

Spatial Transformation from Traditional Buildings to The Future in Student Dormitory Buildings

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Abstract – Space is a phenomenon that includes the elements required by the relationships a person establishes with his environment, covers boundaries and can have a character. Every society change within its internal and external framework. Students need help to complete their education, and one of them is accommodation. Buildings that emerged as boarding schools in history and included education and shelter functions, over time, turned into buildings with only one of the main focuses as these two functions were separated from each other. Although the spatial designs of dormitory buildings have been improved, it is still a problem today and it is aimed to examine the transformation of dormitory buildings. This article looks at the transforming and developing structures from a historical perspective through student dormitories; It brings into question its effects on student's living spaces. When the change of student dormitories is considered spatially, first of all; It was examined whether periodic demands other than the need for shelter were met architecturally. Secondly, the current situation of student dormitories was emphasized and spatial evaluations were made. Finally, examples were selected from state, foundation and semi-private dormitories and comparisons were made on the space quality of the converted buildings.

Keywords – Space, student dormitories, transformation, architectural design

I. INTRODUCTION

Societies require science and knowledge for their social and cultural evolution. In line with these needs, students require assistance to complete their education, with accommodation being one aspect. Structures that initially emerged historically as boarding schools, encompassing both educational and residential functions, have evolved over time into separate entities focusing solely on one aspect. Accommodations addressing this need are now available in various forms such as government-funded and private dormitories located in every city or town where universities are present. However, students often struggle to adapt to these dormitories. Research on university students, as per Schwartz (2002), reveals that the university education and environment play a crucial role in shaping individuals' characters before marriage and entering the workforce. Historically, the influence of education on spatial settings has played a significant role in societal evolution. Education emerges as a transformative force, enabling individuals to develop knowledge and skills, thus reshaping societies. Accommodation serves as a pivotal element in this transformation, and the living spaces of students have undergone significant changes over time. The evolution from traditional dormitories to modern student living centers has contributed to a better experience in terms of comfort, safety, and social interaction for students. Each user in dormitories has a unique profile, and the dimensions of individual spaces vary based on the individual's internal state, culture, and context, indicating the dynamic nature of personal space. Recent designs and spatial evaluations, considering this flexibility, have led to the creation of more functional spaces to support student life. These changes enhance the quality of student life, bridging the social and spatial dimensions of

education and marking a significant milestone in societal evolution. The diversification of education, driven by new classes emerging after the Industrial Revolution and corresponding to the life expectations of these classes, has led individuals to pursue education in other cities or even countries. Living elsewhere and attempting to adapt to new cultures significantly influences individuals' characters. Culture has become a fundamental mechanism in shaping individuals' mental states, dietary habits, and behaviors. Shared values among people, similar lifestyles, and activities are among the simplest reasons individuals shape their environments [1].

This article will employ various methods to understand the experiences of students living in dormitories. Firstly, it will focus on the current situations of student dormitories and examine the evolution of these spaces from a historical perspective. This historical framework will facilitate understanding the structural and functional changes of dormitories over time. Additionally, examples from government-funded, foundation, and semi-private dormitories will be compared to evaluate the functions of these different types of accommodations. This comparative method will be used to assess the impact of each type on the student experience and the services they provide. Detailed analyses will be conducted, particularly on the advantages of government-supported dormitories, the opportunities provided by foundation dormitories, and the effects of semi-private dormitories on students. Multiple methods, including on-site observations, will be employed in the data collection process, and the obtained data will be supported by analyses to reach reliable conclusions. These comprehensive methods will enable a deeper understanding of the effects of dormitory life on students and reveal the differences among various types of dormitories.

A. Student Living Spaces

For decades, when university dormitories are mentioned, in the mildest sense, spaces consisting of nothing but the basics come to mind in society. Providing basic living units made of the cheapest, most durable materials possible and cramming the maximum number of students into the smallest space also encompassed economic concerns. However, in reality, dormitory units have been attempted to be addressed with good design because they play an important role in students' social lives and education processes. The world, which is increasingly growing and globalizing day by day, along with advancing technology, has led societies to become more mobile. With this emerging mobility, people have begun to perceive their relationships and experiences with their surroundings independently of location [2]. In recent years, as universities and colleges strive to attract the brightest young minds by turning their campuses into magnets, it can be said that this is driven by economic concerns and the influence of capitalism, leading to a radical change in the design of dormitories. Furthermore, student living spaces have undergone significant changes over time through the merging of cultures, which have influenced the student experience. This is because individuals' preferences, thoughts, values, previous experiences, and current spatial perceptions, as indicated by Garling and Golledge (1989), affect their previous place perceptions. [3]. From traditional boarding schools to contemporary student accommodations, spatial transformation has profoundly affected student living spaces. This change goes beyond the need for accommodation and includes factors that affect students' quality of life. While modern design and technology make student living spaces more functional and conducive to learning, social, cultural, and economic changes also influence these spaces.

