ihtiyaç duyulmaktadır.

Anahtar Kelimeler – Karmaşık sistemler, kent sistemleri, kentsel karmaşık sistemler, karmaşıklık, hibrit araştırma tasarımı

Toplumsal Mekânın Üretiminde İşitsel Peyzajın Bağlamsal Katkısı Üzerine Bir İnceleme

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Sunum/ Metin Türü: Sözlü/ Özet

Özet – Toplumsal mekânın üretimi sadece yapılı çevrenin değil, aynı zamanda duyuşal çevrenin rolünü de kapsayan bir olgudur. Bu bağlamda, toplumsal yapının duyuşal bir bileşeni olarak ses olgusundaki değişim tüm dinamikleriyle hem fiziksel hem de toplumsal bir konu olarak çok boyutlu bir tartışma alanı açmaktadır. Bu çalışmanın amacı, kent seslerinin belirlenmesinde işitsel peyzaj kavramının sunduğu duyuşal çerçeve üzerinden toplumsal mekânın üretimine dair bağlamsal bir inceleme yapmaktır. Bu doğrultuda, çalışma yoğun araştırma tasarımı yaklaşımı kapsamında ele alınmıştır. Söz konusu yaklaşım, nedensel gruplar arasında sınırlandırılmış bir konuya, belirli bir bağlam düzleminde derinlemesine çözümlene yapmayı hedefler. Bu yönüyle, genellemeye dayalı yaygın araştırma tasarımından farklılaşır; sesin mekânsal, zamansal ve toplumsal bağlamları üzerinden detaylı ve niteliksel olarak analiz edilmesini mümkün kılar. Çalışmada, işitsel peyzaj kavramının kentsel mekânda sadece bir gürültü ve akustik kontrolü olmadığı, aynı zamanda sosyal, kültürel ve yapılı çevrenin parçası olarak ele alınması gereken bir olgu olduğuna dikkat çekilmektedir. Bu çerçevede, ses, kullanıcı (toplum) ve kentsel çevre ilişkisi çalışmanın odak noktası olarak öne çıkmaktadır. Sonuç olarak, işitsel peyzaj, parçası olduğu fiziksel ve toplumsal mekanları da kapsayarak olası tüm bağlamsal değişimlerden etkilenmekte ve yeniden üretilmektedir. Bu çalışma, kentsel mekânın duyuşal unsurlarına odaklanarak, işitsel peyzajın kentsel planlama ve tasarım süreçlerinde değerlendirilmesine yönelik kuramsal ve yöntemsel bir katkı sağlaması beklenmektedir.

Anahtar kelimeler – Toplumsal mekân, duyuşal çevre, işitsel peyzaj, yoğun araştırma tasarımı, kentsel planlama

Effect of blood and bread wastes on antioxidant enzyme activity of *Hermetia illucens* larvae

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Paper Type: Abstract

Abstract - Nowadays, in many countries and Turkey, the blood of animals slaughtered in slaughterhouses is discharged into the sewage system and causes serious environmental pollution. Similarly, tons of bread goes to waste without being consumed, causing similar environmental pollution. In this study, the effects of slaughtered animal blood and waste bread were investigated by conducting a feeding study with *Hermetia illucens* larvae on slaughtered animal blood and waste bread on oxidative stress markers, changes in malondialdehyde (MDA) and catalase (CAT) enzyme activities were evaluated and it was aimed to reveal the differences. Experimental food groups were formed as animal blood (K), waste bread (E), animal blood + waste bread (EK) and control group (KK; chicken feed). According to the obtained results, the highest catalase enzyme activity was measured in group E (1087.059 EU mg⁻¹ protein, p<0.01), and the lowest in group K (324.1019 EU mg⁻¹ protein). MDA levels were at the highest level in the combined feeding group (EC) (2.32 nmol g⁻¹ Fresh Weight, p<0.01) and showed a significant difference compared to the control group. In particular, it was observed that MDA levels, an indicator of oxidative stress, increased in larvae fed diets containing blood, whereas the group fed only with bread showed high catalase activity. In this context, the use of animal blood alone or with bread should be evaluated carefully as it may create physiological stress for the larvae. These findings reveal that feeding *Hermetia illucens* larvae with different waste sources significantly affects the oxidative stress response. The study supports that bioconversion of slaughterhouse blood waste and organic food residues with insect larvae may contribute to environmental sustainability.