Student-centric spaces, in their simplest form, are designed to support students' educational and life experiences and to create a quality working environment. These spaces are optimized to meet students' needs for learning, working, social interaction, and relaxation. In these spaces, students can study, produce projects, engage in group work, spend time with friends, and interact socially. This is because while students have a certain amount of knowledge flow at school, they also need to allocate time for themselves and have an urge to explore new spaces outside of education to acquire social skills [4]. By focusing on the student, dormitory spaces, which go beyond basic needs such as accommodation, should have various features that prepare students for social life.

According to Özgüven (1992), research conducted both domestically and internationally suggests that university students generally prioritize their mental and academic development [5]. However, it is understood that opportunities for physical and social development, individual needs, and activities for leisure time are quite limited. Each individual lives in environments that may be similar or entirely different from one another. Understanding individuals' relationships with their environment requires understanding the extent of their awareness [6]. Individuals perceive everything happening in their surroundings by defining, feeling, seeing, touching, or experiencing in other ways. Students studying away from their families also begin to see their environment differently from the place they previously lived. Thus, by acquiring a new environment in campus life and taking steps to meet new people and explore new places, they construct a character. Students not only perceive the place they go to but

also try to establish a connection with their hometown beforehand. As a result of this effort, they transfer their acquired experiences to the place and transform the place with participatory unconsciousness. While cities become more attractive to students with the opportunities they offer, they also strive to provide various services suitable for students' lifestyles and needs.

Before the Republican Era, from the Seljuk Empire to the Tanzimat Period of the Ottoman era, higher education, which was equivalent to university education, was provided only by medreses (Islamic theological schools) located in a few central provinces. People living outside the central provinces during the Ottoman period faced problems with accommodation, transportation, and money for their children to start their education. This process allowed the medreses in the central provinces to be organized in line with their purposes and to form an internal integrity. Accommodation units, health facilities, and many other organizations were established in an integrated manner around the medreses. By the time of the Republic era, with the adoption of Law No. 430, which was initiated on March 6, 1924, medreses and their surrounding imarets were closed down. Some schools were turned into boarding schools by the state, and efforts were made to alleviate the problem by utilizing the accommodation areas of some medreses. Provincial Special Administrations, municipal organizations, foundations, and legal entities opened accommodation units for students. However, these dormitories opened by the state could not provide definitive solutions to students' accommodation problems. Therefore, the Higher Education Credit and Dormitories Institution was established by Law No. 351, which came into force on August 22, 1961, to meet the need for the supervision of accommodation and other duties of these state-owned dormitories (URL 1). The Credit and Dormitories Institution adopts a modern service approach and provides student rooms in dormitories that meet hotel standards. The rooms, characterized by a simple and orderly design approach, have wooden furniture with bunk bed systems and offer options for 1, 2, 3, and 4 people. Each room has facilities such as a bathroom, toilet, TV, and refrigerator. In addition, special arrangements have been made to meet the needs of disabled students [7].

II. MATERIALS AND METHOD

In this article, the dormitory buildings to be exemplified have been selected from among structures with design concerns in their planning. Considering the presence of buildings that produce student-oriented spaces in addition to the concept of dormitories in terms of social areas and services, dormitory buildings have been chosen under three main headings: state-owned, school-affiliated, and foundation dormitories.

The study highlights the differences and transformations in spaces among the most populous cities in Turkey by adding two examples each from Istanbul and Izmir, among state-owned dormitories. For school-affiliated and private dormitories, structures designed from the late 1990s to the present time have been selected to observe their historical process, as economic concerns are less important. These structures were designed to understand the diversity in different cities.

Spatial comparisons of dormitory buildings have been addressed under two main headings. First, analyses have been made on how students' sense of belonging in the space is

formed in terms of social relationships. Second, criteria including the orientation of the building, the sizes of spaces fulfilling functions, and the forms of rooms have been determined by examining the design components of the space.

Table 1. Evaluation Criteria for Spatial Features of Dormitory Buildings

Social Relationships	Design Components
Sense of Belonging	Orientation of Building Masses
Personalization of Rooms	Rooms Space Sizes
Dormitory Services	Room Forms/Number of Occupants

III. RESULTS

As known, student dormitories encompass a problem set that includes areas for friendly interactions, study-rest spaces, provision of services like heating-lighting, ensuring proper planning between toilets and bathrooms, and space organization. On the other hand, the design process itself represents a problem set [8]. Designers transform their thoughts into action to find solutions to these problems. To achieve the goals of their designs, they aim to reach a wide audience and share their creations [e.g. 9, 10]. Additionally, the design transformation of dormitory buildings provides architects with an opportunity to utilize their creativity.