Keywords: *Hermetia illucens*, insect, antioxidant enzymes

Volunteer Engagement in Industrial Heritage: The Case of Bennerley Viaduct

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Presentation/Paper Type: Oral/Abstract

Abstract – As one of the last remaining wrought-iron viaducts in the United Kingdom, the Bennerley Viaduct stands not only as an engineering landmark but also as a symbol of successful community-led preservation. This study explores the role of volunteer engagement in the conservation of industrial heritage, with a particular focus on this iconic structure. The abandonment of railway lines and station buildings, often the result of broader social, economic, and technological changes, has left many railway heritage sites vulnerable. This research investigates how rooted volunteer involvement, particularly through the organization of *Friends of Bennerley Viaduct*, has contributed to the site's conservation, ongoing maintenance, and adaptive reuse. Field visits were conducted to assess the transformation of the viaduct from an abandoned industrial relic to a vibrant public heritage attraction. Bennerley Viaduct, once decommissioned in the 1960s and left abandoned for many years, has been brought back to life thanks to continuous efforts by the local community. In 2022, it was officially reopened to walkers, cyclists, and heritage visitors, marking a significant milestone in volunteer-driven heritage conservation. This case highlights the power of civic engagement in preserving industrial and railway heritage and underlines the potential of volunteer-led initiatives in sustainable heritage management.

Keywords – Volunteer engagement, conservation, industrial heritage, railway heritage, historic viaduct

Understanding the View of Architectural Conservation in The Republican Period through Development Plans and Cultural Policies

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Presentation/Paper Type: Oral / Abstract

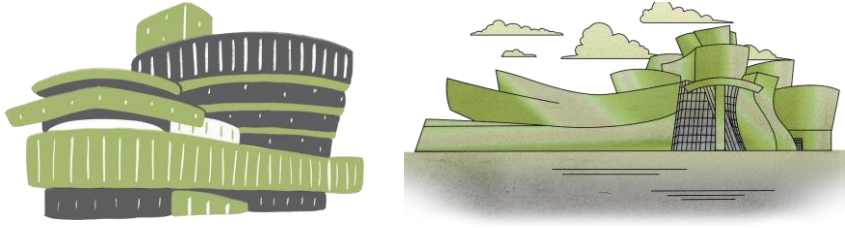
Abstract – The rich tangible cultural heritage of Turkey began to be protected in the Ottoman period. With the foundation of the Republic, the notion of conservation was redefined in line with the goals of building cultural identity and achieving modernization. The concept of cultural policies was implemented in Turkey through the five-year development plans prepared by the State Planning Organization, an institution established during the transition to planned development. Since 2011, this planning process has been carried out by the Ministry of Development. This research seeks to explore how these development plans have shaped Turkey's cultural heritage policies through administrative, legal, economic, and political priorities. Using qualitative analysis method, the study examines the cultural policies within the development plans in relation to their historical context and evaluates at which administrative scales and within which conceptual frameworks these policies were implemented. The development plans were reviewed in detail, including how cultural heritage is defined, which sectors it is associated with, and which tools are used to support its implementation. The findings show that despite Turkey's ongoing efforts to integrate Euro-centric, modern protection approaches into its legislation, there is still room for improvement in terms of institutional coherence based on country-specific needs to ensure sustainable and holistic cultural heritage policies. This study emphasizes that architectural conservation processes in Turkey are a fundamental component of planning, governance, and development.

Keywords – Architectural Conservation in the Republican Period, Cultural Heritage, Development Plans, National Culture Policies, Governance

2 GUGGENHEIM MÜZELERİ

MİMAR
ARCHITECT

MÜZE
MUSEUM



Frank Lloyd Wright (1867 - 1959)

Amerikalı bir mimar ve organik mimarlık akımının öncüsüdür. Doğayla uyumlu, sade ama işlevsel yapılar tasarlamıştır. En ünlü eserleri arasında Guggenheim Müzesi (New York) ve Fallingwater (Şelale Evi) yer alır. 1000'den fazla proje üretmiştir.

Eng.