A. Interior Design of Repurposed Buildings

When young people start university, they bring along the natural problems of adolescence. Encountering problems specific to this developmental period, young people often leave their families for the first time and have to deal with their own identities, academic, and socio-economic issues [11]. Students start to transform their room interiors, creating spaces where they express their own identities by gradually exploring their inner worlds. Since communal study spaces are provided in dormitory buildings and students also design their dormitory rooms as places where they spend more time alone, thanks to libraries and study rooms, more subjective interior spaces are created. In the new design approach, individuality has come to the forefront, and new space productions that evoke psychologically positive feelings, such as harmonious colour tones, have emerged. Similarly, since dormitories are spaces open to communal use, hygienic and sterile indoor areas, bathrooms, and toilet areas have also changed over time by incorporating clear and pastel colours into their colour palettes.

Repurposed dormitory buildings represent a sustainable architectural approach by adapting past structures to modern needs. Such projects are important for both environmental sustainability and historical preservation. In the design of these buildings, efforts are made to preserve the original features and historical character of old structures while making the interior spaces compatible with contemporary accommodation standards and student needs. Repurposed dormitory buildings are often conversions of apartment buildings, which leads to difficult decisions in designing room layouts and the positioning of social areas according to student needs. These spaces offer limited opportunities for both education and life experiences to students. It is a common occurrence for apartment buildings originally intended for family occupants to be converted into dormitories due to changing needs or functions. While designs for structures originally intended as residences focus on privacy and family scale, the communal living culture in dormitory buildings poses challenges during

transformation. The debate arises about how student-friendly a building is when its library is on the ground floor, some rooms and study areas are relatively dark, and its communal bathrooms lack ventilation. However, alongside these concerns, the relatively smaller social network in these dormitories leads to a more intimate level of living. It can be observed that the enjoyable aspect of social areas emerges with almost all students knowing each other.

B. The Changing Use of Dormitory Buildings in Temporary Periods

Turkey carries various traumas in its distant and recent past. While one of these traumas is the global pandemic, the other has been the natural disasters such as the recent earthquakes centred in Kahramanmaraş on February 6th. During these periods, it is inevitable that dormitory buildings come to mind as the first buildings that can provide shelter and be transformed for use in emergencies. Dormitory buildings are designed to meet the basic needs of individuals in a minimum way; thus, they can provide elements that can suffice for people from all walks of life in any situation. The pandemic brought about significant changes worldwide and affected many sectors. One of the effects was how dormitory buildings could be transformed for temporary use during crises. Especially during the pandemic, some dormitory buildings were used as temporary health centres (TRT News). Earthquakes, on the other hand, are significant natural disasters worldwide and usually result in major destruction and humanitarian crises. The earthquake centred in Kahramanmaraş in 2023 was one of the most important examples of these, deeply affecting not only Turkey but also many other countries. Thousands of earthquake victims and their surroundings were affected. In such disasters, the need for shelter for earthquake victims becomes an urgent issue that needs to be addressed. Dormitory buildings have the potential to provide quick and effective temporary shelter solutions, just as they did during the pandemic. Moreover, dormitories can become a central part of medical aid, food distribution, and other humanitarian activities in regions affected by major earthquakes. These buildings can provide a suitable space for people to gather, receive assistance, and maintain their ties to their communities.

A. Examining the Transformations of Dormitory Buildings

In Turkey, the demand for accommodation for higher education students is increasing every year. This need, especially when combined with the increase in rent and housing issues, exacerbates the issue even further. Although the capacity of state dormitories is increasing, these numbers fall short of meeting the actual demand. Accommodation needs, mostly met through private investors, allow for the emergence of a sustainable and effective real estate solution. In Turkey, while there were 198,000 capacity state dormitories in 2002, as of 2022, this number has reached 800,000 (Figure 1). This allows for the recognition of a significant 4.5-fold increase in student accommodation over the past 20 years (www.gsb.gov.tr/haber-detay.html/773). According to the results obtained from the Formal Education Statistics Report published by the Ministry of National Education (MEB) in 2022, as of June 2022, there is a total student capacity of 759,838 students in 776 dormitories affiliated with the Credit and Dormitories Institution (KYK). The number of private student dormitories in Turkey is 4,692. Among these

dormitories, which have a total of 463,365 bed capacities, there are 200,342 beds in dormitories under associations, 124,694 beds in private-commercial dormitories, and 71,597 beds in foundation dormitories (URL 2). When developing the dormitory concept, students' socio-economic backgrounds, income levels, and general expectations should be taken into account. In addition to the traditional multi-bed dormitory concept in single rooms, dormitories with apartment-style layouts that provide students with their own private spaces while also encouraging social interaction are also in demand.