He was an American architect and a pioneer of the organic architecture movement. He designed structures that are in harmony with nature, simple yet functional. His most famous works include the Guggenheim Museum (New York) and Fallingwater (The House over the Waterfall). He produced more than 1,000 projects.

Frank Gehry (1929 -)

Kanadalı bir mimardır. Dekonstrüktivist mimarinin öncüsüdür. Organik ve sıra dışı formlarıyla tanınır. En ünlü eserleri arasında Guggenheim Müzesi (Bilbao) ve Walt Disney Konser Salonu (Los Angeles) bulunur. 1989'da Pritzker Mimarlık Ödülü'nü kazanmıştır.

Eng.

He is a Canadian architect and a pioneer of deconstructivist architecture. He is known for his organic and unconventional forms. His most famous works include the Guggenheim Museum (Bilbao) and the Walt Disney Concert Hall (Los Angeles). He won the Pritzker Architecture Prize in 1989.

SOLOMON R. GUGGENHEIM MÜZESİ, NEW YORK, FRANK LLOYD WRIGHT

THE SOLOMON R. GUGGENHEIM MUSEUM, NEW YORK, FRANK LLOYD WRIGHT



Tr.

Eng.

Frank Lloyd Wright tarafından 1943 yılında tasarlanmaya başlanan Solomon R. Guggenheim Müzesi, 1959 yılında tamamlanmış ve Wright'ın ölümünden altı ay sonra ziyarete açılmıştır. Bu yönüyle, mimarın kariyerindeki en uzun süren projelerden biri olma özelliğini taşır. Wright, müzeyi tasarlarken Manhattan'ın alışılmış dikdörtgen ve katı mimari anlayışından tamamen uzak, özgün ve akışkan bir tasarım dili oluşturmuştur.

The Solomon R. Guggenheim Museum, whose design was started by Frank Lloyd Wright in 1943, was completed in 1959 and opened to the public six months after Wright's death. In this respect, it is considered one of the longest-running projects of his career. While designing the museum, Wright developed a unique and fluid architectural language that completely diverged from Manhattan's conventional rectangular and rigid architectural style.

GUGGENHEIM MÜZESİ, BILBAO, FRANK GEHRY

THE GUGGENHEIM MUSEUM, BILBAO, SPAIN, FRANK GEHRY

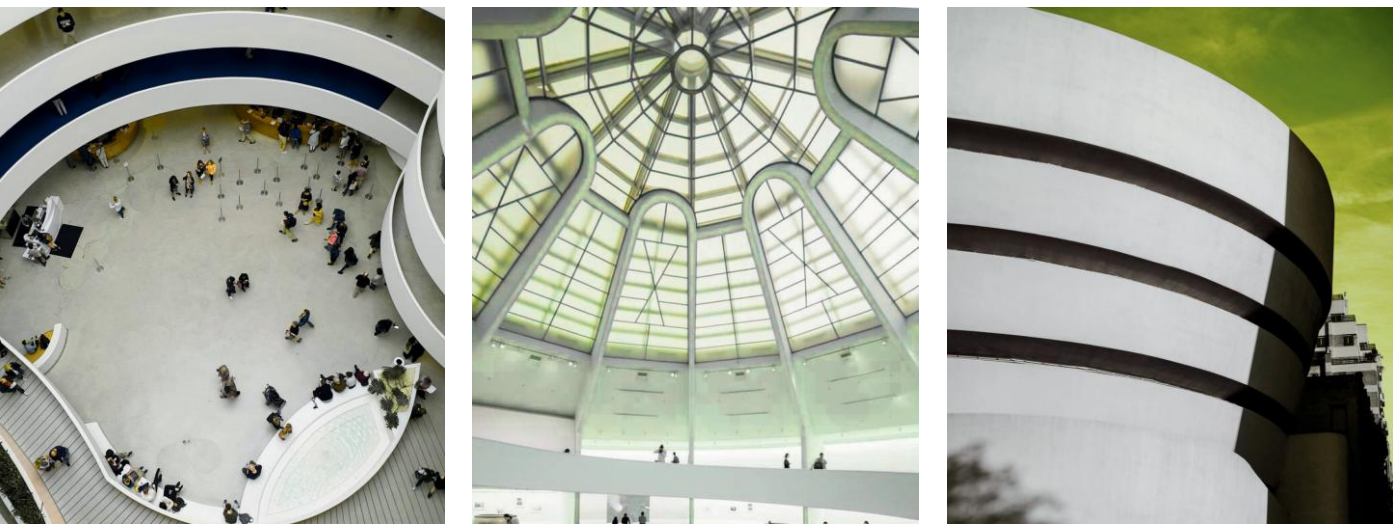


Tr.