Figure 1. Number of Students Attending University and KYK Dormitories Over the Years (URL 3, 2023)

C.1. State-Owned Dormitories

These dormitories, affiliated with the Credit Dormitories Institution (KYK), provide minimum conditions, standard service quality, and relatively economical accommodation compared to other categories of dormitories. KYK dormitories are located close to schools in city centers and also meet the dormitory needs in districts. Therefore, their designs vary according to climatic conditions.

C.1.1. İzmir Çeşme KYK Mixed Gender Student Dormitory

This state dormitory, affiliated with the Ministry of Youth and Sports, is located in the Çeşme district of İzmir and serves both male and female students. Situated facing the sea on the site plan and emphasizing the importance of the view, the dormitory is designed to maintain a balance between semi-open and open spaces due to the region's climate. As the district is a holiday resort area, the dormitory exhibits a hotel-like settlement pattern. With a linear main space layout, the building has a transitional appearance related to the garden.



Figure 2. İzmir Çeşme KYK Mixed Gender Student Dormitory (URL 4)

The student rooms are designed for 2, 3, and 4 people, each equipped with a private bathroom. The kitchen and laundry facilities are shared among residents. Common areas such as study spaces and the dining hall are similar to traditional KYK dormitory rooms, but the difference lies in their location within the city, offering semi-open and open spaces. Students residing here have positive feelings towards the learning environment as they have direct contact with the sea, which is related to their departments.



Figure 3. İzmir Çeşme KYK Mixed Gender Student Dormitory Room Type (URL 5)



Figure 4. İzmir Çeşme KYK Mixed Gender Student Dormitory Laundry Room (left) and Common Areas (right) (URL 6)

C.1.2. Buca KYK Women's Student Dormitory

Located in the Buca district of İzmir, this dormitory building is situated in the Kuruçeşme neighborhood, close to Dokuz Eylül University's Tınaztepe campus, making it within walking distance. The dormitory consists of two blocks, A and B, organized into a space layout. The layout of the floors is apartment-style, with kitchens and bathrooms in these apartments. Additionally, each apartment accommodates a total of 4 people, with two people in each of the two rooms. Study areas and sports facilities are provided for communal use in the dormitory. Although the layout predominantly

includes indoor and outdoor spaces, there are semi-open spaces such as balconies and terrace-like areas. The open areas between the blocks also feature sports courts, which are important for students to enhance their social interactions.

The rooms are furnished with standard-sized beds and uniform bedding sets to maintain consistency. Such practices are primarily adopted in state dormitories to ensure better control. However, in terms of design, the use of color and lighting as effective design elements has not been emphasized in these standardized rooms. While considering economic conditions in design, this approach allows students to personalize their own space. It is important for students to have the opportunity to express their identities and develop a sense of belonging by arranging their beds, closets, and living within certain rules within this organization.



Figure 5. KYK Buca Women's Student Dormitory (URL 7)

C.1.3. 1453 KYK Women's Student Dormitory

1453 KYK Women's Student Dormitory is located in the Esenyurt district of Istanbul, making it accessible to students from almost any school in the city. Istanbul is known for its traffic congestion, which can pose challenges for students in transportation. Therefore, students often prefer dormitories located near their schools to avoid commuting difficulties. However, since dormitory placements in KYK dorms are determined by lottery, most students cannot choose these dormitory buildings themselves. This dormitory building is situated within the Torium Shopping Mall complex, providing convenient access to shopping facilities. Additionally, the proximity of the Haramidere Industrial Metro Line enhances accessibility for students.



Figure 6. The rooms of the 1453 KYK Girls' Student Dormitory (URL 8)

This dormitory building, which has rooms for 3 and 4 people, is seen to have a more qualified structure compared to other KYK dormitories. There is a bathroom in the rooms. The colors used in the rooms, the shapes and features of the furniture vary. Unlike the base-shaped beds observed in other dormitories, beds closer to the cabin system are preferred here. Study areas are designed not as areas with single colors, but as areas with more vibrant, bright, and well-lit spaces. The reason for being of higher quality in terms of design compared to other KYK dormitories is that it has entered service as a new dormitory by converting from a private dormitory. Since it

maintains the same function, it has been easier to maintain standards in this dormitory building.

C.1.4. Mahir İz Men's Student Dormitory

Located in the Esenyurt district, one of the neighbourhoods with the highest number of students in Istanbul, this dormitory is close to the 1453 KYK Girls' Dormitory and uses a similar transportation network. Students can reach the Haramidere Industrial Metrobus stop with a ten-minute walk. The dormitory, which meets the need for men's student dormitories in the region, was actually converted from a hotel building. Despite having a different function, since its main task is accommodation, no major changes have been made to the structure. Since it was converted from a hotel building to a dormitory building, the bathrooms are located inside the rooms and are usually for 3 people, while some are for 4 people. Common areas have uniform tables. Due to its previous use as a hotel, there are quite a few semi-open spaces. Additionally, the use of terraces and balconies can also be evaluated as positive areas.



Figure 7. Mahir İz KYK Men's Student Dormitory Room Structure and Canteen. (URL 9)

C.2. School-Attached Dormitories (Semi-Private)

Some university structures within campuses house student dormitories bearing their own names. These schools are generally private institutions, but also state institutions may include accommodation facilities such as dormitories, apartments, guesthouses, and student villages within their campuses. When examining School-Attached dormitories, it is important to select examples that have been built in different periods historically. Among the structures designed within the last 25 years, four have been selected, and these dormitories have been examined under two main headings: social relationships and technical equipment, similar to the criteria of state dormitories.

C.2.1. Boğaziçi University Superdorm

The Superdorm dormitory, located within Boğaziçi University's Uçaksavar Culture and Sports Facilities, is a private student accommodation unit. Construction began in 1995, and it became operational in the 1998-99 academic year. Superdorm was built by the Boğaziçi University Foundation (BÜVAK) with contributions from various individuals and institutions and then transferred to the university. Designed to create a pleasant living space different from traditional student dormitories, Superdorm focuses on individual rooms and common hobby lounges where students can socialize. The dormitory consists of 5 blocks, 127 apartments, and 478 student rooms. The number of rooms in the apartments varies from 2 to 5, and each room is single occupancy. In addition to single and double rooms, it also offers suites for families or student groups. Superdorm also includes a small-scale market to meet students' other needs. In addition, it has a laundry room

and a cafeteria. However, these facilities operate under university supervision independently of Superdorm management (URL 10).

The dimensions of the rooms are almost the same for all types, measuring 2.35 m x 2.75 m. However, the dimensions of the common areas vary according to the apartment type. Generally, 1 and 3-person apartments have the smallest area. The bed choices are 90 cm x 190 cm. In addition to general lighting elements, lighting for workspaces is provided with lights fixed to the tables. The dormitory has an L-shaped building orientation with a courtyard defining the entrance area where students are welcomed inside. The apartments include WC-bathroom and sitting areas. Although there is no difference in size for 1 and 4-person rooms, the bed area is reduced. While the social areas are almost the same, they have a layout that allows for the development of social relationships.



Figure 8. Boğaziçi University - Uçaksavar Campus / Superdorm & KSS (URL 11)



Figure 9. Boğaziçi Superdorm Single (left) 4-Person (right) Apartment Types (URL 12)

C.2.2. Özyeğin University Dormitory Building

Designed by B-Design architecture studio, these dormitory buildings affiliated with Özyeğin University began operating in 2013. Located on the Çekmeköy Campus, the dormitory buildings have a total capacity of 2,692 people. The dormitories offer various accommodation options to make students feel at home, including single, double, triple, and quadruple rooms with or without partitions. All rooms are equipped with facilities such as bathrooms, refrigerators, and televisions. Common areas include group study rooms, quiet spaces for studying and resting, as well as entertainment facilities like a cinema and TV lounge, game areas, a guest reception hall, and food and beverage establishments. Additionally, laundry facilities and a medical center are available, similar to those found in other dormitories. The dormitory complex also features sports fields, including

football, basketball, volleyball, and tennis courts, where students can spend their leisure time.



Figure 10. The architectural render image of Özyeğin University Dormitories. (URL 13)

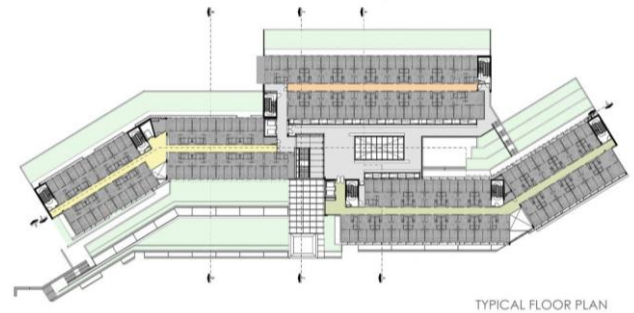


Figure 11. The floor plan of Özyeğin University Dormitories. (URL 13)

The dormitory belonging to Özyeğin University is situated on a sloping terrain, adopting the principle of preserving the natural contours of the land as much as possible. The mass of the building is located at the backbone of the campus layout and faces towards the valley located amidst the masses of structures dedicated to education. This design allows for the rooms to benefit from views of the valley. In terms of the floor plan, the building is divided into three blocks, each with its own unique characteristics. The transparent entrance block that connects these blocks is supported by a steel structure. Common areas located on the upper floor, including an inner courtyard, are positioned for the shared use of all blocks. All designed spaces maximize the use of natural daylight. In addition to sleeping and study units for students in the rooms, communal living spaces have also been carefully considered.