Eng.

Nervion Nehri'nin kıyısında yer alan ve 32.500 metrekarelik bir alana yayılan Guggenheim Müzesi, anıtsal mimarisıyla dikkat çekerken, nehir boyunca akan insan trafiğini yönlendirerek şehre entegre olmuştur. Müze, toplam 11.000 metrekarelik bir sergi alanına ve 19 galeriye ev sahipliği yapmaktadır. Bunların 10'u klasik dik açılı bir plan düzenine sahipken, 9'u ise yapının eğimli titanyum yüzeylerinin altında konumlanmıştır.

Spanning 32,500 square meters along the banks of the Nervion River, the Guggenheim Museum captivates with its monumental architecture while seamlessly integrating with the city by guiding pedestrian traffic along the river. The museum includes 11,000 square meters of exhibition space, spread across 19 galleries. Of these, 10 follow a traditional orthogonal layout, while the remaining 9 are located beneath the building's sloping titanium surfaces.

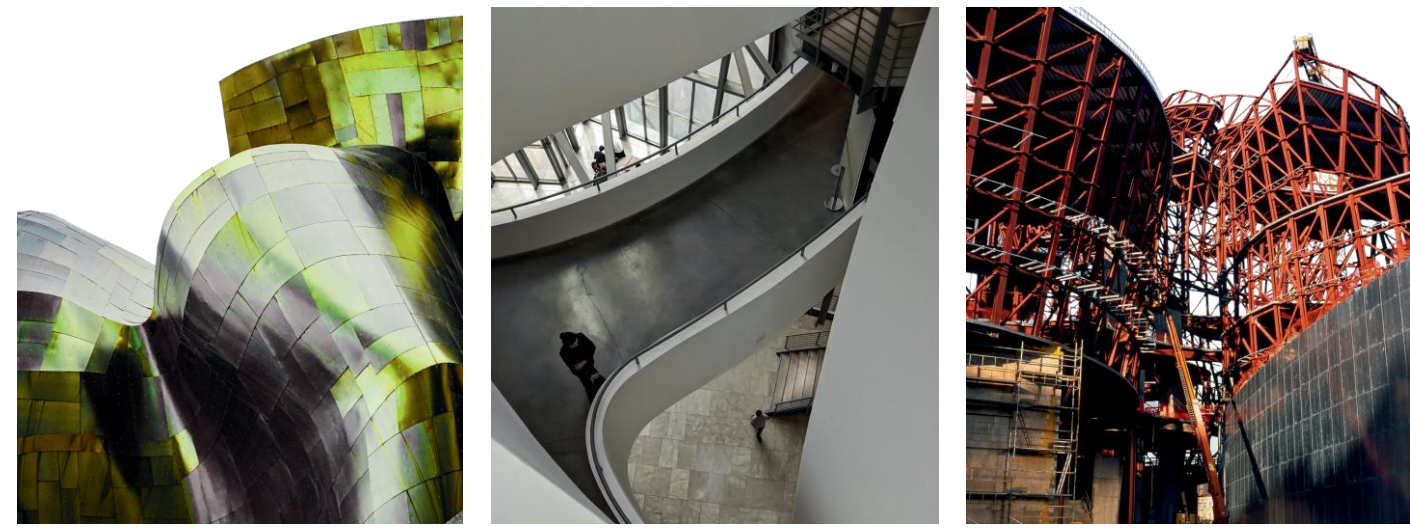


Tr.

Eng.

Yapıya girildiğinde ziyaretçi karşılayan ilk alan, 28 metre yüksekliğindeki büyük galeri boşluğudur. Üstü cam bir kubbeyle örtülen bu etkileyici atriumun hemen yanında, altı kat boyunca yükselen spiral bir rampa yer almaktadır. Yapının bu dikey sarmal formu, katlar arasında kesintisiz ve akıcı bir dolaşım sağlarken, Wright'ın tasarım sürecinde hedeflediği "sürekli bir zemin üzerinde tek ve bütüncül bir mekan" fikrini mimari anlamda hayata geçirmiştir.