Figure 12. Özyeğin University dormitories offer single and double occupancy room types. (URL 14)

C.2.3. Istanbul City University Dormitories

İstanbul Şehir University dormitories, designed by Erginoğlu & Çalışlar, are a structure built in 2015. Located on the Dragoş campus, the building consists of two blocks positioned perpendicular to the terrain slope and connected to

each other with social areas. The gatehouse, situated at the entrance of the U-shaped courtyard, allows students to meet with their parents and contributes to the formation of a strong space within the U-shaped courtyard. Thanks to this design, the dormitory has become a separated part of the vast and hard-to-control 380-acre land. Moreover, it provides a certain level of privacy in the outdoor area. In the courtyard between the two linear blocks, students spend time in various ways. It is observed that the aim is to strengthen social relations with the study areas facing this courtyard. Kitchen and seating areas are relatively isolated and face towards the back. Social areas, study spaces, and other services are available on each floor, positioned at the ends of the blocks. The rooms are arranged to accommodate three people each. Each floor also includes social and service areas such as TV rooms, communal kitchens, and study rooms.



Figure 13. Istanbul City University Dormitories. (URL 15)

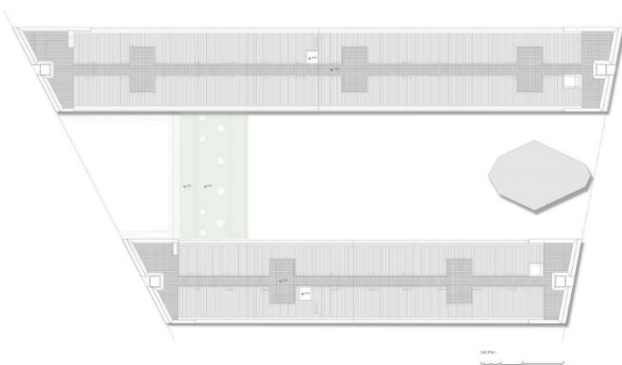


Figure 14. Istanbul City University Dormitories Layout Plan. (URL 16)

C.2.4. The Elmalıkent Male Student Dormitory of 29 May University

The Elmalıkent Male Student Dormitory of 29 May University, located in the Ümraniye district of Istanbul, was designed and constructed by Az-Uz Architecture and Design Studio in 2019. The design approach is based on the anticipation of future modifications through the portability of containers, allowing for their versatile usage in different functions. The configurations of the containers contribute to the design in various aspects. These singular units, essentially individual masses, are open to plural usage, thus possessing the potential to create social spaces. Arranged horizontally, these individual units proliferate, delineating courtyards and streets between them [12].

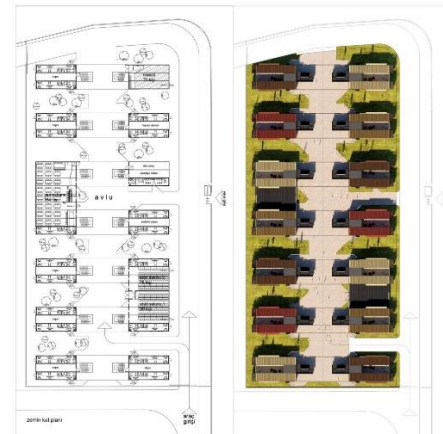


Figure 15. Site and Ground Floor Plans of the Elmalıkent Male Student Dormitory of 29 May University. (URL 17)

The independent placement of containers allows for more liberating spaces for students. Each container is equipped with insulation and includes a bathroom. The project adopts an environmentally friendly design approach instead of reinforced concrete, with 104 containers repurposed. Hence, it is considered Turkey's first recycling project. Study rooms are conceived separately from the dormitory areas. The entrance of the dining hall faces the courtyard and is designed with a holistic approach in larger spaces. The opening of social areas to the courtyard leads to the perception of the spaces by students not just as dormitories but more like a student village.

C.3. Private Dormitories

Private dormitories affiliated with foundations and associations in Turkey constitute around twenty percent of the total number of dormitory buildings (URL 18). These structures, designed through donations, are student dormitory buildings with capacities relatively lower than state dormitories, as they are intended to be designed beyond standard by the employer.

C.3.1. Studio Santral Dormitories

Designed by Erginoğlu & Çalışlar Architecture in 2012, Studio Santral Dormitories are located in Istanbul. The site of the building, situated close to the Bilgi University Campus, lies within the boundaries of Alibeyköy Creek and Silahtarağa Avenue. The region is built on a vast plain of 118,000 m², historically hosting the Silahtarağa Power Plant, which is a first of its kind in Turkey in terms of historical significance. Hence, this area holds industrial historical value. The project site also includes administrative units, offices of transformer centers, machinery and boiler rooms, lodgings, workshops, and warehouses. Located to the south of the dormitory building, there are lodging units reminiscent of the 1st National Architectural Period, providing spaces for the rest and socialization of the employees working at the power plant. Surrounding the university campus, one can find numerous low-quality buildings commonly seen in Istanbul's residential fabric.



Figure 16. Studio Santral Dormitories. (URL 19)

The structure is designed as a long and slender rectangular mass in accordance with the terrain's requirements, resulting in a block-like effect. To respect the surrounding industrial fabric and historical buildings, the mass is enriched with vertically repeating floor gardens. To emphasize the ends of the building, floor gardens providing breathing space for students are placed on the side areas. Analyses of solidity-void ratios on the facade, taking into account the region's zoning regulations, material properties, and functional needs, have led to the creation of facade characters specially designed to meet the specific needs of each room.

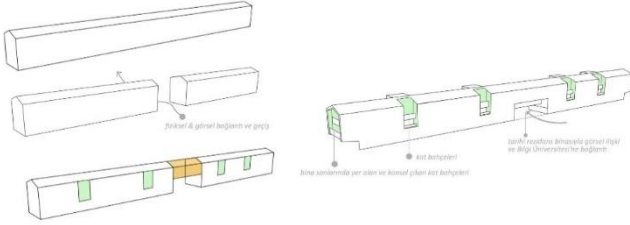


Figure 17. Studio Santral Dormitories Project Visual. (URL 19)



Figure 18. Studio Santral Dormitories Front View (URL 20)

C.3.2. Zonguldak Kozlu Dormitory Building

Located in Kozlu, the central district of Zonguldak, this building has a capacity of 1500 students. Structurally, the dormitory features a design that forms a courtyard. Moreover, this courtyard has been taken into consideration in the organization of the dormitory units. By vertically dividing the building into two parts, two significant axes connected to each other are created. Due to the intense relationship with commerce in the area, the dormitory units are elevated from ground level, and social areas are designed. Commercial units are located on the inner street, while spaces such as sports facilities and cafeterias are resolved both on the ground floor and on other levels.



Figure 19. Zonguldak Kozlu Dormitory Building. (URL 21)

C.3.3. Kampüshane Istanbul

This dormitory building, designed in 2018 and located in Istanbul, is a residence where academics who are still in the educational process, working, or have completed their education can stay. It is a boutique-style residence aimed at young people. Designed by Renda Helin Design & Interiors studios, the dormitory building incorporates many details specific to the industrial character of Santralistanbul and its surroundings. In other words, the project is inspired by the uniqueness of its location.

In the interior design of the project, a regular layout is created with private lounges, equipped kitchen and bathroom units tailored to each room. Although the room sizes are the same on all floors and in all apartments, each floor is designed with its own innovative concepts. To represent these concepts on each floor, color palettes and floor-specific slogans are given. Floors carrying the 'Be Romantic,' 'Be Happy,' and 'Be A Dreamer' concepts use predominantly white-based pastel tones to create calmer, more peaceful, and brighter atmospheres. On floors with the 'Be Positive' and 'Be Cool' concepts, a more rigid and powerful style is adopted, preferring a design narrative oriented towards the industrial fabric surrounding the dormitory, with a predominance of dark colors in contrast to other floors. Thus, more masculine and dynamic spaces emerge. In areas where space is limited, the layouts are brought to the most suitable formation for use. Additionally, the furniture used in the apartments is selected and designed to fulfill multiple functions. Yusuf Doğanay, known for his illustrator works, has designed visuals for each floor's unique concept on the walls of the corridor. The main goal of the dormitory project's design is to provide individuals with a comfortable home environment while also motivating them and facilitating socialization. The design team also attempted to convey the design language they created through walls using sections to understand these concepts.



Figure 20. Kampüşhane Istanbul and Its Corridors. (URL 22)

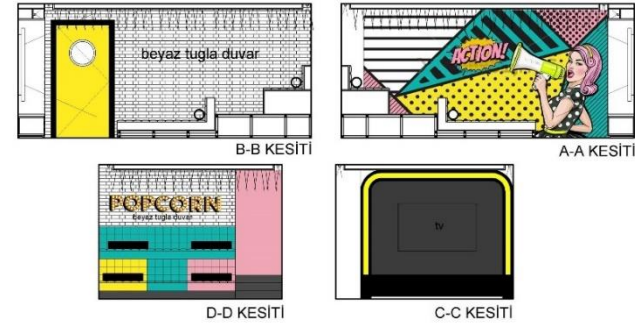


Figure 21. Kampüşhane Istanbul Cinema Room and Cross Sections. (URL 22)

C.3.4. Tacettin Aslan Vocational and Technical Anatolian High School and Dormitory

Designed by 366 Architecture in 2020, this high school and dormitory structure for students, located on the Bursa-Çanakkale highway, includes 24 classrooms, 2 separate 400 m² workshops, a multipurpose dining hall also used as a cafeteria, and a gymnasium, along with dormitories for 200 male and female students. In the designated area for the project, designers aimed to maximize students' connection with the outdoor environment by spreading out widely on the ground floor. The structures with different functions are brought together in a way that defines an open space while incorporating the dense landscape texture of the terrain. This dynamic and modular ensemble of masses provides references for potential future additions. Due to the geography and topography of the project area, it receives strong winds from the north. To protect against these winds, especially more effectively in winter months, and as a precaution against noise from the intercity road, the rear of the male dormitory is oriented towards this direction. Colors are used on the facades of the independent masses created by different functions that make up the project. The dormitory building is designed in a regular and tranquil manner. The social areas shared by the dormitory and the high school are interconnected on the ground floor.