Upon entering the building, visitors are first greeted by the grand gallery space, which rises 28 meters high. This impressive atrium is covered by a glass dome, and right beside it is a spiral ramp that extends across six floors. The building's vertical, helical form allows for a seamless and fluid circulation between levels, effectively bringing to life Wright's design vision of "a single, continuous space on an unbroken floor" in architectural terms.

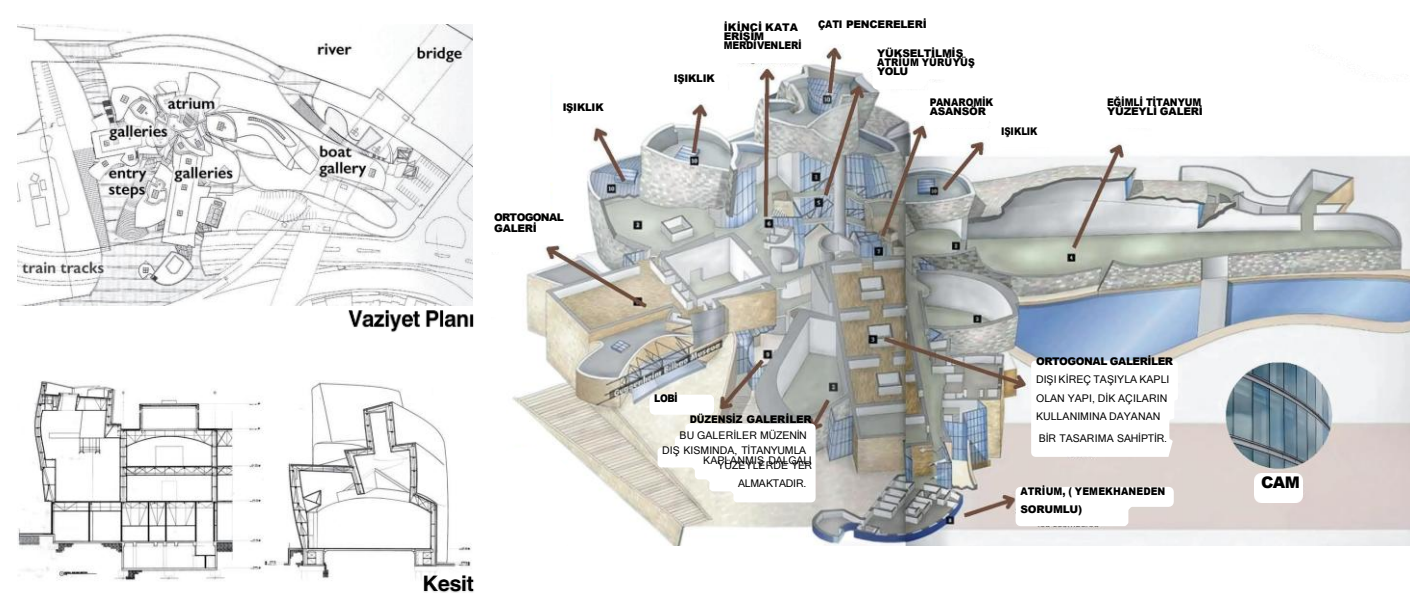
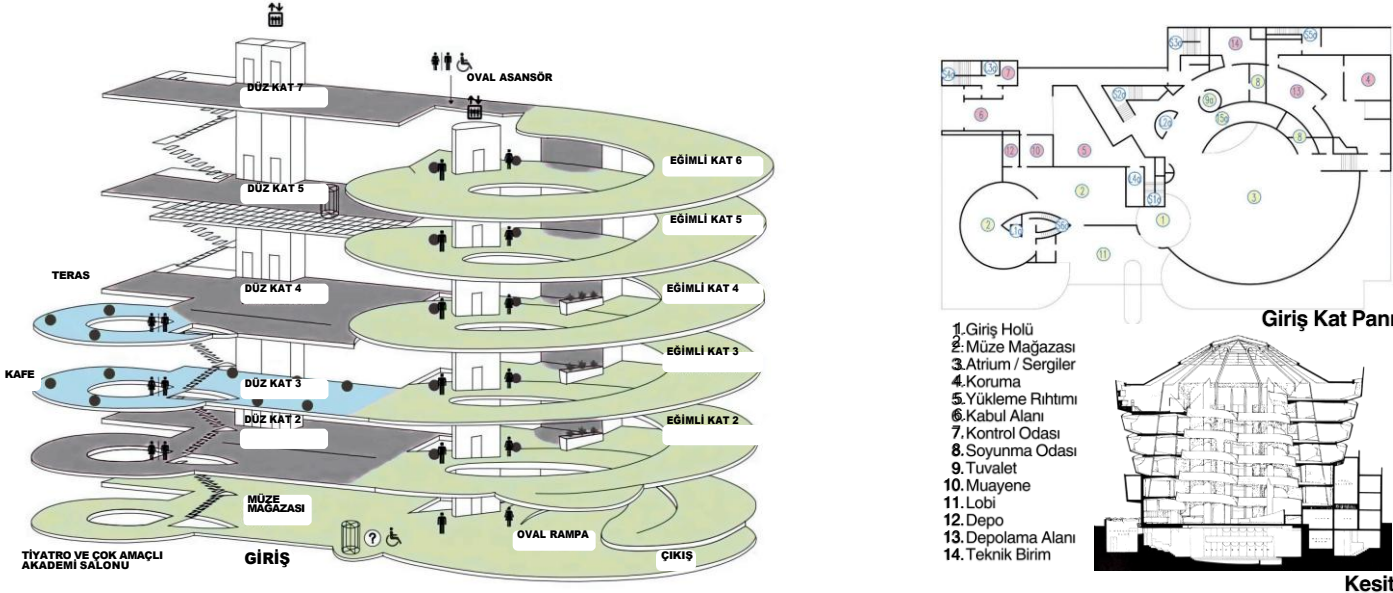


Tr.

Eng.

Yapının mimari kimliğini belirleyen ana öğelerden biri, titanyum, cam ve kireçtaşı kullanılarak oluşturulan eğimli yüzeylerdir. Bu özgün kavisi yüzeyler, dijital ortamda geliştirilen tasarımlar aracılığıyla şekillendirilmiştir. Hassas matematiksel hesaplamalar sonucunda üretime aktarılmıştır. Estetik katkısının yanı sıra, bu yüzeyler yapı içine giren gün ışığını yönlendirme ve hava sirkülasyonunu sağlama gibi işlevsel faydalar da sunmaktadır.

One of the main elements defining the architectural identity of the structure is the sloped surfaces created using titanium, glass, and limestone. These unique curved surfaces were shaped through designs developed in a digital environment. They were transferred to production as a result of precise mathematical calculations. In addition to their aesthetic contribution, these surfaces also provide functional benefits such as directing natural light into the building and facilitating air circulation.



Özellikler	Guggenheim (New York)	Guggenheim (Bilbao)
Açılış Yılı	1959	1997
Mimar	Frank Lloyd Wright	Frank Gehry (Frank Owen Goldberg)
Mimari Stil	Organik mimarlık	Dekonstrüktüvizm
Yapı Malzemesi	Beton	Titanyum, cam, kireç taşı
Form	Spiral rampa, silindirik form	Akışkan, heykelsi, dalgalı hacimler
Mimari Amaç / Konsept	Sanat eserlerinin bir yolculukla deneyimlenmesi	Yapının kendisinin bir sanat eseri formunda tasarlanması

Özellikler	Guggenheim (New York)	Guggenheim (Bilbao)
İç Mekan Dolaşımı	Sürekli, spiral rampa	Bağımsız galeriler, serbest dolaşım
Bağlam	Yoğun ve dikey bir kentsel alanda, dokuya zıt, radikal form	Sanayi sonrası dönüşüm geçiren bir alanda kente aykırı form
Çevresel Etki	İçeride dönük	Kentsel Bağlamla Uyumlu
Sanat Koleksiyonu	Kalıcı koleksiyon, modern sanat	Geçici sergiler, çağdaş sanat
Kentsel Konum	Kent içinde	Nehir kenarında
Kültürel Etki	Modern müzelerin ikonik örneği	Bilbao'nun en etkili yapısı