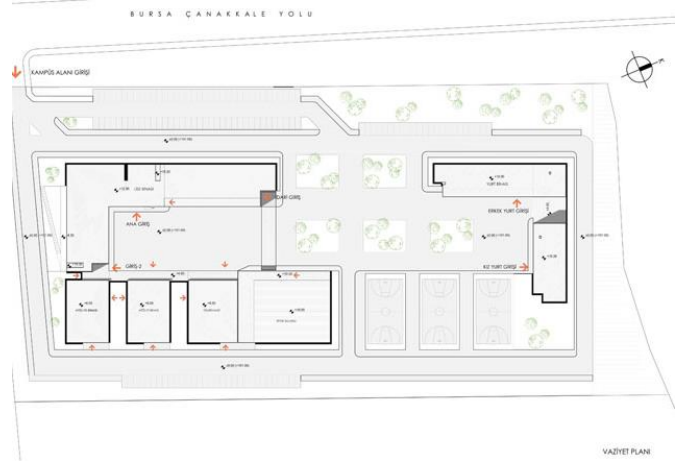


Figure 22. Site Plan of Tacettin Aslan Vocational and Technical Anatolian High School and Dormitory. (URL 23)



Figure 23. Tacettin Aslan Vocational and Technical Anatolian High School and Dormitory. (URL 23)

IV. DISCUSSION

Different dormitory buildings designed and implemented in various periods and cities have been examined in terms of spatial transformations. According to these examinations, dormitory buildings have a design approach that emphasizes the strengthening of social relationships, and this sensitivity has developed over the years. Unlike previous years, social areas are added to individual rooms. Rooms are designed not as small, cramped spaces but as apartments. Students bring their personal belongings to shape and personalize their environments. This also affects their attachment speed [13]. Although dormitory services are mostly similar in government-affiliated, school-affiliated (semi-private), and private dormitories, the location of the dormitory affects these services. In government dormitories, some services vary according to price. In newly renovated or newly designed dormitories, this situation is resolved with a higher quality design. When considering the design components of spaces, it is observed that a more quality design is possible in school-affiliated and private dormitories due to economic factors. Private dormitories, despite accommodating fewer students, have adopted various design approaches focusing on students' comfort by determining various concepts. However, school-affiliated and private dormitories generally focus on meeting the housing needs first and then pay attention to factors that can provide additional comfort. While linear structures are preferred for student socialization, a design approach linking these structures to a courtyard on the ground floor is often preferred. It has been observed that the extent of the changes made and the previous function significantly affect the design

and determine the quality of the space in dormitories redesigned for a new purpose.

V. CONCLUSION

The spatial development of dormitory buildings has undergone significant changes throughout history. In ancient times, dormitories were used primarily to meet the basic need for shelter, but today they have evolved for different purposes. While old dormitories reflected traditional ways of life, new dormitory buildings have been designed to meet the requirements of modern living. The integration of technology has provided interactive spaces, enhancing the quality of life in these environments. There has been a noticeable increase in the presence of social spaces in dormitory buildings. As surrounding structures around dormitories contribute to their development or vice versa, participatory living spaces have emerged, where students contribute to the environment they live in.

The concept of dormitories holds a significant place in students' adoption of communal living beyond just making their rooms personal spaces. Social spaces become environments that nourish students' educational lives, elevate their living standards, and increase their awareness of their surroundings. This situation has influenced the consideration of education and dormitory functions together, leading to the development of separate buildings for these two functions. Student dormitories are no longer merely places fulfilling accommodation functions; they are now defined as places where many innovations about life can be explored. Therefore, dormitory buildings should be designed with a design approach that maximizes their relationship with the outdoor environment as much as possible. In buildings undergoing functional changes, there are significant deficiencies in dormitory design. Therefore, structures undergoing transformation should be well analysed, and the number of users should be determined in a way that does not exceed the capacity of the building, leaving sufficient space for each function. Considering the impact of dormitory buildings on their surroundings, it is important to place the quality of life for students at the forefront of design, which will also contribute to society. As students strive to adapt to their environment, they contribute to a certain extent to the transformation of both their own spaces and the dormitory surroundings. In this context, dormitory buildings designed with sensitivity to their surroundings shape themselves according to their location, positively affecting students' adaptation process.

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